
Appendix B – Management Objectives and Direction

This section identifies the management objectives and direction that would apply under the Proposed RMP. Appendix B of the Draft RMP/EIS includes management objectives and direction for action alternatives analyzed in the Draft RMP/EIS, which is incorporated here by reference.

Management objectives are descriptions of desired outcomes for BLM-administered lands and resources in an RMP; the resource conditions that the BLM envisions or desires would eventually result from implementation of the RMP. As such, management objectives are not rules, restrictions, or requirements by which the BLM determines which implementation actions to conduct or how to design specific implementation actions. Through effectiveness monitoring, the BLM will assess whether implementing actions in accordance with the management direction is achieving the management objectives of the RMP (**Appendix V**).

Management direction identifies where future actions may or may not be allowed and what restrictions or requirements may be placed on those future actions to achieve the objectives set for the BLM-administered lands and resources. Through implementation monitoring, the BLM will assess whether the BLM is implementing actions in accordance with management direction of the RMP (**Appendix V**).

Following approval of the RMP, the BLM will take actions that are specifically provided for in the RMP, or if not specifically mentioned, clearly consistent with the terms, conditions, and decisions of the RMP, consistent with 43 CFR 1601.0–5(b) and 43 CFR 1610.5–3.

Proposed RMP

The Proposed RMP includes management objectives and management direction for land use allocations and for resource programs. The management objectives and management direction described for land use allocations apply only within that land use allocation. The management objectives and management direction described for resource programs apply across land use allocations, unless otherwise noted.

In the Proposed RMP, the Harvest Land Base and Late-Successional Reserve have specific, mapped sub-allocations, some of which have differing management objectives or management direction. For these sub-allocations, the management objectives and management direction of the broader allocation apply, as well as the management objectives or management direction specific to that sub-allocation. For example, the Harvest Land Base includes three sub-allocations: Low Intensity Timber Area, Moderate Intensity Timber Area, and Uneven-Aged Timber Area. In each of these three sub-allocations, both the management objectives and management direction described below for the Harvest Land Base and the individual sub-allocation applies.

In addition, the Riparian Reserve has differing management objectives and management direction for Riparian Reserve west of Highway 97 (i.e., in the Coos Bay, Eugene, Medford, Roseburg, and Salem Districts, and the portion of the Klamath Falls Field Office west of Highway 97) and Riparian Reserve east of Highway 97 (i.e., within the Eastside Management Area in the Klamath Falls Field Office). Although the management objectives are the same for all of the Riparian Reserve west of Highway 97, the management direction varies among three classes of subwatersheds. In addition, for the Riparian Reserve west of Highway 97, some management direction varies for the sub-allocations of the Riparian Reserve – Moist and Riparian Reserve – Dry.

The Proposed RMP requires the future allocation of marbled murrelet occupied stands² to the Late-Successional Reserve for occupied sites identified³ after March 26, 2015 as a result of BLM marbled murrelet surveys in (1) all land use allocations within 35 miles of the Pacific Coast, and (2) Late-Successional Reserve and Riparian Reserve between 35–50 miles from the Pacific Coast and outside of exclusion Areas C and D (shown in **Figure 3-166**). In addition, the Proposed RMP requires the future allocation of red tree vole “habitat areas”⁴ to the Late-Successional Reserve for occupied sites identified as a result of BLM red tree vole surveys within the range of the North Oregon Coast Distinct Population Segment of the red tree vole north of Highway 20.

² Marbled murrelet occupied stand refers to all forest stands, regardless of age or structure, within 1/4 mile (1,320 feet) of the location of marbled murrelet behavior indicating occupancy and not separated from the location of marbled murrelet behavior indicating occupancy by more than 328 feet of non-forest.

³ In this context, “identified after March 26, 2015,” means that survey data for occupied marbled murrelet sites was entered into the BLM corporate database after March 26, 2015.

⁴ Red tree vole “habitat areas” are described in the management direction below.

Land Use Allocations

Congressionally Reserved Lands and the National Landscape Conservation System

Management Objectives

- Conserve, protect, and restore the identified outstanding cultural, ecological, and scientific values of the National Landscape Conservation System and other congressionally designated lands.
- Preserve the wilderness character of designated Wilderness Areas.
- Preserve wilderness characteristics in Wilderness Study Areas in accordance with non-impairment standards as defined under the management policy for Wilderness Study Areas (BLM Manual 6330 – Management of BLM Wilderness Study Areas; USDI BLM 2012), until Congress either designates these lands as Wilderness or releases them for other purposes.
- Protect and enhance the free-flowing condition, water quality, and outstandingly remarkable values of eligible, suitable, and designated Wild and Scenic River corridors.⁵
- Provide protection to Wild and Scenic River corridors that are suitable for inclusion as components of the National Wild and Scenic Rivers system until Congress makes a decision on designation.
- Provide protection to Wild and Scenic River corridors that are eligible but have not yet been studied for suitability as components of the National Wild and Scenic Rivers system pending suitability evaluations.

Management Direction

- In designated Wilderness Areas, exclude all prohibited uses of Wilderness (as defined in the Wilderness Act of 1964 and BLM Manual 6340 – Management of Designated Wilderness (USDI BLM 2012)), unless they have been demonstrated to be the minimum necessary (using the minimum requirements decision guide) to administer the area for the purposes of the Wilderness Act.
- Provide for the enjoyment and appreciation of the resources, qualities, values, and associated settings and primary uses within National Trail rights-of-way (including those classified as Scenic, Historical, and Recreational) and for which National Trails are designated.
- Enhance, promote, and protect the scenic, natural, and cultural resource values associated with current and future designated National Scenic and Historic Trails.
- Conduct silvicultural treatments in National Trail management corridors (including those classified as Scenic, Historical, and Recreational) only as needed to protect or maintain recreation setting characteristics or to achieve recreation objectives.
- Conduct management actions, including but not limited to fuels treatments, invasive species management, riparian or wildlife habitat improvements, forest management, and trail construction, in Wild and Scenic River corridors only if consistent with designated or tentative classifications and if any reductions in outstandingly remarkable values would be temporary and outstandingly remarkable values would be protected or enhanced over the long term.
- Do not use ground-disturbing equipment or aerial application of non-fugitive retardant in areas visible from the river within Wild and Scenic River corridors during wildfire management operations, except where the wildfire is deemed a threat to human safety or private property, or where use is essential for wildfire control.
- Conserve and develop the scenic, natural, and historic values of the Yaquina Head Outstanding Natural Area, and allow the continued use of the area for the purposes for which it was designated.

⁵ Wild and Scenic River corridors include all of the river classifications – Wild, Scenic, and Recreational.

District-Designated Reserves

Management Objectives

- Maintain the values and resources for which the BLM has reserved these areas from sustained-yield timber production.

Management Direction

- Manage constructed facilities and infrastructure, such as seed orchards, roads, buildings, quarries, communication sites, pump chances, heliponds, and maintenance yards, as needed for the purposes for which the BLM constructed them.
- Maintain access to roads and facilities by removing hazard trees and blowdown. Logs may be retained as down woody debris, moved for placement in streams for fish habitat restoration, or removed through a commercial harvest.
- Manage seed orchards consistent with the Seed Orchard Records of Decision for Integrated Pest Management (Eugene, Medford, Salem Districts; USDI BLM 2005a, 2006, 2005b).

District-Designated Reserve – Timber Production Capability Classification

Management Objectives

- *See District-Designated Reserves management objectives.*

Management Direction

- Manage areas identified as unsuitable for sustained-yield timber production through the Timber Production Capability Classification system, for other uses if those uses are compatible with the reason for which the BLM has reserved these lands (as identified by the Timber Production Capability Classification codes (USDI BLM 1984)).
- Apply silvicultural or fuels treatments, including prescribed fire, that restore or maintain community-level structural characteristics, promote desired species composition, and emulate ecological conditions produced by historic fire regimes, in areas identified as unsuitable for sustained-yield timber production through the Timber Production Capability Classification system,
- Designate additional lands as District-Designated Reserve – Timber Production Capability Classification through updates to the Timber Production Capability Classification system and remove those lands from the Harvest Land Base when examinations indicate that those lands meet the criteria for reservation.
- Un-designate lands as District-Designated Reserve – Timber Production Capability Classification and return those lands to the Harvest Land Base through updates to the Timber Production Capability Classification system when examinations indicate that those lands do not meet the criteria for reservation.

District-Designated Reserve – Lands Managed for their Wilderness Characteristics⁶

Management Objectives

- Protect wilderness characteristics (i.e., roadlessness, naturalness, opportunities for solitude and primitive unconfined recreation, and identified supplemental values), while allowing competing resource demands that do not conflict with preserving long-term wilderness characteristics.

Management Direction

- Allow mechanical vegetation treatment consistent with Visual Resource Management Class II for the purpose of improving ecological condition, contributing to threatened or endangered species recovery, or enhancing long-term wilderness characteristics.
- Do not construct new buildings or new temporary or permanent roads.
- Allow fuels treatments, invasive species management, riparian or wildlife habitat improvements, forest management, and other vegetation management only if any reductions in wilderness characteristics are temporary and wilderness characteristics are protected over the long term.
- Do not use ground-disturbing equipment or aerial application of non-fugitive retardant during wildfire management operations, except where the wildfire is deemed a threat to human safety or private property or where use is essential for wildfire control.
- For lands identified for protection of wilderness characteristics where the BLM-administered lands rely on adjoining Federal lands being managed to protect the same values to meet the size criteria (BLM Manual 6310 – Conducting Wilderness Characteristics Inventory on BLM Lands; USDI BLM 2012) and the agency managing the adjoining lands revises its land use plan to no longer protect wilderness characteristics, the BLM-administered lands will no longer meet the minimum size criteria and thus will no longer possess wilderness characteristics.
 - The BLM will no longer protect wilderness characteristics on these lands and the accompanying land use plan allocations (e.g., right-of-way exclusion, Visual Resource Management Class II) applied specifically to protect the wilderness characteristics will automatically be dropped as part of plan maintenance.
 - The BLM will then manage these lands consistent with the land use allocations, management objectives, and management direction of comparable or adjacent BLM-administered lands.

Eastside Management Area

Eastside Management Area – Forested Lands

Management Objectives

- Manage forested lands on a sustainable basis for multiple uses including wildlife and riparian habitats, recreational needs, cultural resources, community stability, and commodity production, including commercial timber and other forest products.
- Promote development of fire-resilient forests.
- Offer for sale the probable sale quantity of 350 Mbf of timber per year.

⁶ These objectives and direction apply to lands outside of designated Wilderness Areas and Wilderness Study Areas that the BLM has identified as having wilderness characteristics and for which the BLM is proposing to manage for the protection of those wilderness characteristics.

Management Direction

- Utilize uneven-aged management when managing forest stands. This will include use of harvesting methods such as thinning, single tree selection harvest, and group selection harvest.
- Conduct uneven-aged management harvests for the removal and sale of timber or biomass. Harvests will be applied to stands of any age, and throughout all diameters, for any of the following purposes:
 - Maintain growth and vigor of the stand.
 - Adjust stand composition or structure.
 - Reduce stand susceptibility to natural disturbance such as fire, windstorm, disease, or insect infestation.
 - Improve merchantability and value.
 - Promote multi-structural conditions in forest stands.
- Retain an overstory component of trees in uneven-aged management harvest units to provide shade, reduce wind speed, and promote overall fire resiliency in the stand. Maintain relative density between 15 and 55, but allow relative density to vary outside of this range based on vegetative type, site productivity, and fire risk factors such as slope, aspect, and elevation.
- Incorporate group selection harvest of up to 5 acres in size individually, and an aggregate level of up to 25 percent of the area of the treated stand within uneven-aged management harvest units.
- Implement timber salvage harvest after disturbances as needed to recover economic value and to minimize commercial loss or deterioration of damaged trees. Retain overstory trees as needed within regeneration harvest areas to provide for seedling shade, frost protection, seeding, or other silvicultural needs.
- Convert lands historically supporting conifer species (other than juniper) that are currently growing primarily brush or hardwoods to conifer species suitable to the site.
- Conduct prescribed burns, and mechanical or hand fuels treatments to reduce the potential for uncharacteristic wildfires. Apply maintenance treatments at appropriate intervals to retain or improve fire resilient conditions.
- Apply pre-commercial thinning to forest stands to achieve long-term management objectives.
- Apply pruning to enhance timber value and for fuels and disease management.
- During silvicultural treatment of stands, retain existing—
 - Snags $\geq 6''$ DBH
 - Down woody material $\geq 6''$ in diameter at the large end and > 20 feet in length except for safety, operational, or fuels reduction reasons. Retain snags $\geq 6''$ DBH felled for safety or operational reasons as down woody material, unless they would also pose a safety hazard as down woody material.
- Create new snags when the existing level of snags $> 16''$ DBH is less than 2 snags per acre on the average over the treatment stand, to meet this level. When the existing level of down woody debris over $12''$ in diameter and 12 feet in length is less than a total of 40 feet per acre on average over the treatment stand, create new down woody debris to meet this level. In addition:
 - Snag and down woody material levels described above will be met by any combination of the creation of new snags and down woody material from live conifer trees and the retention of existing levels of snags (decay classes I and II) and down woody material (decay classes I and II) (USDI BLM 2010). If existing levels of snags and down woody material are insufficient to meet these levels in a thinning project, the desired levels can be satisfied by including in the project decision the creation of snags and down woody material to meet these levels within 5 years after completion of yarding the timber in the timber sale or completion of associated fuels treatment.
 - Snag and down woody material retention or creation levels will be met at the scale of the harvest unit and are not intended to be attained on every acre. Snag and down woody material retention will be variable per acre throughout the treatment area.

- If the pre-harvest quadratic mean diameter of the stand is less than 16”, then the snags to be created or retained will be 2 snags per acre on average over the treatment stand with a diameter larger than the quadratic mean diameter of the stand.

Eastside Management Area – Non-forested Lands

Management Objectives

- Manage non-forested lands with the intent of maintaining or improving wildlife habitat and rangeland conditions based on ecological site parameters. Where conditions are currently late seral or potential natural community, maintain these conditions. Where conditions are early or mid seral, improve conditions towards late seral or potential natural community.
- Manage non-forested lands for multiple uses in addition to those listed above including recreational needs, community stability, and commodity production. Commodities include firewood, logs, biomass, chips, and other products and byproducts from juniper woodlands and rangelands.
- Promote development of fire-resilient woodlands and rangelands.
- Provide for the conservation of Bureau Special Status Species.

Management Direction

- Treat vegetation communities encroached by invasive juniper using prescribed fire, mechanical, chemical, and manual juniper removal treatments.
- Manage and retain juniper woodlands on sites they occupied historically (pre-European settlement), as identified by ecological site inventories or other methods.
- Cut encroaching juniper that hinders attainment of desired forage conditions to maintain and restore forage for big game and to restore unoccupied or historic greater sage-grouse habitat. Remove, utilize, or pile and burn cut juniper.
- Plant or seed native species to improve unoccupied or historic greater sage-grouse habitat
- Retain old-growth ‘legacy’ juniper when the BLM determines it meets the following definition: Individual trees that likely originated in the pre-settlement period, before 1870. These trees are commonly found in rocky areas where vegetation is sparse and fire frequency is naturally low. The BLM will evaluate trees based on the following characteristics of old-growth juniper:
 - Flat, rounded, broad at top, or irregular crown (as opposed to the more pointed tops of younger trees) or dead “spike” top
 - Numerous dead branches
 - Coarse, bright yellow-green lichen (*Letharia* or wolf lichen) covered branches
 - Large diameter lower branches
 - Large diameter trunk relative to height
 - Spirally twisted bark and deep furrows on the trunk
 - Hollow trunk

Trees need not have all of these characteristics for the BLM to determine that the trees are old-growth juniper.
- Apply prescribed burns, mechanical or hand fuels treatments to reduce the potential for uncharacteristic wildfires. Apply maintenance treatments at appropriate intervals to retain or improve fire-resilient conditions.
- Manage unoccupied or historic greater sage-grouse habitat consistent with the Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (ODFW 2011) and with the Oregon Sage-Grouse Action Plan (Sage-grouse Conservation Partnership 2015).
- Maintain or enhance wildlife habitat on rangelands.

- Continue the existing road closures to motorized vehicles, except for administrative purposes, between November 1 and April 15 in the designated closure areas within the Interstate and Klamath Deer Winter Ranges. These seasonal road closures include South Gerber, Willow Valley, Harpold Ridge, Bryant Mountain, North Bryant, Windy Ridge, Stukel Mountain, and Lorella.
- Plant or seed native forage species for deer and elk along roadsides, skid trails, and on disturbed areas, or create forage plots when forage quality is determined to be a limiting factor in achieving the management goals of the Oregon Department of Fish and Wildlife. Include forage retention requirements for wildlife when implementing silvicultural treatments or habitat management activities.

Eastside Management Area – Riparian Reserve

Management Objectives

- Provide for conservation of Bureau Special Status fish and other Bureau Special Status riparian-associated species.
- Provide for the riparian and aquatic conditions that supply stream channels with shade, sediment filtering, leaf litter and large wood sources, and stream bank stability.
- Maintain and restore water quality and hydrologic functions.
- Maintain and restore access to stream channels for all life stages of aquatic species.
- Maintain and restore the proper functioning condition and ecological site potential of riparian and wetland areas.

Management Direction

Table B-1. Eastside Management Area – Riparian Reserve distances by water feature

Feature	Riparian Reserve Distance*
Fish-bearing streams and/or perennial streams	150 feet on each side of a stream channel from the ordinary high water line or from the outer edge of the channel migration zone for low-gradient alluvial shifting channels.
Non-fish-bearing intermittent streams, all lakes, all natural ponds, constructed water impoundments > 1 acre, constructed ponds > 1 acre, and wetlands > 1 acre	100 feet on each side of the water feature from the ordinary high water line.
Wetlands < 1 acre, constructed water impoundments < 1 acre, and constructed ponds < 1 acre.	25 feet on each side of the water feature from the ordinary high water line.

* Reported distances are measured as slope distance.

All Water Features

- Implement instream and riparian restoration activities, such as gravel augmentation, aspen restoration, or placement of boulders and large wood in streams, including tree lining from adjacent riparian areas for all streams. Use manual or ground-based methods. Place an emphasis on streams that have high intrinsic potential for fish, high priority fish populations (such as those defined in recovery plans), or high levels of chronic sediment inputs.

- Remove or modify human-caused fish passage barriers to restore access to stream channels for all life stages of aquatic species.
- Fall and move trees as needed for safety or operational reasons, including, but not limited to, hazard tree removal, creation of yarding corridors, and road construction, improvement, or maintenance.
- Retain existing snags and down woody material during silvicultural treatment of stands, except for safety, operational, or fuels reduction reasons. Retain snags felled for safety or operational reasons as down woody material.
- Apply vegetation treatments and prescribed burns as needed to reduce the potential for uncharacteristic wildfires.
- Do not conduct timber salvage, except when necessary to protect public safety, or to keep roads and other infrastructure clear of debris.
- Manage livestock grazing at a level that meets Rangeland Health Standards (USDI BLM 1997) and allows for maintenance or development of an upward trend toward the proper functioning condition of riparian and wetland plant communities. Implement practices such as installing and maintaining livestock exclosures, managing season of use and intensity, developing off-stream watering facilities, and other techniques to attain this condition.
- Remove conifer encroachment where conifers are interfering with the natural vegetation community type, or where excessive erosion may occur.
- Apply Best Management Practices (BMPs) for roads, stream and riparian restoration work, and vegetation management as needed to maintain or restore water quality and hydrologic function (**Appendix J**).

Fish-bearing Streams and Perennial Streams

- Conduct thinning and other vegetation treatments to accelerate the development of potential natural forest stand conditions including late-successional stand characteristics and native riparian shrub communities.
- When conducting thinning or other vegetation treatments, do not use ground-based machinery within 75 feet (slope distance) on either side of the edge of the stream channel, as measured from the ordinary high water line.
- When conducting thinning or other vegetation treatments, do not use ground-based machinery on slopes > 35 percent, soils sensitive to displacement, rutting, or compaction, or in slide-prone areas.
- Retain and promote long-term site-potential shade conditions.

Non-fish-bearing Intermittent Streams

- Conduct thinning and other vegetation treatments to speed the development of large trees to provide an eventual source of large woody material to stream channels.
- When conducting thinning or other vegetation treatments, do not use ground-based machinery on slopes > 35 percent, soils sensitive to displacement, rutting, or compaction, or in slide-prone areas.

Lakes, Natural Ponds, and Wetlands

- Conduct thinning and other vegetation treatments within the Riparian Reserve to speed the development of potential natural vegetation communities.
- When conducting thinning or other vegetation treatments, do not use ground-based machinery within 50 feet (slope distance) on each side of the ordinary high water line of the water feature, or seasonally saturated soils (whichever is greatest).

Constructed Water Impoundments and Constructed Ponds

- Follow inspection guidelines for BLM infrastructure (e.g., dams and spillway structures), and implement maintenance and repair as needed.
- Dredge constructed water impoundments as necessary to maintain capacity.
- Maintain vegetation, access, and plumbing associated with sources of water for fire management purposes for all types of firefighting equipment (e.g., engines, aircraft, and tenders).

Harvest Land Base

Management Objectives

- Manage forest stands to achieve continual timber production that can be sustained through a balance of growth and harvest.
- Offer for sale the declared Allowable Sale Quantity of timber.
- Recover economic value from timber following disturbances, such as fires, windstorms, disease, or insect infestations.
- In harvested or disturbed areas, ensure the establishment and survival of desirable trees appropriate to the site and enhance their growth.
- Enhance the economic value of timber in forest stands.

Management Direction

- Conduct silvicultural treatments to contribute timber volume to the Allowable Sale Quantity.
- Conduct silvicultural treatments to enhance timber values and to reduce fire risks and insect and disease outbreaks.
- Implement timber salvage harvest after disturbances to recover economic value and to minimize commercial loss or deterioration of damaged trees.
- During commercial harvest,⁷ except timber salvage, retain existing—
 - Snags > 20” DBH
 - Snags 6–20” DBH in decay classes III, IV, and V (USDI BLM 2010)
 - Down woody material > 20” in diameter at the large end and > 20’ in length
 - Down woody material 6–20” in diameter at the large end and > 20’ in length in decay classes III, IV, and V (USDI BLM 2010)except for safety, operational, or fuels reduction reasons. Retain snags ≥ 6 ” DBH felled for safety or operational reasons as down woody material, unless they would also pose a safety hazard as down woody material.
- When implementing commercial harvest, except timber salvage, create new snags in the amounts and sizes specified in **Table B-2** within 1 year of completion of yarding the timber in the timber sale. If insufficient trees are available in the pre-harvest stand in the size class specified, use trees from the

⁷ In the context of management direction for the Harvest Land Base, **commercial harvest** means stand harvesting in which some or all of the cut trees are removed from the stand for timber volume and a monetary value assessed.

Commercial harvest in this context does not include the following:

- Individual tree falling
- Stand thinning in which all of the cut trees are left in the stand for restoration purposes or the cut trees are removed for firewood or other non-commercial harvest
- Fuels reduction treatments in which cut trees are burned, chipped, or otherwise disposed of without removal from the stand for timber

Commercial harvest may be implemented through a variety of mechanisms, including timber sale contracts, stewardship agreements, or other types of contracts.

largest size class available. Meet snag creation levels as an average at the scale of the harvest unit; snag creation levels are not required to be attained on every acre. When creating the required number of snags, locate them according to the following criteria:

- Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.
- Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.
- Concentrate the creation of snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Meet snag creation levels with trees from any species.

Table B-2. Snag creation levels within the Harvest Land Base

District/ Field Office	Province	Number of Snags/Acre Created Within 1 Year of Yarding the Timber in the Timber Sale		
		> 20" DBH	> 10" DBH	Total Snags
Coos Bay	All	1	-	1
Eugene	OR Coast Range	1	-	1
	Western Cascades	1	-	1
Klamath Falls	All	1	-	1
Medford	All	-	-	-
Roseburg	OR Coast Range	3	-	3
	Western Cascades	3	3	6
	Klamath	-	-	-
Salem	OR Coast Range	1	-	1
	Western Cascades	1	-	1

- Employ site preparation methods such as mechanical treatments (e.g., machine piling), manual treatments (e.g., brushing), and prescribed burns to prepare newly harvested and inadequately stocked areas for the regeneration of desirable tree species.
- Manually apply supplemental nutrients where necessary to enhance vigor and growth of desired vegetation. Do not use aerial application methods.
- If not suitable for commercial removal, make felled hazard trees available for habitat restoration purposes in any land use allocation, including off-site from the location where such hazard trees are felled.

Harvest Land Base – Low Intensity Timber Area (LITA)

Management Objectives

- *See Harvest Land Base management objectives.*
- Provide complex early successional ecosystems.
- Develop diverse late-successional ecosystems for a portion of the rotation.
- Provide a variety of forest structural stages distributed both spatially and temporally.

Management Direction

- *See Harvest Land Base management direction.*
- Apply regeneration harvest⁸ for any of the following reasons:
 - Produce timber to contribute to the attainment of the declared Allowable Sale Quantity.
 - Adjust the age class distribution in the LITA in each sustained-yield unit.
 - Manage insect and disease infestations.
 - Convert stands capable of supporting conifer species that are currently growing primarily hardwoods or shrubs to a mix of conifer and hardwood species suitable to the site.
 - Increase or maintain vegetative species diversity.
 - Restore and maintain habitat for Bureau Special Status Species.
 - Create growing space for hardwood and pine species persistence and regeneration.
 - Produce complex early successional ecosystems.
 - Reset stand development in overly dense stands that would not respond well to commercial thinning.
- In each regeneration harvest unit, retain 15–30 percent of pre-harvest stand basal area in live trees. Retain trees in a variety of spatial patterns, including aggregated groups, stringers, and individual trees. Include among retained trees all trees that are both ≥ 40 " DBH and that the BLM identifies were established prior to 1850, except where removal is necessary for safety or operational reasons and no alternative harvesting method is economically viable or practically feasible. The BLM identification of trees established prior to 1850 may be based on any of a variety of methods, such as evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM.
- After regeneration harvest, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to a stand-level average of at least 130 trees per acre within 5 years of harvest.
- Conduct commercial thinning for any of the following reasons:
 - Produce timber to contribute to the attainment of the declared Allowable Sale Quantity.
 - Adjust stand composition or dominance.
 - Reduce stand susceptibility to disturbances such as a fire, windstorm, disease, or insect infestation.
 - Improve stand merchantability and value.
 - Increase or maintain vegetative species diversity.
 - Promote or enhance the development of structural complexity.
 - Create growing space for the creation or augmentation of Bureau Special Status plant populations.
 - Create growing space for hardwood and pine persistence and regeneration.
- Maintain stand densities through commercial thinning above densities needed to occupy the site, but below densities that will result in loss of stand vigor and health.
 - Conduct thinning to result in a stand average relative density between 25 percent and 45 percent after harvest.
 - Leave untreated areas (skips) and create group selection openings⁹ to provide structural complexity in the post-treatment stand. Leave at least 5 percent of the planned harvest unit in untreated areas. Do not exceed 10 percent of the planned harvest unit in group selection openings.
 - Include among retained trees all trees that are both ≥ 40 " DBH and that the BLM identifies were established prior to 1850, except where removal is necessary for safety or operational reasons and no alternative harvesting method is economically viable or practically feasible. The BLM identification of trees established prior to 1850 may be based on any of a variety of methods, such

⁸ For the purpose of management direction for the Harvest Land Base – Low Intensity Timber Area, regeneration harvest does not include timber salvage, which has separate management direction.

⁹ **Group selection openings** are defined as areas with ≤ 2 live trees ≥ 7 " DBH per acre. Roads, landings, yarding corridors, and skid trails do not count as group selection openings.

as evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM.

- Implement timber salvage harvest after disturbance events to recover economic value and to minimize commercial loss or deterioration of damaged trees where the BLM determines that removal is economically viable.
 - In timber salvage harvest units, retain at least 15 percent of pre-harvest stand basal area in live trees or snags in individual harvest units. Retain trees and snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.
 - After salvage harvest, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to a stand-level average of at least 130 trees per acre (including surviving trees) within 5 years of harvest.
- For areas without timber salvage harvest after disturbance events, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to a stand-level average of at least 130 trees per acre (including surviving trees) within 10 years of the disturbance event, to the extent possible given safety and operational constraints.

Harvest Land Base – Moderate Intensity Timber Area (MITA)

Management Objectives

- *See Harvest Land Base management objectives.*
- Provide complex early successional ecosystems.
- Develop diverse late-successional ecosystems for a portion of the rotation.
- Provide a variety of forest structural stages distributed both temporally and spatially.

Management Direction

- *See Harvest Land Base management direction.*
- Conduct regeneration harvest¹⁰ for any of the following reasons:
 - Produce timber to contribute to the attainment of the declared Allowable Sale Quantity.
 - Adjust the age class distribution in the MITA in each sustained-yield unit.
 - Manage insect and disease infestations.
 - Convert stands capable of supporting conifer species that are currently growing primarily hardwoods or shrubs to a mix of conifer and hardwood species suitable to the site.
 - Increase or maintain vegetative species diversity.
 - Restore and maintain habitat for Bureau Special Status Species.
 - Create growing space for hardwood and pine species persistence and regeneration.
 - Produce complex early successional ecosystems.
 - Reset stand development in overly dense stands that would not respond well to commercial thinning.
- In each regeneration harvest unit, retain 5–15 percent of pre-harvest stand basal area in live trees. Retain trees in a variety of spatial patterns, including aggregated groups, stringers, and individual trees. Include among retained trees all trees that are both $\geq 40''$ DBH and that the BLM identifies were established prior to 1850, except where removal is necessary for safety or operational reasons and no alternative harvesting method is economically viable or practically feasible. The BLM identification of trees established prior to 1850 may be based on any of a variety of methods, such as

¹⁰ For the purpose of management direction for the Harvest Land Base – Moderate Intensity Timber Area, regeneration harvest does not include timber salvage, which has separate management direction.

evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM.

- After regeneration harvest, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to a stand-level average of at least 150 trees per acre within 5 years of harvest.
- Conduct commercial thinning for any of the following reasons:
 - Produce timber to contribute to the attainment of the declared Allowable Sale Quantity.
 - Adjust stand composition or dominance.
 - Reduce stand susceptibility to disturbances such as a fire, windstorm, disease, or insect infestation.
 - Improve stand merchantability and value.
 - Increase or maintain vegetative species diversity.
 - Promote or enhance the development of structural complexity.
 - Create growing space for the creation or augmentation of Bureau Special Status plant populations.
 - Create growing space for hardwood and pine persistence and regeneration.
- Maintain stand densities through commercial thinning above densities needed to occupy the site, but below densities that will result in loss of stand vigor and health.
 - Conduct thinning to result in stand average relative density between 25 percent and 45 percent after harvest.
 - Leave untreated areas (skips) and create group selection openings to provide structural complexity in the post-treatment stand. Leave at least 5 percent of the planned harvest unit in untreated areas. Do not exceed 10 percent of the planned harvest unit in group selection openings.
 - Include among retained trees all trees that are both $\geq 40''$ DBH and that the BLM identifies were established prior to 1850, except where removal is necessary for safety or operational reasons and no alternative harvesting method is economically viable or practically feasible. The BLM identification of trees established prior to 1850 may be based on any of a variety of methods, such as evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM.
- Implement timber salvage harvest after disturbance events to recover economic value and to minimize commercial loss or deterioration of damaged trees where the BLM determines that removal is economically viable.
 - In timber salvage harvest units, retain at least 5 percent of pre-harvest stand basal area in live trees or snags in individual harvest units. Retain trees and snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.
 - After salvage harvest, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to a stand-level average of at least 150 trees per acre (including surviving trees) within 5 years of harvest.
- For areas without timber salvage harvest after disturbance events, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to a stand-level average of at least 150 trees per acre (including surviving trees) within 10 years of the disturbance event, to the extent possible given safety and operational constraints.

Harvest Land Base – Uneven-aged Timber Area (UTA)

Management Objectives

- *See Harvest Land Base management objectives.*
- Increase diversity of stocking levels and size classes within and among the stands.

Management Direction

- *See Harvest Land Base management direction.*
- Utilize integrated vegetation management¹¹ in designing and implementing treatments. Conduct integrated vegetation management for any of the following:
 - Produce timber to contribute to the attainment of the declared Allowable Sale Quantity.
 - Promote the development and retention of large, open grown trees and multi-cohort stands.
 - Develop diverse understory plant communities.
 - Increase or maintain vegetative species diversity.
 - Restore and maintain habitat for Bureau Special Status Species.
 - Promote or enhance the development of structural complexity and heterogeneity.
 - Create growing space for hardwood and pine persistence and regeneration.
 - Create and maintain areas for hardwood and shrub dominance.
 - Adjust stand composition or dominance.
 - Reduce stand susceptibility to disturbances such as a fire, windstorm, disease, or insect infestation.
- In forest stands ≥ 10 acres treated with selection harvest or commercial thinning, harvest to result in stand average relative density between 20 percent and 45 percent after harvest.
 - Do not create group selection openings more than 4 acres in size.
 - Do not create group selection openings on more than 30 percent of the stand area.
 - Leave untreated areas (skips) on at least 10 percent of the stand area.
- When regenerating group selection openings created from selection harvest or commercial thinning, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to an average density across the opening of at least 150 trees per acre within 5 years of harvest.
- When treating stands with integrated vegetation management, retain dominant Douglas-fir (*Pseudotsuga menziesii*) and pine (*Pinus* spp.) trees that are both ≥ 36 " DBH and that the BLM identifies were established prior to 1850 and madrone (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum*), and oak (*Quercus* spp.) trees > 24 " DBH, except where removal is necessary for safety or operational reasons and no alternative harvesting method is economically viable or practically feasible.
 - The BLM identification of Douglas-fir and pine trees established prior to 1850 may be based on any of a variety of methods, such as evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM.
 - Protect and develop these retained trees by reducing competition to improve vigor and resistance to fire, drought, disease, and other disturbances and removing adjacent fuels to reduce risk of fire-related mortality.
- Apply prescribed fire for any of the following:
 - Promote the development and retention of large, open-grown trees and multi-cohort stands.
 - Develop diverse understory plant communities.
 - Increase or maintain vegetative species diversity.
 - Restore and maintain habitat for Bureau Special Status Species.
 - Promote or enhance the development of stand structural complexity and heterogeneity.
 - Create growing space for hardwood and pine persistence and regeneration.
 - Create and maintain areas for hardwood and shrub dominance.
 - Adjust stand composition or dominance.

¹¹ **Integrated vegetation management** includes the use of a combination of silvicultural or other vegetation treatments, fire and fuels management activities, harvest methods, and restoration activities. Activities include, but are not limited to, vegetation control, planting, snag creation, prescribed fire, biomass removal, thinning, single tree selection harvest, and group selection harvest. For the purpose of management direction for the Harvest Land Base – Uneven-aged Timber Area, integrated vegetation management does not include timber salvage, which has separate management direction.

- Reduce stand susceptibility to disturbances such as a fire, windstorm, disease, or insect infestation.
- Treat fuels to improve, enhance, or maintain landscape and ecosystem resilience. Identify sites for fuels treatments based on risk of large-scale, high-intensity fire, operationally strategic locations, and near highly valued resources and assets.
- Modify fuel loading to produce fire behavior and fire effects representative of the natural fire regime. Implement interim fuels treatments (e.g., hand pile and burn) in areas that are highly departed from natural conditions in order to facilitate prescribed fire in the future.
- Implement prescribed fire in low/mixed severity or high-frequency fire regimes to emulate historic fire function and processes. Apply prescribed fire across the landscape to create a mosaic of spatial and temporal stand conditions and patterning (appropriate to the fire regime).
- Implement timber salvage harvest after disturbance events to recover economic value and to minimize commercial loss or deterioration of damaged trees where the BLM determines that removal is economically viable.
 - In timber salvage harvest units, retain at least 5 percent of pre-harvest stand basal area in live trees or snags in individual harvest units. Retain trees and snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.
 - After salvage harvest, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to a stand-level average of at least 150 trees per acre (including surviving trees) within 5 years of harvest.
- For areas without timber salvage harvest after disturbance events, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to a stand-level average of at least 150 trees per acre (including surviving trees) within 10 years of the disturbance event, to the extent possible given safety and operational constraints.

Late-Successional Reserve

Management Objectives

- Maintain¹² nesting-roosting habitat for the northern spotted owl and nesting habitat for the marbled murrelet.

¹² **Maintain northern spotted owl nesting-roosting habitat** refers to a silvicultural activity that changes a conifer forest stand but maintains structural characteristics such that the stand continues to support the same northern spotted owl life history requirements: nesting-roosting habitat continues to support northern spotted owl nesting-roosting. Scientific findings support the idea that conifer forest stands can be altered in a manner that does not necessarily change their use by northern spotted owls (see the summary in the Revised Recovery Plan for the Northern Spotted Owl, USDI FWS 2011, p. III-15). Although structural characteristics vary across the northern spotted owl's range, northern spotted owl nesting-roosting habitat generally is characterized by conifer stands with a multi-layered, multispecies canopy dominated by large (> 30" DBH) conifer overstory trees, and an understory of shade-tolerant conifers or hardwoods, ≥ 60 percent canopy cover, substantial decadence in the form of large, live conifer trees with deformities (such as cavities, broken tops, and dwarf mistletoe infections; numerous large snags), ground cover characterized by large accumulations of logs and other woody debris, and a canopy that is open enough to allow northern spotted owls to fly within and beneath it. Activities needed to protect the overall health of the stand or adjacent stands, such as fuels reduction and insect and disease control, and wildfire management actions/activities may occur even if they downgrade or remove northern spotted owl habitat.

Maintain marbled murrelet habitat refers to a silvicultural activity that changes a conifer forest stand but maintains structural characteristics such that the stand continues to support marbled murrelet nesting opportunities. Activities needed to protect the overall health of the stand or adjacent stands, such as fuels reduction and insect and disease control, and wildfire management actions/activities may occur even if they remove marbled murrelet habitat.

- Promote the development of nesting-roosting habitat for the northern spotted owl in stands that do not currently support northern spotted owl nesting and roosting.
- Promote the development of nesting habitat for the marbled murrelet in stands that do not currently meet nesting habitat criteria.
- Promote the development and maintenance of foraging habitat for the northern spotted owl, including creating and maintaining habitat to increase diversity and abundance of prey for the northern spotted owl.

Management Direction

- Manage for large blocks of northern spotted owl nesting-roosting habitat that support clusters of reproducing spotted owls, are distributed across the variety of ecological conditions, and are spaced to facilitate the movement and survival of spotted owls dispersing between and through the blocks.
- In stands that are currently northern spotted owl nesting-roosting habitat, maintain nesting-roosting habitat function, regardless of northern spotted owl occupancy.
- Protect¹³ stands of older, structurally-complex conifer forest. Such stands are a subset of, and represent the highest value, northern spotted owl nesting-roosting habitat.
- Undertake activities such as individual tree removal, including the felling of hazard trees and stream logs, and the construction of linear and non-linear rights-of-way or other facilities, including communication sites, as long as northern spotted owl nesting-roosting habitat continues to support northern spotted owl nesting and roosting at the stand level, and northern spotted owl dispersal habitat continues to support northern spotted owl movement and survival at the landscape level.
- Protect marbled murrelet occupied stands. In this context, **protect marbled murrelet occupied stands** means to prohibit activities in the occupied stand except for the following: felling of live or dead hazard trees, felling trees for habitat restoration, and the construction or maintenance of linear and nonlinear rights-of-way, spur roads, yarding corridors or other facilities, as long as the occupied stand continues to support marbled murrelet nesting. Implement wildfire management actions and activities needed to protect the overall health of the stand or adjacent stands, such as fuels reduction and insect and disease control, as long as the occupied stand continues to support marbled murrelet nesting.
- During silvicultural treatment of stands, retain existing—
 - Snags ≥ 6 " DBH
 - Down woody material ≥ 6 " in diameter at the large end and > 20 feet in length except for safety, operational, or fuels reduction reasons. Retain snags ≥ 6 " DBH felled for safety or operational reasons as down woody material, unless they would also pose a safety hazard as down woody material.
- Cut individual green trees in the Late-Successional Reserve and move for placement in streams for fish habitat restoration.

¹³ **Protect older, structurally-complex conifer forest** means to prohibit harvesting activities in a conifer forest stand except as provided in this definition. Harvesting activities are limited to the following: felling of live or dead hazard trees and logs for streams, the construction, modification, maintenance and removal of linear and nonlinear rights-of-way, spur roads, yarding corridors or other facilities, as long as the forest stand continues to support the same northern spotted owl and marbled murrelet life history requirements: nesting-roosting habitat continues to support northern spotted owl nesting-roosting; dispersal habitat continues to support northern spotted owl movement and survival; and marbled murrelet nesting habitat continues to support marbled murrelet nesting. Activities needed to protect the overall health of the stand or adjacent stands, such as fuels reduction and insect and disease control, and wildfire management actions/activities may occur even if they downgrade or remove northern spotted owl habitat or remove marbled murrelet habitat.

- Maintain access to roads and facilities by removing hazard trees and blowdown. Logs may be retained as down woody debris, moved for placement in streams for fish habitat restoration, or removed through a commercial harvest.
- In stands that are not northern spotted owl nesting-roosting habitat, apply silvicultural treatments to speed the development of northern spotted owl nesting-roosting habitat or improve the quality of northern spotted owl nesting-roosting habitat in the stand or in the adjacent stand in the long term. Limit such silvicultural treatments (other than forest pathogen treatments) to those that do not preclude or delay by 20 years or more the development of northern spotted owl nesting-roosting habitat in the stand and in adjacent stands, as compared to development without treatment. Allow silvicultural treatments that do not meet the above criteria if needed to treat infestations or reduce the spread of forest pathogens.
- Utilize integrated vegetation management¹⁴ in designing and implementing treatments. Conduct integrated vegetation management for any of the following:
 - Promote the development and retention of large, open grown trees and multi-cohort stands.
 - Develop diverse understory plant communities.
 - Increase or maintain vegetative species diversity.
 - Restore and maintain habitat for Bureau Special Status species.
 - Promote or enhance the development of structural complexity and heterogeneity.
 - Create growing space for hardwood and pine persistence and regeneration.
 - Create and maintain areas for hardwood and shrub dominance.
 - Adjust stand composition or dominance.
 - Reduce stand susceptibility to disturbances such as a fire, windstorm, disease, or insect infestation.
- In stands ≥ 10 acres treated with selection harvest or commercial thinning,
 - Conduct harvest to result in stand average relative density percent between 20 percent and 45 percent after harvest.
 - Do not create group selection openings¹⁵ more than 4 acres in size.
 - Do not create group selection openings on more than 25 percent of the stand area.
 - Leave untreated skips on at least 10 percent of the stand area.
- In stands < 10 acres treated with selection harvest or commercial thinning, do not create group selection openings more than 2.5 acres in size.
- When regenerating group selection openings created from selection harvest or commercial thinning, use natural or artificial regeneration to reforest a mixture of species appropriate to the site to an average density across the group selection openings of at least 75 trees per acre within 5 years of harvest.
- When conducting commercial harvest, create new snags in the amounts and sizes specified in **Table B-3** within one year of completion of yarding the timber in the timber sale. If insufficient trees are available in the size class specified, use trees from the largest size class available. Meet snag creation levels as an average at the scale of the harvest unit; snag creation levels need not be attained on every acre. When creating the required number of snags, locate them according to the following criteria:
 - Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.
 - Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.

¹⁴ **Integrated vegetation management** includes the use of a combination of silvicultural or other vegetation treatments, fire and fuels management activities, harvest methods, and restoration activities. Activities include but are not limited to vegetation control, planting, snag creation, prescribed fire, thinning, single tree selection harvest, and group selection harvest.

¹⁵ **Group selection openings** are defined as areas with ≤ 2 live trees ≥ 7 " DBH per acre. Roads, landings, yarding corridors, and skid trails do not count as group selection openings.

- Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years.

Table B-3. Snag creation levels within the Late-Successional Reserve and Riparian Reserve

District/ Field Office	Province	Snags/Acre		
		> 20" DBH	> 10" DBH	Total Snags
Coos Bay	All	5	5	10
Eugene	OR Coast Range	5	5	10
	Western Cascades	5	20	25
Klamath Falls	All	2	5	7
Medford	All	1	1	2
Roseburg	OR Coast Range	6	7	13
	Western Cascades	6	25	31
	Klamath	1	1	2
Salem	OR Coast Range	5	5	10
	Western Cascades	5	20	25

- When conducting fuels reduction or prescribed fire treatments, retain down woody material at levels specified in **Table B-4** post-treatment. Meet down wood levels as an average at the scale of the treatment area following the treatment; down wood levels need not be attained on every acre.

Table B-4. Down woody material retention levels when implementing fuels reduction or prescribed fire treatments within the Late-Successional Reserve and Riparian Reserve

District/ Field Office	Province	Down Wood Percent Cover *
Coos Bay	All	6%
Eugene	OR Coast Range	6%
	Western Cascades	10%
Klamath Falls	All	3%
Medford	All	2%
Roseburg	OR Coast Range	6%
	Western Cascades	10%
	Klamath	2%
Salem	OR Coast Range	6%
	Western Cascades	10%

* Percent cover of down wood > 4" diameter.

- Do not conduct timber salvage, except when necessary to protect public safety, or to keep roads and other infrastructure clear of debris.

Late-Successional Reserve – Dry

Management Objectives

- *See Late-Successional Reserve management objectives.*
- Enable forests to: (1) recover from past management measures, (2) respond positively to climate-driven stresses, wildfire and other disturbance with resilience, (3) ensure positive or neutral ecological impacts from wildfire, and (4) contribute to northern spotted owl recovery.
- Reduce the risk of loss of key late-successional structure through the development of vertical and horizontal heterogeneity.
- Increase diversity of stocking levels and size classes within the stand and the landscape.

Management Direction

- *See Late-Successional Reserve management direction.*
- Apply selection harvest or commercial thinning treatments in Late-Successional Reserve – Dry in the South River Field Office of Roseburg District to at least 4,500 acres per decade.
- Apply selection harvest or commercial thinning treatments in Late-Successional Reserve – Dry in the Medford District to at least 17,000 acres per decade.
- When treating stands with integrated vegetation management, retain dominant Douglas-fir (*Pseudotsuga menziesii*) and pine (*Pinus* spp.) trees that are ≥ 36 " DBH and were established prior to 1850 and madrone (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum*), and oak (*Quercus* spp.) trees > 24 " DBH, except where removal is necessary for safety or operational reasons.
 - The BLM identification of Douglas-fir and pine trees established prior to 1850 may be based on any of a variety of methods, such as evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM.
 - Protect and develop these retained trees by reducing competition to improve vigor and resistance to fire, drought, disease, and other disturbances and removing adjacent fuels to reduce risk of fire related mortality.
- Treat fuels to improve, enhance, or maintain landscape and ecosystem resilience. Identify sites for fuels treatments based on risk of large-scale crown fire, operationally strategic locations, and potential for hazard reduction near highly valued resources.
- Modify fuel beds to produce characteristic fire behavior and fire effects representative of the fire regime. Implement interim fuels treatments (e.g., hand pile and burn) in areas that are highly departed from natural conditions in order to facilitate prescribed fire in the future.
- Apply prescribed fire in low/mixed severity or high-frequency fire regimes to emulate historic fire function and processes. Apply prescribed fire across the landscape to create a mosaic of spatial and temporal stand conditions and patterning (appropriate to the fire regime). Based on site-specific considerations, take measures to prevent and control fire regime altering species.
- Apply prescribed fire and mechanical or hand fuels treatments to reduce the potential for uncharacteristic wildfires. Apply maintenance treatments at appropriate intervals to retain or improve fire-resilient conditions.
- Maintain access to roads and facilities by removing hazard trees and blowdown. Logs may be retained as down woody debris, moved for placement in streams for fish habitat restoration, removed through a commercial timber sale, or treated as necessary for fuels reduction.

Riparian Reserve (West of Highway 97)

Riparian Reserve – Moist

Management Objectives

- Contribute to the conservation and recovery of ESA-listed fish species and their habitats and provide for conservation of Bureau Special Status fish and other Bureau Special Status riparian-associated species.
- Maintain and restore natural channel dynamics, processes, and the proper functioning condition of riparian areas, stream channels, and wetlands by providing forest shade, sediment filtering, wood recruitment, stream bank and channel stability, water storage and release, vegetation diversity, nutrient cycling, and cool and moist microclimates.
- Maintain water quality and streamflows within the range of natural variability, to protect aquatic biodiversity, provide quality water for contact recreation and drinking water sources.
- Meet ODEQ water quality criteria.
- Maintain high quality water and contribute to the restoration of degraded water quality for 303(d)-listed streams.
- Maintain high quality waters within ODEQ-designated Source Water Protection watersheds.

Management Direction

- Maintain access to roads and facilities by removing hazard trees and blowdown. Retain logs as down woody material or move for placement in streams for fish habitat restoration, unless removal of logs, including through commercial harvest, is necessary to accomplish removal of hazard trees or blowdown to maintain access to roads and facilities.
- Allow yarding corridors, skid trails, road construction, stream crossings, and road maintenance and improvement where there is no operationally feasible and economically viable alternative to accomplish other resource management objectives.
- Use site-specific BMPs (**Appendix J**) to maintain water quality during land management actions, including discretionary actions of others crossing BLM-administered lands.
- In new recreational developments, install sanitation systems that maintain water quality (e.g., sealed vault or similar).
- Do not operate ground-based machinery for timber harvest within 50 feet of streams (slope distance), except where machinery is on improved roads, designated stream crossings, or where equipment entry into the 50-foot zone would not increase the potential for sediment delivery into the stream.
- Do not operate ground-based machinery on slopes > 35 percent. Mechanical equipment with tracks (e.g., excavators, loaders, forwarders, and harvesters) may be used on short pitch slopes of greater than 35 percent but less than 45 percent when necessary to access benches of lower gradient (length determined on a site-specific basis, generally less than 50 feet (slope distance)).
- During silvicultural treatment of stands, retain existing—
 - Snags ≥ 6 " DBH
 - Down woody material ≥ 6 " in diameter at the large end and > 20 feet in length except for safety, operational, or fuels reduction reasons. Retain snags ≥ 6 " DBH felled for safety or operational reasons as down woody material, unless they would also pose a safety hazard as down woody material.
- Prohibit timber salvage, except when necessary to protect public safety, or to keep roads and other infrastructure clear of debris.
- Implement sudden oak death (SOD) eradication activities that do not exceed (at the HUC 10 watershed scale)—

- The removal of > 30 percent canopy cover over a contiguous 0.5 mile stream length or removal of > 50 percent canopy cover over a contiguous 0.25 mile stream length for small perennial streams (active channel width < 27 feet) where a 4,600-foot separation of non-treatment between sequential contiguous treatments would be maintained;
- The removal of > 50 percent canopy cover over a contiguous 0.5 mile stream length for medium-large perennial streams (active channel width > 27 feet) where a 4,600-foot separation of non-treatment between sequential contiguous treatments would be maintained; and
- A limit of 3 miles of treatment for any 5-year period and 3 percent of the total Federal perennial stream miles.

Implement SOD eradication activities that exceed these limitations only consistent with existing ESA consultation documents that address SOD eradication activities in the decision area.

- Cut or tip individual green trees and move for fish habitat restoration.
- Cut or tip individual trees directly into the stream channel for fish habitat restoration.
- Tree tipping: When conducting commercial thinning¹⁶ in any portion of the Outer Zone in a stand in all watershed classes, fall or tip from 0 to 15 square feet of basal area per acre of live trees, averaged across the Riparian Reserve portion of the treated stand. Leave felled or tipped trees on site or yard, deck, and make felled or tipped trees available for fish habitat restoration. The felled or tipped trees can be of any size and come from any zone.
- Promote beaver habitat restoration where the presence of beaver and their associated dams would improve fish and aquatic habitat.
- Along ponds and wetlands < 1 acre and constructed water impoundments of any size, treat vegetation as needed for habitat restoration, access, or safety.
- For constructed water impoundments and constructed ponds:
 - Follow inspection guidelines for BLM infrastructure (e.g., dams and spillway structures), and implement maintenance and repair as needed.
 - Dredge constructed water impoundments as necessary to maintain capacity.
 - Maintain vegetation, access, and plumbing associated with sources of water for fire management purposes for all types of firefighting equipment (e.g., engines, aircraft, and tenders).

¹⁶ In the context of management direction for the Riparian Reserve, **commercial thinning** means stand thinning in which any of the cut trees are removed from the stand for timber volume. Commercial thinning in this context does not include individual tree falling or tipping or stand thinning in which all of the cut trees are left in the stand for restoration purposes, or fuels reduction treatments in which cut trees are burned, chipped, or otherwise disposed of without removal from the stand for timber. Commercial thinning may be implemented through a variety of mechanisms, including timber sale contracts, stewardship agreements, or other types of contracts.

Table B-5. Riparian Reserve distance by water feature

Feature	Riparian Reserve Distance*
Fish-bearing streams and perennial streams	One site-potential tree height distance from the ordinary high water line or from the outer edge of the channel migration zone for low-gradient alluvial shifting channels, whichever is greatest, on each side of a stream
Intermittent, non-fish-bearing streams	Class I and II subwatersheds: One site-potential tree height distance from the ordinary high water line on each side of a stream
	Class III subwatersheds: 50 feet from the ordinary high water line on each side of a stream
Unstable areas that are above or adjacent to stream channels and are likely to deliver material such as sediment and logs to the stream if the unstable area fails	The extent of the unstable area; where there is a stable area between such an unstable area and a stream, and the unstable area has the potential to deliver material such as sediment and logs to the stream, extend the Riparian Reserve from the stream to include the intervening stable area as well as the unstable area
Lakes, natural ponds > 1 acre, and wetlands > 1 acre	100 feet extending from the ordinary high water line
Natural ponds < 1 acre and wetlands < 1 acre (including seeps and springs), and constructed water impoundments of any size	25 feet extending from the ordinary high water line

* Reported distances are measured as slope distance

Table B-6. Zone-specific management direction for streams in Class I subwatersheds

Fish-bearing streams and perennial streams
<i>Inner Zone (0–120 feet)</i>
<p>Do not thin stands, except for—</p> <ul style="list-style-type: none"> • SOD treatments; and • Individual tree falling or tipping for restoration or to meet the tree-tipping management direction associated with outer zone commercial thinning
<i>Outer Zone (120 feet to one site-potential tree height)</i>
<p>Thin stands as needed to ensure that stands are able to provide trees that would function as stable wood in the stream. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.</p>
<p>Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in Table B-3 within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation—</p> <ul style="list-style-type: none"> • Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees. • Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species. Do not create snags within falling distance of power lines, structures, or roads that will remain open

after harvesting activities are complete.

Intermittent, non-fish-bearing streams

Inner Zone (0–50 feet)

Do not thin stands, except for—

- SOD treatments; and
- Individual tree falling or tipping for restoration or to meet the tree-tipping management direction associated with outer zone commercial thinning

Middle Zone (50–120 feet)

Thin stands as needed to ensure that stands are able to provide trees that would function as stable wood in the stream. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.

Remove cut trees only as needed for safety or operational reasons, or to meet the tree-tipping management direction described above.

Outer Zone (120 feet to one site-potential tree height)

Thin stands as needed to ensure that stands are able to provide trees that would function as stable wood in the stream. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the harvest unit within the Riparian Reserve.

Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in **Table B-3** within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation—

- Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.
- Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species. Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.

Table B-7. Zone-specific management direction for streams in Class II subwatersheds

Fish-bearing streams and perennial streams
<i>Inner Zone (0–120 feet)</i>
<p>Do not thin stands, except for—</p> <ul style="list-style-type: none"> • SOD treatments; and • Individual tree falling or tipping for restoration or to meet the tree-tipping management direction associated with outer zone commercial thinning
<i>Outer Zone (120 feet to one site-potential tree height)</i>
<p>Thin stands as needed to promote the development of large, open grown trees, develop layered canopies and multi-cohort stands, develop diverse understory plant communities, and allow for hardwood vigor and persistence. Apply silvicultural treatments to increase diversity of riparian species and develop structurally-complex stands. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.</p> <p>Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in Table B-3 within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation:</p> <ul style="list-style-type: none"> • Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees. • Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species. Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.
Intermittent, non-fish-bearing streams
<i>Inner Zone (0–50 feet)</i>
<p>Do not thin stands, except for—</p> <ul style="list-style-type: none"> • SOD treatments; and • Individual tree falling or tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning
<i>Outer Zone (50 feet to one site-potential tree height)</i>
<p>Thin stands as needed to promote the development of large, open grown trees, develop layered canopies and multi-cohort stands, develop diverse understory plant communities, and allow for hardwood vigor and persistence. Apply silvicultural treatments to increase diversity of riparian species and develop structurally-complex stands. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.</p> <p>Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in Table B-3 within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation:</p> <ul style="list-style-type: none"> • Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.

- Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species. Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.

Table B-8. Zone-specific management direction for streams in Class III subwatersheds

Fish-bearing streams and perennial streams
<i>Inner Zone (0–120 feet)</i>
Do not thin stands, except for— <ul style="list-style-type: none"> • SOD treatments; and • Individual tree falling or tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning
<i>Outer Zone (120 feet to one site-potential tree height)</i>
Thin stands as needed to promote the development of large, open grown trees, develop layered canopies and multi-cohort stands, develop diverse understory plant communities, and allow for hardwood vigor and persistence. Apply silvicultural treatments to increase diversity of riparian species and develop structurally-complex stands. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.
Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in Table B-3 within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation: <ul style="list-style-type: none"> • Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees. • Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species. Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.
Intermittent, non-fish-bearing streams (0–50 feet)
Do not thin stands, except for— <ul style="list-style-type: none"> • SOD treatments; and • Individual tree falling or tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning

Riparian Reserve – Dry

Management Objectives

- Contribute to the conservation and recovery of ESA-listed fish species and their habitats and provide for conservation of Bureau Special Status fish and other Bureau Special Status riparian-associated species.

- Maintain and restore natural channel dynamics and processes and the proper functioning condition of riparian areas, stream channels and wetlands by providing forest shade, sediment filtering, wood recruitment, stability of stream banks and channels, water storage and release, vegetation diversity, nutrient cycling and cool and moist microclimate.
- Maintain water quality and streamflows within the range of natural variability, to protect aquatic biodiversity, provide quality water for contact recreation and drinking water sources.
- Meet ODEQ water quality criteria.
- Maintain high quality water and contribute to the restoration of degraded water quality for 303(d)-listed streams.
- Maintain high quality waters within ODEQ-designated Source Water Protection watersheds.

Management Direction

- Maintain access to roads and facilities by removing hazard trees and blowdown. Retain logs as down woody material, move for placement in streams for fish habitat restoration, or treat as necessary for fuels reduction, unless removal of logs, including through commercial harvest, is necessary to accomplish removal of hazard trees or blowdown to maintain access to roads and facilities.
- Allow yarding corridors, skid trails, road construction, stream crossings, and road maintenance and improvement where there is no operationally feasible and economically viable alternative to accomplish other resource management objectives.
- Use site-specific BMPs (**Appendix J**) to maintain water quality during land management actions, including discretionary actions of others crossing BLM-administered lands.
- In new recreational developments, install sanitation systems that maintain water quality (e.g., sealed vault or similar).
- Do not operate ground-based machinery within 50 feet of streams (slope distance), except where machinery is on improved roads, designated stream crossings, or where equipment entry into the 50-foot zone would not increase the potential for sediment delivery into the stream.
- Do not operate ground-based machinery on slopes > 35 percent. Mechanical equipment with tracks (e.g., excavators, loaders, forwarders, and harvesters) may be used on short pitch slopes of greater than 35 percent but less than 45 percent when necessary to access benches of lower gradient (length determined on a site-specific basis, generally less than 50 feet (slope distance)).
- During silvicultural treatment of stands, retain existing—
 - Snags $\geq 6''$ DBH
 - Down woody material $\geq 6''$ in diameter at the large end and > 20 feet in length except for safety, operational, or fuels reduction reasons. Retain snags $\geq 6''$ DBH felled for safety or operational reasons as down woody material, unless they would also pose a safety hazard as down woody material.
- In all subwatershed classes:
 - Apply low or moderate-severity prescribed burns where needed to invigorate native deciduous tree species. Moderate severity prescribed burns will be limited to no more than 20 percent of area of Riparian Reserve subwatershed (HUC 12) each year.
 - Apply non-commercial tree thinning to adjust fuel loads as necessary to achieve desired fire effects prior to prescribed burning.
- When conducting fuels or prescribed fire treatments, retain down woody material at levels specified in **Table B-4**. Down woody material retention standards would be met as an average at the scale of the treatment area, and is not intended to be attained on every acre.
- Do not conduct timber salvage, except when necessary to protect public safety, or to keep roads and other infrastructure clear of debris.

- Cut or tip individual green trees and move as necessary for fish habitat restoration.
- Cut or tip individual green trees directly into the stream channel for fish habitat restoration.
- Tree tipping: When conducting commercial thinning¹⁷ in any portion of the Outer Zone in a stand in all subwatershed classes, fall or tip from 0 to 15 square feet of basal area per acre of live trees, averaged across the Riparian Reserve portion of the treated stand. Leave felled or tipped trees on site or yard, deck, and make felled or tipped trees available for fish habitat restoration. The felled or tipped trees can be of any size and come from any zone within the Riparian Reserve.
- Promote beaver habitat restoration where the presence of beaver and their associated dams would improve fish and aquatic habitat.
- Along ponds and wetlands < 1 acre and constructed water impoundments of any size, treat vegetation as needed for habitat restoration, access, or safety.
- For constructed water impoundments and constructed ponds:
 - Follow inspection guidelines for BLM infrastructure (e.g., dams and spillway structures), implement maintenance, and repair as needed.
 - Dredge constructed water impoundments as necessary to maintain capacity.
 - Maintain vegetation, access, and plumbing associated with sources of water for fire management purposes for all types of firefighting equipment (e.g., engines, aircraft, and tenders).

¹⁷ In the context of management direction for the Riparian Reserve, ‘**commercial thinning**’ means stand thinning in which some or all of the cut trees are removed from the stand for timber. Commercial thinning in this context does not include individual tree falling or tipping or stand thinning in which all of the cut trees are left in the stand for restoration purposes, or fuels reduction treatments in which cut trees are burned, chipped, or otherwise disposed of without removal from the stand for timber. Commercial thinning may be implemented through a variety of mechanisms, including timber sale contracts, stewardship agreements, or other types of contracts.

Table B-9. Riparian Reserve distance by water feature

Feature	Riparian Reserve Distance*
Fish-bearing streams and perennial streams	One site-potential tree height distance from the ordinary high water line or from the outer edge of the channel migration zone for low-gradient alluvial shifting channels, whichever is greatest, on each side of a stream
Intermittent, non-fish-bearing streams	Class I and II subwatersheds: One site-potential tree height distance from the ordinary high water line on each side of a stream
	Class III subwatersheds: 50 feet from the ordinary high water line on each side of a stream
Unstable areas that are above or adjacent to stream channels and are likely to deliver material such as sediment and logs to the stream if the unstable area fails	The extent of the unstable area; where there is a stable area between such an unstable area and a stream, and the unstable area has the potential to deliver material such as sediment and logs to the stream, extend the Riparian Reserve from the stream to include the intervening stable area as well as the unstable area
Lakes, natural ponds > 1 acre, and wetlands > 1 acre	100 feet extending from the ordinary high water line
Natural ponds < 1 acre and wetlands < 1 acre (including seeps and springs), and constructed water impoundments of any size	25 feet extending from the ordinary high water line

* Reported distances are measured as slope distance.

Table B-10. Zone-specific management direction for streams in Class I subwatersheds

Fish-bearing streams and perennial streams
<i>Inner Zone (0–120 feet)</i>
<p>Do not thin stands, except for—</p> <ul style="list-style-type: none"> • Fuels treatments as needed to reduce the risk of stand-replacing crown fires; do not conduct fuels treatments within 60 feet of fish-bearing or perennial streams. Retain at least 50 percent canopy cover per acre. Do not cut trees > 12” DBH. • As described above in management direction for prescribed burns, individual tree falling/tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning
<i>Outer Zone (120 feet to one site-potential tree height)</i>
<p>Thin stands as needed to ensure that stands are able to provide trees that would function as stable wood in the stream. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.</p> <p>Apply fuels reduction treatments, including prescribed fire, as needed to reduce the risk of stand-replacing crown fires. Retain at least 30 percent canopy cover and 60 trees per acre, expressed as an average across the treated portion of the Riparian Reserve.</p> <p>Make available for sale the merchantable timber from thinning and other silvicultural treatments. When conducting commercial thinning, create new snags in the amounts and sizes specified in Table B-3 within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Meet the snag creation amounts as an average at</p>

the scale of the portion of the harvest unit within the Riparian Reserve, but may not be attained on every acre. For implementation:

- Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.
- Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Use trees from any species to meet snag creation levels.

Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.

Intermittent, non-fish-bearing streams

Inner Zone (0–50 feet)

Do not thin stands, except as described above in management direction for prescribed burns, individual tree falling/tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning.

Middle Zone (50–120 feet)

Thin stands as needed to ensure that stands are able to provide trees that would function as stable wood in the stream. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.

Apply fuels reduction treatments, including prescribed fire, as needed to reduce the risk of stand-replacing, crown fires. Retain at least 30 percent canopy cover and 60 trees per acre expressed as an average across the treated portion of the Riparian Reserve.

Remove cut trees as needed for safety or operational reasons, to reduce the risk of stand-replacing, crown fires, or to meet the tree-tipping management direction described above. Merchantable timber from thinning, fuels reduction, and other silvicultural treatments that must be removed for safety or operational reasons, to reduce the risk of stand-replacing, crown fires, or to meet the tree-tipping management direction described above may be made available for sale.

Outer Zone (120 feet to one site-potential tree height)

Thin stands as needed to ensure that stands are able to provide trees that would function as stable wood in the stream. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.

Apply fuels reduction treatments, including prescribed fire, as needed to reduce the risk of stand-replacing, crown fires. Retain at least 30 percent canopy cover and 60 trees per acre expressed as an average across the treated portion of the Riparian Reserve.

Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in **Table B-3** within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation—

- Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees.
- Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species.

Do not create snags within falling distance of power lines, structures, or roads that will remain open

after harvesting activities are complete.

Table B-11. Zone-specific management direction for streams in Class II subwatersheds

Fish-bearing streams and perennial streams
<i>Inner Zone (0–120 feet)</i>
<p>Do not thin stands, except for—</p> <ul style="list-style-type: none"> • Fuels treatments as needed to reduce the risk of stand-replacing crown fires; do not conduct fuels treatments within 60 feet of fish-bearing or perennial streams. Retain at least 50 percent canopy cover per acre. Do not cut trees > 12” DBH. • As described above in management direction for prescribed burns, individual tree falling/tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning
<i>Outer Zone (120 feet to one site-potential tree height)</i>
<p>Thin stands as needed to promote the development of large, open grown trees, develop layered canopies and multi-cohort stands, develop diverse understory plant communities, and allow for hardwood vigor and persistence. Apply silvicultural treatments to increase diversity of riparian species and develop structurally complex stands. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.</p> <p>Apply fuels reduction treatments, including prescribed fire, as needed to reduce the risk of stand-replacing, crown fires. Retain at least 30 percent canopy cover and 60 trees per acre expressed as an average across the treated portion of the Riparian Reserve.</p> <p>Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in Table B-3 within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation:</p> <ul style="list-style-type: none"> • Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees. • Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species. Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.
Intermittent, non-fish-bearing streams
<i>Inner Zone (0–50 feet)</i>
<p>Do not thin stands, except for—</p> <ul style="list-style-type: none"> • Fuels treatments as needed to reduce the risk of stand-replacing crown fires; do not conduct fuels treatments within 60 feet of fish-bearing or perennial streams. Retain at least 50 percent canopy cover per acre. Do not cut trees > 12” DBH. • As described above in management direction for prescribed burns, individual tree falling/tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning

<i>Outer Zone (50 feet to one site-potential tree height)</i>
<p>Thin stands as needed to promote the development of large, open grown trees, develop layered canopies and multi-cohort stands, develop diverse understory plant communities, and allow for hardwood vigor and persistence. Apply silvicultural treatments to increase diversity of riparian species and develop structurally complex stands. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.</p> <p>Apply fuels reduction treatments, including prescribed fire, as needed to reduce the risk of stand-replacing, crown fires. Retain at least 30 percent canopy cover and 60 trees per acre expressed as an average across the treated portion of the Riparian Reserve.</p> <p>Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in Table B-3 within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation:</p> <ul style="list-style-type: none"> • Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual trees. • Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species. Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.

Table B-12. Zone-specific management direction for streams in Class III subwatersheds

Fish-bearing streams and perennial streams
<i>Inner Zone (0–120 feet)</i>
<p>Do not thin stands, except as described above in management direction for prescribed burns, individual tree falling/tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning.</p>
<i>Outer Zone (120 feet to one site-potential tree height)</i>
<p>Thin stands as needed to promote the development of large, open grown trees, develop layered canopies and multi-cohort stands, develop diverse understory plant communities, and allow for hardwood vigor and persistence. Apply silvicultural treatments to increase diversity of riparian species and develop structurally complex stands. Maintain at least 30 percent canopy cover and 60 trees per acre expressed as an average at the scale of the portion of the harvest unit within the Riparian Reserve.</p> <p>Apply fuels reduction treatments, including prescribed fire, as needed to reduce the risk of stand-replacing, crown fires. Retain at least 30 percent canopy cover and 60 trees per acre expressed as an average across the treated portion of the Riparian Reserve.</p> <p>Merchantable timber from thinning and other silvicultural treatments may be made available for sale. When conducting commercial thinning, create new snags in the amounts and sizes specified in Table B-3 within one year of completion of yarding the timber in the timber sale. If trees are not available in the size class specified, use trees from the largest size class available. Snag creation amounts would be met as an average at the scale of the portion of the harvest unit within the Riparian Reserve, and need not be attained on every acre. For implementation—</p> <ul style="list-style-type: none"> • Create snags in a variety of spatial patterns, including aggregated groups, stringers, and individual

trees.

- Concentrate created snags in areas of the stand where the BLM does not anticipate skidding or yarding will occur within 20 years. Snag creation levels can be met with trees from any species. Do not create snags within falling distance of power lines, structures, or roads that will remain open after harvesting activities are complete.

Intermittent, non-fish-bearing streams (0–50 feet)

Do not thin stands, except as described above in management direction for prescribed burns, individual tree falling/tipping for restoration, or to meet the tree-tipping management direction associated with outer zone commercial thinning.

Administrative Actions

Management Objective

- Provide for the orderly and efficient management of resources.

Management Direction

- Implement administrative actions in any land use allocation to the extent consistent with land use allocation management direction. Administrative actions include but are not limited to the following actions:
 - Competitive and commercial recreation activities
 - Special forest product collection permit issuance
 - Lands and realty actions (e.g., the issuance of grants, leases, and permits)
 - Trespass resolution
 - Facility maintenance
 - Facility improvements
 - Road maintenance
 - Hauling permit issuance
 - Recreation site maintenance
 - Recreation site improvement
 - Hazardous materials removal
 - Abandoned Mine Land physical closure or removal and environmental remedial actions
 - Law enforcement
 - Legal land or mineral estate ownership surveys
 - Cadastral and engineering surveys
 - Field visits for the design of projects (including clearance inventories) and contract administration
 - Tree sampling (including using the 3P fall, buck, and scale sampling method)
 - Project implementation monitoring and plan effectiveness monitoring
 - Incidental live or dead tree removal for safety or operational reasons
 - Wildlife, fisheries, or plant community and population survey or monitoring

Resource Programs

Air Quality

Management Objectives

- Protect air quality related values in Federal mandatory Class I areas.
- Prevent exceedances of national, State, or local ambient air quality standards.

Management Direction

- Comply with the Oregon Smoke Management Plan when implementing prescribed burning activities.
- Use BMPs (**Appendix J**) to reduce dust from unpaved road surfaces during extended management operations, such as timber sales and wildfire management actions/activities. Example practices include applying dust suppressants.
- Follow State Implementation Plan requirements for activities that could negatively affect the status of air quality non-attainment or maintenance areas.

Areas of Critical Environmental Concern

Management Objective

- Maintain or restore relevant and important values in Areas of Critical Environmental Concern, including Research Natural Areas and Outstanding Natural Areas.

Management Direction

- Implement activities as necessary to maintain, enhance, or restore relevant and important values (**Appendix F**).
- Do not use ground-disturbing equipment or aerial application of non-fugitive retardant that would compromise important and relevant values during wildfire management operations, except where the wildfire is deemed a threat to human safety or private property, or where use is essential for wildfire control.

Cultural Resources

Management Objectives

- Preserve and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations.
- Reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration or potential conflict with other resources by ensuring that all authorizations for land and resource use will comply with Section 106 of the National Historic Preservation Act.

Management Direction

- Evaluate all documented cultural resources for National Register of Historic Places eligibility. For all sites that are listed or eligible for listing on the National Register of Historic Places, protect sites through avoidance or other protection measures.
- Conduct public education and outreach activities, and develop materials in order to educate and interpret for the public the cultural and historic resources within the decision area.
- Assign all cultural resources into one of the use allocations in **Table B-13**.

Table B-13. Cultural use allocations with desired outcomes and management actions

Use Allocation	Desired Outcome	Management Action
Scientific use	Preserved until research potential is realized	Permit appropriate research including data recovery
Conservation for future use	Preserved until conditions for use are met	Propose protection measures/designations
Traditional use	Long-term preservation	Consult with Tribes; determine limitations
Public use	Long-term preservation, on-site interpretation	Determine limitations, permitted uses
Experimental use	Protected until used	Determine nature of experiments
Discharged from management	No use after recordation, not preserved	Remove protective measures

Fire, Fuels, and Wildfire Response

Management Objectives

- Respond to wildfires in a manner that provides for public and firefighter safety while meeting land management objectives by utilizing the full range of fire management options.
- Fire management strategies would be risk-based decisions that consider firefighter and public safety, values at risk, management objectives, and costs that are commensurate with the identified risk.
- Actively manage the land to restore and maintain resilience of ecosystems to wildfire and decrease the risk of uncharacteristic, large, high-intensity/high-severity wildfires.
- Manage fuels to reduce wildfire hazard, risk, and negative impacts to communities and infrastructure, landscapes, ecosystems, and highly valued resources.
- Manage fire, fuels, and wildfire response consistent with the National Cohesive Wildland Fire Management Strategy.
- Participate with communities bordering Federal lands in partnership with local, State, and Federal stakeholders to reduce the risks and threats from wildland fire.

Management Direction

- Take immediate action to suppress all human-caused ignitions at the lowest cost commensurate with the protection of firefighter and public safety and welfare, and resulting in the fewest negative consequences to natural and cultural resources.
- Apply the full range of fire management options in responding to natural ignitions or escaped prescribed fires. These fires may be used to achieve management objectives when expected fire behavior and potential effects of a fire, or a part of a fire, are aligned with the management objectives and direction of the underlying land use allocation and affected resources.

- Conduct wildfire rehabilitation and restoration efforts to protect and sustain ecosystems, ecosystem services, public health and safety, and infrastructure adversely affected by fire management operations or direct fire effects.
- Treat both management activity fuels and natural hazardous fuels for any of the following reasons:
 - Modify the fuel profile (e.g., raise canopy base heights or reduce surface and ladder fuels and crown bulk density)
 - Reduce potential fire behavior (e.g., crown fire activity, wildfire spread, and intensity)
 - Reduce potential fire severity
 - Improve effective fire management opportunities within the Wildland Urban Interface¹⁸ or in close proximity to other highly valued resources
- Treat fuels in a way that increase intervals between future maintenance treatments.
- Create fuel beds or fuel breaks that reduce the potential for high-intensity fire spread within the wildland urban interface and in close proximity to other highly valued resources.
- Prior to applying prescribed fire, take necessary mitigation actions to reduce impacts to Bureau Special Status Species wildlife and plants and their habitats.
- Conduct necessary vegetation maintenance treatments to ensure that fire management operations are able to access existing natural and human-made strategic infrastructure (e.g., communication sites, pump chances and other wildfire management actions/activities water sources, key road systems, containment lines, fuel breaks, and helispots).

Fisheries

Management Objectives

- Improve the distribution and quantity of high-quality fish habitat across the landscape for all life stages of ESA-listed, Bureau Special Status Species, and other fish species.
- Maintain and restore access to stream channels for all life stages of aquatic species.

Management Direction

- Restore degraded spawning, rearing, and holding habitat for fish using a combination of accepted techniques including but not limited to log and boulder placement in stream channels, tree tipping, and gravel enhancement.
- Remove or modify human-caused fish passage barrier to restore access to stream channels for all life stages for aquatic species.

Forest Management

Management Objectives

- Enhance the health, stability, growth, and vigor of forest stands.
- In harvested or disturbed areas, ensure the establishment and survival of desirable vegetation appropriate to the site.
- Facilitate safe and efficient forestry operations for the BLM, reciprocal right-of-way agreement holders, and permittees.

¹⁸ The Wildland Urban Interface includes wildland developed areas.

Management Direction

- Promote the establishment and survival of desirable vegetation through stand maintenance treatments.
- Apply thinning or prescribed fire to forest stands to achieve appropriate stocking and density levels.
- Use genetically improved native trees for reforestation when available.
- Fall and move live or dead trees as needed for safety or operational reasons, including, but not limited to, the creation of yarding corridors or skid trails adjacent to nearby harvest units, hazard tree removal, and road construction, improvement, or maintenance.
- Allow road construction, maintenance, improvement, and decommissioning as well as construction of skid trails and yarding corridors based on operational needs and consistent with valid existing rights.
- Allow management activities in density management study sites (Cissel *et al.* 2006) that are compatible with study objectives.

Hydrology

Management Objective

- Maintain water quality within the range of natural variability that meets ODEQ water quality standards for drinking water, contact recreation, and aquatic biodiversity.

Management Direction

- Select and implement site-level BMPs (**Appendix J**) to maintain water quality for BLM actions (including, but not limited to, road construction, road maintenance, silvicultural treatments, recreation management, prescribed burning, and wildfire management actions/activities) and discretionary actions of others crossing BLM-administered lands.
- Design culverts, bridges, and other stream crossings for the 100-year flood event, including allowance for bed load and anticipated floatable debris. Culverts will be of adequate width to preclude ponding of water higher than the top of the culvert. Design stream crossings with ESA-listed fish to meet design standards consistent with existing ESA consultation documents that address stream crossings in the decision area.
- Implement road improvements, storm proofing, maintenance, or decommissioning to reduce or eliminate chronic sediment inputs to stream channels and waterbodies. This could include maintaining vegetated ditch lines, improving road surfaces, and installing cross drains at appropriate spacing.
- Suspend commercial road use where the road surface is deteriorating due to vehicular rutting or standing water, or where turbid runoff is likely to reach stream channels.
- Decommission roads no longer needed for resource management and are at risk of failure or are contributing sediment to streams, consistent with valid existing rights.

Invasive Species

Management Objectives

- Prevent the introduction of invasive species and the spread of existing invasive species infestations.
- Prevent the introduction and spread of sudden oak death (*Phytophthora ramorum*) infections.

Management Direction

- Implement measures to prevent, detect, and rapidly control new invasive species infestations.
- Use manual, mechanical, cultural, chemical, and biological treatments to manage invasive species infestations.
- Treat invasive plants and host species for invasive forest pathogens in accordance with the Records of Decision (RODs) for the Northwest Area Noxious Weed Control Program Environmental Impact Statement and the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in Oregon Environmental Impact Statement (USDI BLM 2010).
- Apply state-of-the art, integrated pest management prescriptions for the treatment of all identified sudden oak death (*Phytophthora ramorum*) infection sites.

Lands, Realty, and Roads

Management Objectives

- Make land tenure adjustments to facilitate the management of resources and enhance public resource values.
- Provide legal access to BLM-administered lands and facilities to support resource management programs.
- Provide needed rights-of-way, permits, leases, and easements over BLM-administered lands in a manner that is consistent with Federal and State laws.
- Protect lands that have important resource values or substantial levels of investment by withdrawing them, where necessary, from the implementation of nondiscretionary public land and mineral laws.
- Provide a road transportation system that serves resource management needs (administrative/commercial) and casual use needs (recreational/domestic) for both BLM-administered lands and adjacent privately owned lands.

Management Direction

- Retain lands in Land Tenure Zone 1 (Zone 1) under BLM administration. Lands in Zone 1 include existing and future—
 - Designated and suitable Wild and Scenic River corridors;
 - Wilderness Areas;
 - Wilderness Study Areas;
 - National Trail management corridors;
 - District-Designated Reserve – Lands managed for their Wilderness Characteristics
 - Areas of Critical Environmental Concern (including Research Natural Areas and Outstanding Natural Areas);
 - Congressionally designated Outstanding Natural Areas; and
 - Lands acquired with Land and Water Conservation Funds.
- Make lands in Land Tenure Zone 2 (Zone 2) available for exchange to enhance public resource values, improve management capabilities, or reduce the potential for land use conflict. Zone 2 lands consist of all lands not listed in the descriptions of the other two Land Tenure Zones.
- Make lands in Land Tenure Zone 3 (Zone 3) available for disposal (identified in **Appendix K**) using appropriate disposal mechanisms. These lands include—
 - Lands that are either not practical to manage, or are uneconomical to manage (because of their intermingled location and non-suitability for management by another Federal agency);
 - Survey hiatuses; and
 - Unintentional encroachments.

- Assign to Zone 3 survey hiatuses and unintentional encroachments discovered in the future.
- Assign to Zone 3 patented lands with reversionary interests reserved by the United States that are relinquished back to Federal ownership.
- Assign to Zone 3 land boundary adjustments due to river movement discovered in the future, which meets the disposal criteria defined in **Appendix K**.
- The BLM may dispose of lands designated in Zones 2 and 3 that provide habitat for ESA-listed species, including critical habitat, only following consultation with the U.S. Fish and Wildlife Service or National Marine Fisheries Service and upon a determination that such action is consistent with relevant law and maximizes public resource values.
- As required by the Oregon Public Lands Transfer and Protection Act (Pub. L. 105-321), do not reduce through disposal, exchange, or sale the acres of O&C lands of all classifications, and the acres of O&C and public domain lands that are available for harvesting.
- Acquire or dispose of lands to facilitate resource management objectives as opportunities occur. See the Land Tenure Adjustment Criteria section in **Appendix K**.
- Make available for disposal the public domain lands in Zones 2 and 3 that have been classified under Section 7 of the Taylor Grazing Act.
- Manage newly acquired lands for the purpose for which they were acquired or in a manner that is consistent with management objectives for adjacent BLM-administered lands or other BLM-administered lands having similar resource values. See Acquisition Criteria section in **Appendix K**.
- Where the BLM has administrative responsibility on lands managed by other agencies, the BLM will administer those lands in accordance with interagency agreements.
- Issue permits, as identified under the FLPMA (Section 302), for a variety of uses, such as, but not limited to, stockpile and storage sites and as tools to authorize unintentional trespass situations pending final resolution.
- Do not issue land use authorizations for landfills or other waste disposal facilities.
- Use land-use authorizations to resolve agricultural or occupancy trespasses, where appropriate.
- Recognize existing rights-of-way, permits, leases, and easements as valid uses.
- Limit withdrawals to the area needed and restrict only those activities needed to accomplish the purposes of the withdrawal.
- Process formal land withdrawals being relinquished by the BLM or other Federal agency according to the procedures stated under 43 CFR 2372. If the lands are found suitable for return to the public domain, the revocation order will recommend the management prescriptions developed in the environmental review. Manage the lands according to management prescriptions for those lands having the same or similar resource values in the same general area of the land withdrawal.
- Designate Right-Of-Way Exclusion Areas in—
 - Lands designated as Wilderness;
 - District-Designated Reserve – Lands Managed for their Wilderness Characteristics;
 - Wilderness Study Areas;
 - Designated and suitable Wild and Scenic Rivers classified as Wild; and
 - Visual Resource Management Class I areas.
 In right-of-way exclusion areas, do not grant rights-of-way, except when mandated by law.
- Designate right-of-way avoidance areas in—
 - Areas of Critical Environmental Concern (including Research Natural Areas and Outstanding Natural Areas);
 - Recreation Management Areas (Special and Extensive);
 - Designated and suitable Wild and Scenic Rivers classified as Scenic and Recreational; and
 - Visual Resource Management Class II areas not included in right-of-way exclusion areas.
 In right-of-way avoidance areas, grant rights-of-way only if the BLM determines that the right-of-way proposals are compatible with the protection of the values for which the land use was designated,

or when no feasible alternative route or designated right-of-way corridor is available as applicable with BLM laws and policy.

- Grant rights-of-way in utility corridors as the preferred location for energy transmission or distribution facilities. Corridors would generally be 1,000 feet on each side of the centerline. Grant the rights-of-way as the minimum necessary to accommodate a specific request. Do not permit development or management activities that would conflict with the construction, operation, or maintenance of facilities corresponding to the purpose of the utility corridor.
- Construct communication facilities on existing developed communication sites where they do not conflict with other management objectives. Require a site plan for applications for communication facilities on undeveloped communication sites (**Appendix K, Table K-14 through Table K-19**).
- Expand existing communication sites and develop new sites. Prioritize the use of existing sites and facilities for accommodating the need for additional capacity.
- Construct new permanent or temporary roads, which may include major culverts and bridges, where needed to meet resource management objectives, to established BLM engineering design standards. Apply road location, design, and construction BMPs as needed (**Appendix J**).
- Maintain existing roads, including major culverts and bridges, to provide access for both resource management and casual use activities while protecting water quality and facility investments, and providing user safety, to established BLM maintenance standards. Apply road maintenance, road stormproofing, and wet-season road use BMPs as needed (**Appendix J**).
- Remove hazard and downed trees along roads for safety or operational reasons.
- Fully decommission or obliterate (permanent closure) roads with no future resource management need. Decommission (long-term closure) roads not currently needed for resource management but that will be used and maintained again in the future. Apply road closure BMPs as needed (**Appendix J**). Close roads only with the approval of affected permittees consistent with valid existing rights.

Livestock Grazing

Management Objectives

- Provide for livestock grazing consistent with other resource objectives while maintaining or improving the health of public rangelands.
- Prevent livestock from causing trampling disturbance to fish spawning beds where ESA-listed or Bureau Sensitive species occur.

Management Direction (All Districts)

- Authorize livestock grazing through management agreements, non-renewable grazing permits or leases, or special use permits on lands not available for livestock grazing through the issuance of a grazing lease or permit to control invasive plants, reduce fire danger, or accomplish other management objectives.
- Restrict livestock from streams with ESA-listed or Bureau Sensitive fish species during spawning, incubation, and until 30 days following the emergence of juveniles from spawning areas.

Management Direction (Coos Bay District)

- Lands within the grazing allotments identified on **Table B-14** will not be available for livestock grazing through the issuance of a grazing lease. The BLM will not authorize grazing under Section 15 of the Taylor Grazing Act (**Appendix A**). The BLM may authorize grazing through management

agreements, nonrenewable grazing permits or leases, or special use permits consistent with the grazing regulations.

Table B-14. Allotments unavailable for livestock grazing, Coos Bay District

Allotment Name	Allotment Number	Public Land (Acres)	Forage Allocation (AUMs)
Bullock	20006	6	12
Kellogg	20007	2	6
Middle Creek	20001	5	5
New River	30001	530	97
Totals		543	120

Management Direction (Klamath Falls Field Office)

- Manage livestock grazing in accordance with the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington (USDI BLM 1997). **Figure 3-108** shows lands available for livestock grazing. **Appendix L** lists allotments available for livestock grazing.
- Maintain current livestock grazing levels and management practices for the allotments shown in **Appendix L**. Make adjustments when rangeland health assessments and evaluations of monitoring data identify that livestock grazing is a contributing factor toward not meeting one or more of the Standards for Rangeland Health and Guidelines for Grazing Management for Public Lands in Oregon and Washington.
- Develop range improvements when needed to achieve the Standards for Rangeland Health and Guidelines for Grazing Management for Public Lands in Oregon and Washington, RMP objectives, or other allotment-specific objectives.
- Implement range improvement projects in adherence with the following:
 - Conduct inventories and surveys for cultural resources, ESA-listed species, and Bureau Special Status Species prior to authorization of any project construction. Implement appropriate mitigations to reduce or eliminate potential effects to these resources.
 - Design projects to minimize surface disturbance at all project sites.
 - Rehabilitate disturbed soil to blend into the surrounding soil surface. Re-vegetate using seeds and plant materials that are genetically appropriate and native to the plant community or region, to the extent practicable, to replace ground cover, reduce soil loss from wind and water erosion, and discourage the potential establishment of any invasive plant species.
 - Use existing roads and trails to access areas for range improvement construction to the extent practicable. If needed, create unimproved trails and tracks to reach construction sites and provide access for future maintenance of the improvements. Locate unimproved trails or tracks outside riparian management areas where workable.
 - Limit brushing and tree limb removal to only that necessary for surveying, placement, and construction of improvements.
- Design livestock fencing to prevent the passage of livestock without stopping the movement of wildlife. Wire and post spacing would follow these specifications where practicable:
 - Construct 4-wire fences, with the bottom wire 16–18” off the ground with the sequence of the remaining 3-wires above this being 6”, 6”, and 12.” Do not exceed 42” total height (ground to top wire).
 - Install 2-strand smooth wire, not barbed, for the bottom wire to facilitate antelope crossings.
 - Install steel ‘t-posts’ no less than 16 feet and no more than 24 feet apart, depending on local conditions.

- Construct a brace post, tree scab, or rock jack (rock crib) at least every 0.25 mile to enhance fence integrity.
- Do not construct woven wire ‘sheep’ livestock fences on public lands.
- Install gates or cattle guards where livestock fences cross over existing roads.
- Construct livestock fences outside of perennially or seasonally saturated soils, such as occur in wet meadows and alongside stream banks, to provide fence longevity and stability, where practicable.
- Fence spring sources to prevent livestock grazing and trampling, when necessary.
- Install escape ramps in all livestock water troughs to allow wildlife to escape.
- Install piping to divert overflow from livestock troughs away from the developed source area.
- Construct pit or dam livestock reservoirs to impound water for livestock and wildlife use in adherence with the following:
 - Do not exceed water storage capacity of 3.0 acre-feet.
 - Construct pits in dry lakebeds or other natural depressions. Pile excavated material from pits adjacent to the pit in a manner that eliminates potential for erosion of the excavated material into the pit. Stockpile topsoil to use to rehabilitate the borrow areas.
 - Construct dams in drainages or to one side of a drainage, with a diversion ditch constructed into the impoundment area. Locate dams, when possible, to take advantage of natural spillway sites. When a natural spillway is not available, construct a spillway around the dam for the reservoir. Design spillway to withstand the 50-year flood flow without overtopping the dam and to direct the pass flow downstream to prevent erosion of the embankment.
 - Construct dams a minimum ratio of 3:1 on the upstream face and minimum ratio of 2:1 on the downstream face. Minimum width of the top of all dams would be 12 feet.
 - Clear all brush, stumps, roots, and organic matter from borrow areas and beneath dams.
 - Use material from dam impoundment areas or borrow areas as fill material. Use only fill materials consisting of non-organic and cohesive soils adjusted in moisture to optimum water content for dam construction.
 - Place fill material in thin layers parallel with the long axis of the dam. Do not exceed individual layer thickness of 8". Compact layers with a sheepsfoot roller or similar equipment.
- Obtain necessary water right permits from the Oregon Water Resources Department prior to construction. Coordinate water right applications with applicable agencies, irrigation districts, and interested parties.
- Rest from livestock grazing those areas disturbed by natural and human-induced events (e.g., wildland fire, prescribed burns, timber management treatments, juniper cuts, and rehabilitation projects). Resume livestock grazing after determining that soil and vegetation have recovered from the initial disturbance to support livestock grazing and maintain recovery from the initial disturbance. Exceptions would be for cases where such grazing would not impede site recovery, or where livestock are used as a tool to aid in achieving certain recovery objectives.
- Lands within the grazing allotments identified in **Table B-15** will not be available for livestock grazing through the issuance of a grazing lease or permit. The BLM will not authorize grazing under Section 3 permits or Section 15 leases under the Taylor Grazing Act. The BLM may authorize grazing through management agreements, nonrenewable grazing permits or leases, or special use permits consistent with the grazing regulations.

Table B-15. Allotments unavailable for livestock grazing, Klamath Falls Field Office

Allotment Name	Allotment Number	Public Land (Acres)	Forage Allocation (AUMs)
Edge Creek*	00102	42	-
Klamath River ACEC†	00102	5,908	-
Plum Hills	00813	160	20
Totals		6,110	20

* This portion of the Upper Klamath Wild and Scenic River corridor within the Edge Creek Allotment will be made unavailable to livestock grazing. This portion of the allotment is not allocated any AUMs. The remainder of the allotment will be available for livestock grazing.

† These portions of the Upper Klamath Wild and Scenic River corridor/ACEC, historically included in the Edge Creek, Chicken Hills, and Chase Mountain allotments, are unavailable to livestock grazing. There are no allocated AUMs associated with these acres.

- Close exclosures and other areas identified on **Table B-16** to livestock grazing.

Table B-16. Exclosures or other areas previously closed to livestock grazing, Klamath Falls Field Office

Allotment Name	Allotment Number	Area Closed
Edge Creek	00102	Hayden Creek Exclosures (2) Fox Lake Exclosure
Buck Lake	00104	Tunnel Creek Exclosure Surveyor Campground Exclosure
Dixie	00107	Dixie (Long Prairie Creek) Exclosure
Jeld-Wen	00822	Aspen Exclosure
Rodgers	00852	Van Meter Flat Reservoir Exclosure
Yainax	00861	Bull Spring Exclosure Timothy Spring Exclosure
Bear Valley	00876	Holbrook Spring Exclosure
Bumpheads	00877	Bumpheads Reservoir Outlet Exclosure Antelope Creek Exclosure
Horsefly	00882	Long Branch Exclosure Caseview Spring Exclosure Norcross Spring Exclosure Boundary Spring Exclosure
Pankey Basin	00884	Pankey Creek Riparian Exclosure
Horse Camp Rim	00886	21 Reservoir Exclosure
Pitchlog	00887	Pitchlog Creek Exclosure Willow Spring Exclosure CCC Spring Exclosure
Willow Valley	00890	Duncan Spring Exclosure Antelope Creek Exclosure East Fork Lost River Exclosure

Management Direction (Medford)

- Manage livestock grazing in accordance with the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington (USDI BLM 1997). **Figure 3-108** shows lands available for livestock grazing. **Appendix L** lists allotments available for livestock grazing.
- Maintain current livestock grazing levels and management practices for the allotments shown in **Appendix L**. Make adjustments when rangeland health assessments and evaluations of monitoring data identify that livestock grazing is a contributing factor toward not meeting one or more of the Standards for Rangeland Health and Guidelines for Grazing Management for Public Lands in Oregon and Washington.
- Develop range improvements when needed to achieve the Standards for Rangeland Health and Guidelines for Grazing Management for Public Lands in Oregon and Washington, RMP objectives, or other allotment-specific objectives.
- Implement range improvement projects in adherence with the following:
 - Conduct inventories and surveys for cultural resources, ESA-listed species, and Bureau Special Status Species prior to authorization of any project construction. Implement appropriate mitigations to reduce or eliminate potential effects to these resources.
 - Design projects to minimize surface disturbance at all project sites.
 - Rehabilitate disturbed soil to blend into the surrounding soil surface. Re-vegetate using seeds and plant materials that are genetically appropriate and native to the plant community or region, to the extent practicable, to replace ground cover, reduce soil loss from wind and water erosion, and discourage the potential establishment of any invasive plant species.
 - Use existing roads and trails to access areas for range improvement construction to the extent practicable. If needed, create unimproved trails and tracks to reach construction sites and provide access for future maintenance of the improvements. Locate unimproved trails or tracks outside riparian management areas where workable.
 - Limit brushing and tree limb removal to only that necessary for surveying, placement, and construction of improvements.
- Design livestock fencing to prevent the passage of livestock without stopping the movement of wildlife. Wire and post spacing would follow these specifications where practicable:
 - Construct 4-wire fences, with the bottom wire 16-18” off the ground with the sequence of the remaining 3-wires above this being 6”, 6”, and 12.” Do not exceed 42” total height (ground to top wire).
 - Install 2-strand smooth wire, not barbed, for the bottom wire to facilitate antelope crossings.
 - Install steel ‘t-posts’ no less than 16 feet and no more than 24 feet apart, depending on local conditions.
 - Construct a brace post, tree scab, or rock jack (rock crib) at least every 0.25 mile to enhance fence integrity.
- Do not construct woven wire ‘sheep’ livestock fences on public lands.
- Install gates or cattle guards where livestock fences cross over existing roads.
- Construct livestock fences outside of perennially or seasonally saturated soils, such as occur in wet meadows and alongside stream banks, to provide fence longevity and stability, where practicable.
- Fence spring sources to prevent livestock grazing and trampling, when necessary.
- Install escape ramps in all livestock water troughs to allow wildlife to escape.
- Install piping to divert overflow from livestock troughs away from the developed source area.
- Construct pit or dam livestock reservoirs to impound water for livestock and wildlife use in adherence with the following:
 - Do not exceed water storage capacity of 3.0 acre-feet.

- Construct pits in dry lakebeds or other natural depressions. Pile excavated material from pits adjacent to the pit in a manner that eliminates potential for erosion of the excavated material into the pit. Stockpile topsoil to use to rehabilitate the borrow areas.
- Construct dams in drainages or to one side of a drainage, with a diversion ditch constructed into the impoundment area. Locate dams, when possible, to take advantage of natural spillway sites. When a natural spillway is not available, construct a spillway around the dam for the reservoir. Design spillway to withstand the 50-year flood flow without overtopping the dam and to direct the pass flow downstream to prevent erosion of the embankment.
- Construct dams a minimum ratio of 3:1 on the upstream face and minimum ratio of 2:1 on the downstream face. Minimum width of the top of all dams would be 12 feet.
- Clear all brush, stumps, roots, and organic matter from borrow areas and beneath dams.
- Use material from dam impoundment areas or borrow areas as fill material. Use only fill materials consisting of non-organic and cohesive soils adjusted in moisture to optimum water content for dam construction.
- Place fill material in thin layers parallel with the long axis of the dam. Do not exceed individual layer thickness of 8". Compact layers with a sheepsfoot roller or similar equipment.
- Obtain necessary water right permits from the Oregon Water Resources Department prior to construction. Coordinate water right applications with applicable agencies, irrigation districts, and interested parties.
- Rest from livestock grazing those areas disturbed by natural and human-induced events (e.g., wildland fire, prescribed burns, timber management treatments, juniper cuts, and rehabilitation projects). Resume livestock grazing after determining that soil and vegetation have recovered from the initial disturbance to support livestock grazing and maintain recovery from the initial disturbance. Exceptions would be for cases where such grazing would not impede site recovery, or where livestock are used as a tool to aid in achieving certain recovery objectives.
- Lands with grazing allotments identified in **Table B-17** will not be available for livestock grazing through the issuance of a grazing lease. The BLM will not authorize grazing under Section 15 of the Taylor Grazing Act. The BLM may authorize grazing through management agreements, nonrenewable grazing permits or leases, or special use permits consistent with the grazing regulations.

Table B-17. Allotments unavailable for livestock grazing, Medford District

Allotment Name	Allotment Number	Public Land (Acres)	Forage Allocation (AUMs)
Pickett Mountain	00302	802	30
Glade Creek	00315	564	17
Cherry Gulch	00316	40	6
Trail Creek	10003	3,211	113
Longbranch	10004*	11,124	71
Antioch Road	10005	40	4
Roundtop Evans	10006	26,204	110
West Perry Road	10010	40	10
East Perry Road	10011	80	7
Upper Table Rock	10012	714	66
Clear Creek	10013	3,794	45
Obenchain Mountain	10014	121	12
Nichols Gap	10018	283	18
Eagle Point Canal	10020	443	55

Allotment Name	Allotment Number	Public Land (Acres)	Forage Allocation (AUMs)
Shady Branch	10025	321	32
Stiehl	10026	277	18
Fielder Creek	10028	83	5
Derby Station	10030	516	36
West Derby	10034	1,125	89
Emigrant Creek	10111	40	7
Baldy	10120	201	87
Lost Creek	10123	78	6
Cartwright	10127	40	4
Bybee Peak	10144	322	36
Sugarloaf/Greensprings	10158	3,008	210
Sterling Spring	10207	27,179	190
Del Rio	10216	42	5
Jump Off Joe	10303	55	8
Deer Creek	10308	1,172	77
Q Bar X	10310	13	3
Applegate	20201	25,415	294
Tunnel Ridge	20202	2,177	14
Billy Mountain	20203	4,977	175
Timber Mountain	20204	3,202	70
Sardine and Galls Creek	20205	3,323	158
Spencer Gulch	20208	2,109	150
Quartz Gulch	20209	670	9
Burton Butte	20212	10	2
Chapman Creek	20213	3,758	81
Ecker	20217	40	6
Stage Road	20218	40	4
Lomas Road	20222	643	50
Star	20223	121	24
Ferns Lease	20224	249	28
Reeves Creek	20309	1,665	95
Esterly Creek	20312	3,641	152
Totals		133,971	2,689

* These portions of the Longbranch Allotment will be made unavailable to livestock grazing. The remainder of the allotment will be available for livestock grazing (**Appendix L**).

- All areas that are currently without allotments will remain closed to livestock grazing through the issuance of a grazing lease.

Minerals

Management Objectives

- Manage the development of leasable (including conventional and non-conventional hydrocarbon resources) minerals, locatable mineral entry, and salable mineral material disposal in an orderly and efficient manner.
- Maintain availability of mineral material sites needed for development and maintenance of access roads for forest management, timber harvest, local communities, rights-of-way for energy production and transmission, and other uses.

Management Direction

- Pursuant to 43 CFR 3809.11(c)(6), the BLM is creating two exceptions to the requirement that a Plan of Operations is required for any mining activities that are greater than casual use (such as notice-level operations) when the activities are located within lands or waters known to contain federally proposed or listed threatened or endangered species or their proposed or designated critical habitat. An operator is not required to submit a Plan of Operations for notice-level activities in the following two situations:
 - When pursuant to Section 7 of the ESA, the BLM determines that the notice-level activity will have no effect on federally proposed or listed threatened or endangered species or their proposed or designated critical habitat.
 - When the BLM has completed consultation to the extent required under section 7(a)(2) of the ESA and the U.S. Fish and Wildlife Service or National Marine Fisheries Service has concurred with the BLM's finding that the notice-level activity is not likely to adversely affect federally proposed or listed threatened or endangered species or their proposed or designated critical habitat.
- A Plan of Operations will be required for mining proposals that the BLM determines would be likely to adversely affect federally proposed or listed threatened or endangered species or their proposed or designated critical habitat.
- Proposals that require a Plan of Operations and are located within lands or waters known to contain federally proposed or listed threatened or endangered species or their proposed or designated critical habitat continue to be governed by the standards in 43 CFR 3809 *et seq.*
- Pursuant to 43 CFR 3809.31(b)(2), the operator must contact the BLM before beginning operations that involve the use of a suction dredge to determine whether the operator needs to submit a notice or a plan to BLM, or whether the activities constitute casual use. It is the operator's burden to determine the location of their activity relative to the location of lands or waters that contain federally proposed or listed threatened or endangered species or their proposed or designated critical habitat, in light of the operator's potential liability under Section 9 of the ESA.
 - Suction dredging activity proposed within lands or waters that contain federally proposed or listed threatened or endangered species or their proposed or designated critical habitat, regardless of the level of disturbance, must not begin until the BLM has completed consultation to the extent required under section 7(a)(2) of the ESA.
- Energy and mineral development can occur concurrently with some resource uses.

Leasable Minerals: Oil, Gas, or Coalbed Natural Gas Resources¹⁹

- Maintain all lands as open to leasable mineral development except where closed by legislation.

¹⁹ The Sustainable Energy section addresses Geothermal Resources.

- Apply site-specific stipulations, such as no surface occupancy or conditional surface uses, based on resource protection needs in—
 - Designated and suitable Wild and Scenic River segments (where not already closed by legislation);
 - National Trail management corridors;
 - District-Designated Reserve – Lands Managed for their Wilderness Characteristics;
 - Areas of Critical Environmental Concern (including Research Natural Areas and Outstanding Natural Areas where not already closed by legislation); and
 - Recreation Management Areas (Special Recreation Management Areas/Extensive Recreation Management Areas).
- Apply site-specific stipulations as needed to protect ESA-listed species and their critical habitats.

Locatable Minerals

- Recommend for withdrawal from locatable mineral entry—
 - Designated and suitable Wild and Scenic River segments (where not already closed by legislation);
 - National Trail management corridors; and
 - District-Designated Reserve – Lands Managed for their Wilderness Characteristics.
- Recommend for withdrawal from locatable mineral entry Special Recreation Management Areas and Extensive Recreation Management Areas when mineral entry is not compatible with meeting recreation objectives or maintaining recreation setting characteristics.
- Recommend for withdrawal from locatable mineral entry Areas of Critical Environmental Concern with identified special management needs associated with locatable mineral entry (**Appendix F**).
- Retain all other areas not congressionally or secretarially withdrawn as open for locatable mineral entry.

Salable Minerals

- Close to salable mineral material disposal—
 - Designated and suitable Wild and Scenic River segments (where not already closed by legislation);
 - National Trail management corridors; and
 - District-Designated Reserve – Lands Managed for their Wilderness Characteristics.
- Close Special Recreation Management Areas and Extensive Recreation Management Areas to salable mineral material disposal when not compatible with meeting recreation objectives or maintaining recreation setting characteristics.
- Close Areas of Critical Environmental Concern with identified special management needs to salable mineral material disposal (**Appendix F**).
- Maintain all other areas not closed through legislation as open to salable mineral material disposal.
- **Appendix M** provides a trends analysis that will be applied to disposals.

Paleontological Resources

Management Objectives

- Protect and preserve significant localities from natural or human-caused deterioration or potential conflict with other resources.

- Provide appropriate scientific, educational, and recreational uses, such as research and interpretive opportunities, for paleontological resources.

Management Direction

- Protect all paleontological resources through avoidance or other protection measures, consistent with BLM Handbook 8270-1 – General Procedural Guidance for Paleontological Resource Management (USDI BLM 1998, pp. Chapter III).
- Conduct public education, outreach activities, and develop materials to educate the public on paleontological resources existing within the decision area.

Rare Plants and Fungi

Management Objectives

- Provide for conservation and contribute toward the recovery of plant species that are ESA-listed or candidates.
- Support the persistence and resilience of natural communities, including those associated with forests, oak woodlands, shrublands, grasslands, cliffs, rock outcrops, talus slopes, meadows, and wetlands. Support ecological processes and disturbance mechanisms to allow for a range of seral conditions.
- Provide for the conservation of Bureau Special Status plant and fungi species.
- Support the persistence and resilience of oak species within oak woodlands and within mixed hardwood/conifer communities.

Management Direction

- Manage ESA-listed species consistent with recovery plans, conservation agreements, species management plans, and designated critical habitat, and species-specific or project-specific conservation measures developed with the U.S. Fish and Wildlife Service, including the protection and restoration of habitat, altering the type, timing, and intensity of actions, and implementing other strategies designed to recover populations of species.
- Manage ESA candidate and Bureau Sensitive species consistent with any conservation agreements or strategies including the protection and restoration of habitat, alteration of the type, timing, and intensity of actions, and other strategies designed to conserve populations of the species.
- Manage habitat to maintain populations of ESA-listed, proposed, and candidate plant species.
- Prior to implementing actions (other than fire management operations in response to unplanned ignitions or escaped prescribed fires) that could result in habitat modification or species disturbance in the suitable habitat of any ESA-listed, proposed, or candidate plant species, or Bureau Sensitive plant species, conduct surveys to determine species presence. Utilize information on known sites of ESA-listed plants and wildlife when conducting fire management operations that could result in habitat modification or species disturbance. In addition to pre-project surveys, conduct additional surveys on BLM-administered lands for ESA-listed, proposed, and candidate plant species within suitable habitat as needed to find new populations.
- Maintain or restore natural processes, native species composition, and vegetation structure in natural communities through actions such as applying prescribed fire, thinning, removing encroaching vegetation, treating non-native invasive species, retaining legacy components (e.g., large trees, snags, and down logs), maintaining water flow to wetlands, and planting or seeding native species.
- When re-vegetating degraded or disturbed areas, utilize locally adapted seeds and native plant materials appropriate to the location and site-specific conditions, and meeting management objectives

for vegetation management and restoration activities. Use seeds and plant materials that are genetically appropriate and native to the plant community or region, to the extent practicable.

- Manage mixed hardwood/conifer communities to maintain and enhance oak (*Quercus* spp.) persistence and structure by removing competing conifers, thinning, and prescribed fire, to the extent consistent with management direction for the land use allocation.
- Manage mixed conifer communities to maintain and enhance ponderosa, Jeffrey, and sugar pine persistence and structure by removing competing conifers, thinning, and applying prescribed fire, to the extent consistent with management direction for the land use allocation.
- Create new and augment existing populations of ESA-listed, proposed, and candidate plant species and Bureau Sensitive plant and fungi species to meet recovery plan or conservation strategy objectives.

Recreation and Visitor Services

Management Objectives

- Provide a diversity of quality recreational opportunities.
- Meet legal requirements for visitor health and safety and mitigate resource user conflicts.
- Mitigate recreational impacts on natural and cultural resources. In land use allocations where management of other resources is dominant, provide recreational opportunities where they can be managed consistent with the management of these other resources.
- Develop new recreation opportunities to address recreation activity demand created by growing communities, activity groups, or recreation-tourism if—
 - Recreation development is consistent with interdisciplinary land use plan objectives; and
 - The BLM has secured commitments from partners (e.g., a cooperative management agreement, adopt-a-trail agreement, and memorandum of understanding).

Management Direction

- Manage Special Recreation Management Areas and Extensive Recreation Management Areas, identified in **Appendix O**, in accordance with their planning frameworks.
- Protect recreation setting characteristics within Special Recreation Management Areas to prohibit activities that would degrade identified characteristics.
- Pursue and prioritize public access to BLM-administered lands that have high recreational potential consistent with BLM designations and allocations.
- Allow the discharge of firearms for recreational target shooting on BLM-administered lands, outside areas with firearm use restrictions described in the RMA frameworks, if the firearm is discharged toward a proper backstop sufficient to stop the projectile's forward progress.
- Issue discretionary Special Recreation Permits for a variety of uses that are consistent with resource and program objectives.
- Issue vending permits that complement visitor use or contribute to resource protection.
- Monitor activity participation and recreation setting characteristics annually during the primary use season of June through October.
- Use recreation management tools such as establishing an allocation system, applying group size limits for private and commercial recreation use, or implementing seasonal closures, if monitoring indicates that social recreation setting characteristics are not being protected, resource damage is occurring, or user conflicts need to be addressed.

- Develop and maintain partnerships with recreation-based organizations and service providers. These partnerships should engage partners in the planning, implementation and monitoring of recreation opportunities and facilities on BLM-administered public lands.

Recreation and Visitor Services – Significant Caves²⁰

Management Objective

- Manage significant caves to allow for appropriate access while protecting pristine and fragile resources, wildlife values, scientific and research values, and visitor safety.

Management Direction

- Manage significant caves to maintain the current level of remoteness from motorized and mechanized vehicles and to preserve the natural appearance of the cave. Prohibit construction of new facilities, roads, or trails to access the caves. Allow minor modifications (e.g., use of tape and signage and placing rescue caches) only for scientific purposes and to accommodate safe use. Maintain low evidence of use and other people.
- Manage visitor frequency, visitor numbers, and season of use through monitoring and subsequent implementation decisions described through cave management plans for each significant cave, group of caves, or complex of caves.
- Focus all management actions on specific activity outcomes for caving and research. Outcomes will be for participants to enjoy and learn about cave and karst resources. Specific benefit outcomes will be for environmental benefits, such as increased environmental stewardship, and the preservation and protection of unique biological, paleontological, archaeological, and mineralogical aspects. Social benefits will be to provide environmental education and appreciation of cave and karst systems.
- Provide appropriate access while addressing issues and concerns relating to visitor safety and preservation of the caves' values. If issues or concerns arise, apply necessary managerial controls, such as closures, permits, trip requirements, and gating. Administer and authorize research, inventory, work projects, and digging trips. Provide informational and educational materials to authorized visitors. Do not market or promote cave and karst resources.

Recreation and Visitor Services – Formerly Used Defense Sites

Management Objective

- Prevent and reduce risks to public health and the environment where hazards may exist resulting from military defense activities.

Management Direction

- Manage the portion of the Modoc Aerial Gunnery and Bombing Range located within the Klamath Falls Field Office to avoid or limit exposure to areas that may contain hazards associated with munitions and explosives of concern. Munitions and explosives of concern may include unexploded ordnance, discarded military munitions, and munitions constituents when munitions constituents are present in high enough concentrations to pose an explosive hazard. The site may also be contaminated with munitions constituents that are not present in high enough concentrations to represent an explosive hazard, but in high enough concentrations to be a toxicity hazard in soil, groundwater, surface water, or air.

²⁰ The Federal Cave Resources Protection Act of 1988 describes significant caves.

- Coordinate uses on BLM-administered lands within formerly used defense sites with State and Federal military agencies to prevent and reduce risks to public health and the environment. Develop, as needed, cooperative agreements or Memorandums of Understanding to ensure communication, coordination, and safe use of public lands within formerly used defense sites.
- Take appropriate measures, such as signing, fencing, removal, and remediation, to protect the public from known unexploded ordnance locations on BLM-administered lands.

Soil Resources

Management Objectives

- Maintain or enhance the inherent soil functions (e.g., ability of soil to take in water, store water, regulate outputs for vegetative growth and stream flow, and resist erosion or compaction) of managed ecosystems.
- Provide landscapes that stay within natural soil stability failure rates during and after management activities.

Management Direction

- Apply BMPs (**Appendix J**) as needed to maintain or restore soil functions and soil quality, and limit detrimental soil disturbance.
- Limit detrimental soil disturbance from forest management operations to a total of < 20 percent of the harvest unit area. Where the combined detrimental soil disturbance from implementation of current forest management operations and detrimental soil disturbance from past management operations exceeds 20 percent of the unit area, apply mitigation or amelioration to reduce the total detrimental soil disturbance to < 20 percent of the harvest unit area. Detrimental soil disturbance can occur from erosion, loss of organic matter, severe heating to seeds or microbes, soil displacement, or compaction.
- Avoid road construction and timber harvest on unstable slopes where there is a high probability to cause a shallow, rapidly moving landslide that would likely damage infrastructure (e.g., BLM or privately owned roads, State highways, or residences) or threaten public safety.
- Do not till soils where tillage will cause soils to become unstable due to increasing the soil moisture content.

Sustainable Energy

Management Objectives

- Develop sustainable energy resources to the maximum extent possible without precluding other land uses.

Management Direction

- Exclude from sustainable energy development areas that are part of the National Landscape Conservation System (e.g., Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, and National Historic and Scenic Trails), Areas of Critical Environmental Concern, and District-Designated Reserve – Lands Managed for their Wilderness Characteristics.

- Site development will include practices as needed to reduce or avoid impacts to other resource uses. Appropriate practices will be applied based on site-specific conditions and include, but are not limited to, the following:
 - Control outdoor lighting with motion or heat sensors to the maximum extent practicable.
 - Use hooded outdoor lighting directed downward to minimize horizontal and skyward illumination to the maximum extent practicable.
 - Minimize the use of high-intensity lighting.
 - Establish non-disturbance buffer zones to protect sensitive habitats or areas of high risk for species of concern.
 - Control any pets of operations staff kept on-site to avoid harassment and disturbance of wildlife.
 - Use existing roads and utility corridors to the maximum extent feasible; minimize the number and length/size of new roads, lay-down areas, and borrow areas.
 - Minimize traffic volumes to the maximum extent practicable; maintain roads adequately to minimize associated impacts.
 - Install and maintain permanent fencing around electrical substations, emergency generators, and other areas potentially hazardous to human health.
 - Consolidate necessary infrastructure requirements wherever possible, including electric power transmission lines, pipelines and market access corridors, and support utility infrastructure.
 - Keep energy conversion sites clean of debris, garbage, fugitive trash or waste, and graffiti; minimize the accumulation of scrap heaps, dumps, and storage yards.
 - Design facilities used for sustainable energy harvesting, conversion, and transmission to discourage the perching or nesting by birds.
 - Integrate facilities used for sustainable energy harvesting, conversion and transmission with the surrounding landscape including minimizing the profile of ancillary structures, burial of cables, prohibition of commercial symbols, and lighting.
 - Provide secondary containment for all on-site hazardous materials and waste storage, including fuel.

Sustainable Energy – Biomass Energy Development

Management Objectives

- *See Sustainable Energy management objectives.*

Management Direction

- Offer slash in excess of soil stabilization needs as biomass energy feedstock.

Sustainable Energy – Wind Energy Development

Management Objectives

- *See Sustainable Energy management objectives*

Management Direction

- Site development will include practices as needed to reduce or avoid impacts to other resource uses. Appropriate practices will be applied based on site-specific conditions and include, but are not limited to, the following:
 - Lock turbine tower access doors to limit public access.
 - Locate turbines away from landscape features known to attract raptors.

- Locate turbines away from colonies where bats hibernate, breed, and raise their young; locate turbines outside of bat migration corridors or flight paths between colonies and feeding areas
- Encompass specific design elements for turbine arrays and turbine design including visual uniformity, use of tubular towers, proportion and color of turbines, non-reflective paints, and prohibition of commercial messages on turbines.
- Repair, replace, or remove inoperative turbines in a timely manner.
- Exclude designated areas that are part of the National Landscape Conservation System (e.g., Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern from wind energy site monitoring and testing and development.
- Incorporate wildlife-compatible design standards when fencing is necessary.
- Avoid the use of guy wires on communication towers and meteorological towers at wind energy project sites.
- Keep the installation of meteorological towers on a project site to a minimum; do not locate these towers in sensitive habitats or in areas where ecological resources known to be sensitive to human are present.
- Light only a portion of the turbines within a wind project; fix all pilot warning lights to fire synchronously.
- Do not add any wildlife habitat enhancements or improvements (e.g., ponds, guzzlers, rock piles, brush piles, bird nest boxes, nesting platforms, wildlife food plots) that would attract small mammals to wind energy facilities.
- Use only shielded, separated, or insulated electrical conductors that minimize electrocution risk to avian wildlife.

Sustainable Energy – Geothermal Energy Development

Management Objectives

- *See Sustainable Energy management objectives.*

Management Direction

- Site development will include practices as needed to reduce or avoid impacts to other resource uses. Appropriate practices will be applied based on site-specific conditions and include, but are not limited to, the following:
 - Minimize impacts to livestock operations from geothermal energy drilling and development.
 - Incorporate certified weed-free mulch into the reclamation of the land disturbed during the development of geothermal resources.
 - Raise above-ground piping on-site for sufficient wildlife passage.
 - Isolate any liquid that is at elevated temperatures or contains contaminants that are toxic or harmful to fur or feathers from wildlife access with fencing, netting or complete enclosure.

Sustainable Energy – Sustainable Energy Transmission Corridors

Management Objectives

- *See Sustainable Energy management objectives.*

Management Direction

- Site development will include practices as needed to reduce or avoid impacts to other resource uses. Appropriate practices will be applied based on site-specific conditions and include, but are not limited to, the following:
 - Site overhead lines away from areas where bird crossings are frequent.
 - Mark overhead lines in accordance with Avian Power Line Interaction Committee collision guidelines.
 - Install overhead lines such that the conductors parallel tree lines, employ bird flight diverters, or are otherwise screened so that bat and bird collision risk is reduced.
 - Where pipeline right-of-way clearings can be incorporated into a strategic system of fire breaks, make clearings sufficiently wide to be effective as fire breaks.
 - Raise pipelines constructed above ground sufficiently high enough to allow wildlife passage where needed and avoid potential alterations to predator/prey dynamics.

Trails and Travel Management

Management Objectives

- Maintain a comprehensive travel network that best meets the full range of public use, resource management, and administrative access needs.
- Protect fragile and unique resource values from damage by public motorized vehicle use.
- Provide public motorized vehicle use opportunities where appropriate.

Management Direction

- Develop public motorized and non-motorized travel routes and trails in a manner designed to minimize conflicts between public motorized vehicle use and other existing (or proposed) recreational uses of the same, or neighboring, public lands. Design in a manner to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.
- Manage public motorized vehicle use in Recreation Management Areas (Special Recreation Management Area/Extensive Recreation Management Area) according to interim management guidelines until subsequent comprehensive implementation-level travel management plans are completed.
- Develop closed or abandoned roads to provide additional public motorized and non-motorized trail opportunities, where feasible and compatible with other resource objectives.
- Prohibit public motor vehicle travel within areas designated as *closed* for public motorized access. Where the BLM has public access, allow public access by means other than motorized vehicle, such as mechanized or non-motorized use. Allow travel required for valid existing rights.
- Restrict public motorized vehicle travel within areas designated as *limited* for public motorized access. Until completion of implementation-level travel management planning, limit public motorized vehicle travel to existing routes where the BLM has public access. After completion of implementation-level travel management planning, limit public motorized vehicle travel in conformance with the resultant Travel Management Plan. Allow travel required for valid existing rights.

Visual Resource Management

Management Objectives

- Protect scenic values on public lands where visual resources are an issue or where high-value visual resources exist.
- Prohibit activities that would disrupt the existing character of the landscape in Visual Resource Management Class I areas.
- Retain the existing character of the landscape in Visual Resource Management Class II areas.
- Partially retain the existing character of the landscape in Visual Resource Management Class III areas.
- Allow for major modification of the existing character of the landscape in Visual Resource Management Class IV areas.

Management Direction

- Only allow activities that are found to meet visual management objectives using the Visual Resource Contrast Rating system.
- Visual Resource Management Class I includes—
 - Wilderness Areas;
 - Wilderness Study Areas; and
 - Designated and suitable Wild and Scenic Rivers that are classified as Wild.Manage Visual Resource Management Class I areas in accordance with natural ecological changes. Prohibit activities that would lower the Visual Resources Inventory class of Visual Resource Management Class I areas. The level of change to the characteristic landscape will be very low and will not attract attention. Changes will repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.
- Visual Resource Management Class II includes—
 - Designated and suitable Wild and Scenic Rivers that are classified as Scenic;
 - Eligible Wild and Scenic Rivers that are classified as Scenic outside of the Harvest Land Base;
 - National Trail management corridors;
 - District-Designated Reserve – Lands Managed for their Wilderness Characteristics;
 - Special Recreation Management Areas that fall within the Primitive and Backcountry category of the Recreation Opportunity Spectrum; and
 - Areas of Critical Environmental Concern in Visual Resource Inventory Class II outside of the Harvest Land Base.Manage Visual Resource Management Class II areas for low levels of change to the characteristic landscape. Management activities will be seen but will not attract the attention of the casual observer. Changes will repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.
- Visual Resource Management Class III includes—
 - Designated, suitable, and eligible Wild and Scenic Rivers that are classified as Recreational;
 - Eligible Wild and Scenic Rivers that are classified as Scenic within the Harvest Land Base;
 - Special Recreation Management Areas and Extensive Recreation Management Areas that fall within the Middle country category of the Recreation Opportunity Spectrum; and
 - Areas of Critical Environmental Concern in Visual Resource Inventory Class III, and in Visual Resource Inventory Class II inside the Harvest Land Base.Manage Visual Resource Management Class III areas for moderate levels of change to the characteristic landscape. Management activities will attract attention but will not dominate the view of the casual observer. Changes will repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.

- Visual Resource Management Class IV includes all lands that are not designated as Visual Resource Management Classes I, II, or III. Manage Visual Resource Management Class IV areas for high levels of change to the characteristic landscape. Management activities may dominate the view and will be the major focus of viewer attention.

Wildlife

Management Objectives

- Conserve and recover species that are ESA-listed, proposed, or candidates, and the ecosystems on which they depend.
- Implement conservation measures that reduce or eliminate threats to Bureau Sensitive species to minimize the likelihood of and need for the ESA-listing of these species.
- Conserve or create habitat for species addressed by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act and the ecosystems on which they depend.

Management Direction

- Manage habitat for species that are ESA-listed, or are candidates for listing, consistent with recovery plans, conservation agreements, and designated critical habitat.
 - Existing conservation agreements include:
 - Conservation Agreement for the Oregon Spotted Frog (*Rana pretiosa*) in the Klamath Basin of Oregon (May 7, 2010)
- Implement conservation measures to mitigate specific threats to Bureau Sensitive species during the planning of activities and projects. Conservation measures include altering the type, timing, location, and intensity of management actions.
- Manage naturally occurring special habitats to maintain their ecological function including seeps, springs, wetlands, natural ponds, vernal pools/ponds, natural meadows, rock outcrops, caves, cliffs, talus slopes, mineral licks, oak savannah/woodlands, sand dunes, and marine habitats.
- Manage human-made special habitats as wildlife habitat when compatible with their engineered function, including bridges, buildings, quarries, pump chances/heliponds, abandoned mines, and reservoirs, to the extent possible consistent with safety and legal requirements.
- Klamath Falls Field Office and Medford District: maintain or enhance Bureau Special Status Species wildlife habitat on rangelands.
- Prior to implementing actions that could result in habitat modification or species disturbance in habitat for the Fender's blue butterfly, Oregon silverspot butterfly, Taylor's checkerspot butterfly, streaked horned lark, vernal pool fairy shrimp, Oregon spotted frog, Lower Columbia River distinct population segment of Columbian white-tailed deer, or western snowy plover, conduct surveys to determine species presence.
- Do not approve, fund, or implement actions that would adversely affect the Fender's blue butterfly, Oregon silverspot butterfly, Taylor's checkerspot butterfly, streaked horned lark, vernal pool fairy shrimp, Oregon spotted frog, Lower Columbia River distinct population segment of Columbian white-tailed deer, or western snowy plover, except when done in accordance with an approved recovery plan, conservation agreement, species management plan, survey and monitoring protocol, or critical habitat rule, and when the action is necessary for the conservation of the species.
- Do not approve, fund, or implement actions that would adversely affect the designated critical habitats of the vernal pool fairy shrimp, Oregon spotted frog, or western snowy plover, except when done in accordance with an approved recovery plan, conservation agreement, species management

plan, survey and monitoring protocol, or critical habitat rule, and when the action is necessary for the conservation of the species.

Wildlife – Bald and Golden Eagles

- Protect known bald eagle or golden eagle nests (including active nests and alternate nests) and bald eagle winter roosting areas. Prohibit activities that will disrupt bald eagles or golden eagles that are actively nesting.
 - Continue routine use and maintenance of existing roads and other facilities to where such use pre-dates the eagles' successful nesting activity.
 - Do not remove overstory trees within 330 feet of bald eagle or golden eagle nests.
 - Do not conduct timber harvest operations (including road construction, tree felling, and yarding) during the breeding season within 660 feet of bald eagle or golden eagle nests. Decrease the distance to 330 feet around alternate nests within a particular territory, including nests that were attended during the current breeding season but not used to raise young, or after eggs laid in another nest within the territory have hatched.
 - Prohibit operation of off-highway vehicles within 330 feet of bald eagle or golden eagle nests during the breeding season. In areas without forest cover or topographic relief to provide visual and auditory screening, prohibit operation of off-highway vehicles within 660 feet of bald eagle or golden eagle nests during the breeding season.
 - Prohibit activities that will disrupt roosting bald eagles or golden eagles at communal winter roosts.

Wildlife – Bats

- Protect known maternity colonies and hibernacula for Bureau Sensitive bat species within caves, abandoned mines, bridges, and buildings with a 250-foot buffer:
 - Maintain existing habitat conditions and protect the site from destruction or species disturbance, to the extent possible consistent with safety and legal requirements.
 - Prohibit blasting
 - Implement hazard fuel reduction treatments to protect the site from wildfire or to maintain site conditions conducive to the colony.
- Prohibit blasting during periods of reproduction and hibernation within 1 mile of known maternity colonies and hibernacula for Bureau Sensitive bat species within caves, abandoned mines, bridges, and buildings.
- Where white-nose syndrome is found in the bats residing within caves and abandoned mines, bridges, and buildings, prohibit human access except for monitoring, education, or research purposes.

Wildlife – Deer or Elk Management Areas (Klamath Falls Field Office, Medford District, and Salem District)

- For the Medford and Salem Districts, restrict motor vehicle use within designated deer or elk management areas between November 1 and April 15. For the Klamath Falls Field Office, restrict motor vehicle use within the Pokegama management area between November 20 and April 1. Use techniques such as gating or signing to impose the restrictions. Allow administrative use of roads, as needed, on a year-round basis.
- Plant native forage species along roadsides, skid trails, and on disturbed areas, or create forage plots where forage for deer or elk is limited within designated deer or elk management areas.
- For designated deer or elk management areas in the Klamath Falls Field Office and Medford District:

- Cut encroaching juniper that hinders attainment of desired forage conditions to maintain and improve forage for big game. Remove, utilize, or pile and burn cut juniper.
- Retain old-growth ‘legacy’ juniper when the BLM determines it meets the following definition: Individual trees that likely originated in the pre-settlement period, before 1870. These trees are commonly found in rocky areas where vegetation is sparse and fire frequency is naturally low. The BLM will evaluate trees based on the following characteristics of old-growth juniper:
 - Crown is flat, rounded, broad at top, or irregular crown (as opposed to the more pointed tops of younger trees) or dead “spike” top
 - Numerous dead branches
 - Branches covered with coarse, bright yellow-green lichen (*Letharia* or wolf lichen)
 - Large diameter lower branches
 - Large diameter trunk relative to height
 - Spirally twisted bark and deep furrows on the trunk
 - Hollow trunk
 Trees need not have all of these characteristics for the BLM to determine that the trees are old-growth juniper.

Wildlife – Fisher

- Do not approve, fund, or carry out actions that would disrupt normal fisher behaviors (e.g., foraging, resting, or denning) associated with known natal or maternal denning sites, except when done in accordance with an approved recovery plan, conservation agreement, species management plan, survey and monitoring protocol, or critical habitat rule, and when the action is necessary for the conservation of the species.
- Within stands where fisher natal or maternal denning or dens are documented, do the following:
 - Maintain ≥ 80 percent canopy cover within at least 50 feet of documented fisher natal and maternal dens.
 - Maintain sufficient canopy cover on the remainder of the stand to support fisher denning post-project.
 - Protect fisher denning structures ≥ 24 ” diameter (snags, down woody material, and live trees with cavities) within the stand. In this context, **protect fisher denning structures** means to retain the structure in the stand and if, for safety concerns, it is necessary to fall snags or live trees with cavities then those structures would remain on-site as additional down woody material.
 - Retain untreated portions within the stand.
- Within 5th field-watersheds (HUC 10) where fisher are documented to occur, favor retaining trees that have structures (e.g., cavities, mistletoe, and rust brooms) that are typically used as denning or resting sites by fisher.
- The above management direction may be modified in conference or consultation with the U.S. Fish and Wildlife Service based on new information.

Wildlife – Gray Wolf

- Restrict activities that create noise or visual disturbance(s) above ambient conditions within one mile of known active gray wolf dens from April 1 to July 15.
- In accordance with 43 CFR 4110, modify grazing leases, as appropriate, to include the following measures when the U.S. Fish and Wildlife Service (1) determines gray wolf occupancy of a BLM grazing allotment, and (2) recommends the implementation of these measures as part of its wolf conservation strategy:

- Remove, bury, or otherwise dispose of livestock carcasses found on areas of the allotment where they would attract wolves to a potential conflict situation with other livestock (such as a salting ground, water source, or holding corral) such that the carcass will not attract wolves.
- Move sick or injured livestock from the allotment so wolves do not target them.
- Limit allotment management activities by humans near active wolf den sites during the denning period (April 1 to July 15) to avoid human disturbance of the site. Determine the distance on a site-specific basis, depending primarily on topography around the den site.
- Do not place salt or other livestock attractants near known wolf dens or rendezvous sites to minimize livestock use of these sites. If a new den or rendezvous site is discovered, relocate any previously established salt or attractant location as necessary to minimize livestock use of these sites.

Wildlife – Marbled Murrelet

- Except as stated under Option 3, below, and except when needed to protect human safety and property, prohibit activities that disrupt²¹ marbled murrelet nesting at occupied sites within 35 miles of the Pacific Coast within all land use allocations and between 35–50 miles of the Pacific Coast within reserved land use allocations.
- Before modifying nesting habitat or removing nesting structure in (1) all land use allocations within 35 miles of the Pacific Coast, and (2) Late-Successional Reserve and Riparian Reserve between 35–50 miles from the Pacific Coast and outside of exclusion Areas C and D (shown in **Figure 3-166**),—
 - Assess the analysis area for **marbled murrelet nesting structure**.²² The analysis area consists of the proposed project and lands within 726 feet of the project boundary. This area includes all habitat that would be examined by a 5-acre moving circle (526 feet in diameter) whose inner edge (i.e., the edge closest to the center of the project area) is within 200 feet of the project area boundary. The analysis area includes all nesting structures that could be affected by habitat modification.
- If the analysis area contains no nesting structure, no further consideration of marbled murrelet habitat is required.

²¹ Disruption is a type of disturbance that creates the likelihood of injury to ESA-listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering (see 50 CFR 17.3). An action that would disrupt the normal behavior of an ESA-listed species may affect, and would be likely to adversely affect, the species and would cause the taking of affected individual(s). In contrast, disturbance is a human action that may affect an ESA-listed animal species by the addition, above ambient condition, of noise or human intrusion, or the mechanical movement of habitat (e.g., the shaking of the forest canopy from helicopter rotor wash). Disturbance is temporary/short term (minutes to days) and does not modify habitat structure, or water/air flow or quality. (Disturbance should not be confused with “surface disturbance,” which refers to an action that modifies soil, water, or vegetation). Disturbance requires the presence of an ESA-listed animal. Disruption is a subset of disturbance.

²² **Marbled murrelet nesting structure** is a conifer tree with all of the following characteristics (which are not always visible from the ground):

- A DBH of at least 19.1” and a height greater than 107 feet
- A nest platform at least 32.5 feet above the ground (a nest platform is a relatively flat surface at least 4” wide, with nesting substrate (e.g., moss, epiphytes, duff), and an access route through the canopy that a murrelet could use to approach and land on that platform)
- A tree branch or foliage, either on the tree with potential structure or on an adjacent tree, which provides protective cover over the platform

Note: Nesting structure does not have to be occupied by nesting marbled murrelets.

- Before modifying forest stands in any 5-acre portion of the analysis area that contains at least 6 trees with nesting structure, implement Option 1, 2, or 3.

Option 1. Survey for the marbled murrelet using a protocol with a defined methodology and a resultant probability of detection:

- If no occupancy is determined, no further consideration of marbled murrelet habitat is required.
- If occupancy is determined, do not conduct activities within the **occupied stand**²³ and all forest within 300 feet of the occupied stand.
- The following are exceptions that may be implemented as long as the stand continues to support nesting:
 - Felling of hazard trees and trees for instream restoration projects
 - Construction of linear and nonlinear rights-of-way, spur roads, yarding corridors, or other facilities
- As needed to protect the overall health of the **occupied stand**, the following activities would be implemented as long as the stand continues to support nesting:
 - Wildfire suppression
 - Fuels reduction
 - Insect and disease control
 - Other activities to improve the health of the stand or adjacent stands

Option 2. Exclude nesting structure from the project area by doing all of the following:

- Do not remove or damage nesting structure. This includes trees with nesting structure and adjacent trees with branches that interlock the branches of any tree with nesting structure.
- Do not conduct timber harvest and associated ground disturbing activities during the murrelet nesting period (April 1 – September 15) unless the U.S. Fish and Wildlife Service concurs that disturbances would not adversely affect nesting marbled murrelets.
- Maintain a 150-foot un-thinned buffer around all trees with nesting structure. Within this buffer, do not remove trees for any reason associated with timber harvest, including the placement of roads, landings, or yarding corridors. Other activities are permitted if the U.S. Fish and Wildlife Service concurs that such activities would not adversely affect nesting marbled murrelets.
- Maintain an average canopy cover of at least 60 percent post-project (averaged over each 40-acre area) in the zone between 150 feet and 300 feet of all trees with nesting structure.
- Include additional, site-specific prescriptive measures to maintain or enhance habitat conditions, as needed, in the zone between 150 feet and 300 feet from all trees with nesting structure. In this context, **maintain marbled murrelet habitat** means to maintain stand structural characteristics such that, following habitat modification, the stand could support marbled murrelet nesting.
- Maintain an average canopy cover of at least 40 percent post-project (averaged over each 40-acre area) within the project area beyond 300 feet from all trees with nesting structure.

²³ Marbled murrelet occupied stand refers to all forest stands, regardless of age or structure, within 1/4 mile (1,320 feet) of the location of marbled murrelet behavior indicating occupancy and not separated from the location of marbled murrelet behavior indicating occupancy by more than 328 feet of non-forest.

Option 3. With concurrence from the U.S. Fish and Wildlife Service, manage nesting structure in a manner that would not adversely affect nesting marbled murrelets, except when taking actions that are necessary to treat or protect stands from sudden oak death. Take actions necessary to treat or protect stands from sudden oak death, including actions that may adversely affect nesting marbled murrelets.

- Before modifying forest stands in any 5-acre portion of the analysis area that contain 1–5 trees with nesting structure, implement Options 1, 2, 3, or 4.

Option 4. Protect nesting structure within the project area by doing all of the following:

- If the nesting structure is within 20 miles of the coast—
 - Between April 1 and August 5, stand modification would not occur;
 - Between August 6 and September 15, stand modification activities would not begin until 2 hours after sunrise and would conclude 2 hours before sunset.
- Design projects in accordance with Late-Successional Reserve management direction.
- Do not remove or damage nesting structure.
- Design habitat modifications that occur within one site-potential tree height of nesting structure to protect and improve future habitat conditions. Examples include—
 - Protecting the roots of trees with nesting structure
 - Removing suppressed trees
 - Removing trees that might damage nesting structure during wind storms
 - Removing trees that compete with key adjacent trees that are, or will be, providing cover to potential nest platforms
- Implement management actions that aid development of limbs and adjacent cover.
- Prohibit the creation of any opening (i.e., a gap ≥ 0.25 acre in size) within a distance equal to one site-potential tree height of nesting structure.

Wildlife – Northern Spotted Owl

- Manage habitat conditions for northern spotted owl movement and survival between and through large blocks of northern spotted owl nesting-roosting habitat.
- Do not authorize timber sales that would cause the incidental take of northern spotted owl territorial pairs or resident singles from timber harvest until implementation of a barred owl management program consistent with the assumptions contained in the Biological Opinion on the RMP has begun.

Wildlife – North Oregon Coast Distinct Population Segment of the Red Tree Vole

- Survey proposed projects within the range of the North Oregon Coast Distinct Population Segment of the red tree vole north of Highway 20 that could degrade or remove habitat using a protocol with a defined methodology that includes detection probabilities. Habitat that requires surveys prior to modification includes stands containing Douglas-fir, grand fir, Sitka spruce, or western hemlock and meet the following:
 - Stands with a QMD ≥ 16 ” based on the Survey Protocol for the Red Tree Vole, Version 3.0 (Huff *et al.* 2012, p. 9) and

- **Either** (a) conifer-dominated stands that are ≥ 80 years old **or** (b) conifer-dominated stands that have ≥ 60 percent canopy cover and have ≥ 2 **superdominant** conifer trees²⁴ per acre
- The following types of projects are exempt from the above direction to survey for red tree voles prior to project implementation:
 - Projects in stands < 80 years old
 - Culvert replacements on roads that are in use and part of the road system; culvert removals if the road is temporary or to be decommissioned
 - Riparian and stream improvement projects where the work is riparian planting, obtaining material for placing in-stream, and road or trail decommissioning; and where the stream improvement work is the placement of large wood, channel and flood plain reconstruction, or removal of channel diversions
 - Portions of hazardous fuels treatments where prescribed fire is applied. Any portion of a hazardous fuels treatment project involving commercial logging will remain subject to survey requirements except for projects in stands < 80 years old
- If surveys north of Highway 20 indicate red tree voles from the North Oregon Coast Distinct Population Segment occupy that habitat, establish a ‘habitat area’ for each cluster of nests that are not isolated from one another by more than 330 feet and include at least one active nest.
 - Establish habitat areas at least 10 acres in size and include 1.0 acre per nest if there are more than 10 red tree vole nests (e.g., establish a 15-acre habitat area for a cluster with 15 red tree vole nests).
 - Within habitat areas, do not remove or modify nest trees.
 - Within habitat areas, do not create barriers or strong filters to red tree vole movement through the canopy by—
 - Maintaining at least 75 percent canopy cover within habitat areas;
 - Retaining all nest trees (including active and inactive nest trees); and
 - Retaining trees with crowns directly interlocking the crowns of nest trees.
 Allow routine maintenance of existing infrastructure and facilities in habitat areas (including the felling of hazard trees) that does not meet the above criteria.
- South of Highway 20 within the North Oregon Coast Distinct Population Segment, establish and manage habitat areas as described above for known sites of red tree voles in the Late-Successional Reserve and Riparian Reserve.

Wildlife – Oregon Spotted Frog

- Manage livestock grazing at sites occupied by Oregon spotted frogs to prevent direct impacts to eggs, tadpoles, or adults.

Wildlife – Siskiyou Mountains Salamander

- Manage the Siskiyou Mountains salamander consistent with the Conservation Agreement for the Siskiyou Mountains Salamander (*Plethodon stormi*) in Jackson and Josephine Counties of Southwest Oregon; and in Siskiyou County of Northern California (August 17, 2007), as amended and as long as in effect.

²⁴ **Superdominant conifer trees** typically have crowns that extend above the general stand canopy and have large branches in the upper canopy of the dominant trees in the stand. Superdominant trees may be remnant trees from an earlier cohort, or they may be trees from the dominant cohort that were more open grown and have become much larger than the rest of the trees in the stand.

Wildlife – Vernal Pool Fairy Shrimp

- Do not authorize or construct additional discretionary roads and trails within designated critical habitat for the vernal pool fairy shrimp or within vernal pool fairy shrimp habitat.

Wildlife – Pacific Coast Distinct Population Segment of the Western Snowy Plover

- Do not authorize or construct additional discretionary roads and trails within designated critical habitat or within western snowy plover habitat.
- Restore snowy plover nesting habitat.
- Restrict the timing and location of beach access or activities to avoid disruption of normal snowy plover nesting and nesting behaviors.

Wild Horses

Management Objective

- Manage and maintain a healthy population of wild and free-roaming horses in the Pokegama Herd Management Area of the Klamath Falls Field Office.

Management Direction

- Gather horses to maintain the appropriate management level of 30–50 head. During gathers, the number of horses will normally be reduced to the low end of the appropriate management level, and then allowed to increase to the top end of the appropriate management level before another gather occurs. The BLM will remove horses from private land per private landowner request. Horses straying outside the herd management area will be removed or returned to the herd management area.
- Maintain existing water developments to provide season-long water for wild horses within the herd management area. Consider new developments to assist in meeting the herd management objectives.
- Provide periodic repair and maintenance of fences to protect riparian areas from concentrated use by wild horses.
- Protect Bureau Sensitive plant habitat from concentrated use by wild horses, including constructing and maintaining fences as necessary.
- Adjust the appropriate management level if monitoring data identifies a change in long-term forage availability or rangeland health assessments and evaluations determine that wild horse numbers or patterns of grazing use are a contributing factor toward not meeting one or more of the Standards for Rangeland Health and Guidelines for Grazing Management for Public Lands in Oregon and Washington.
- Introduce wild horses from other herd areas periodically to maintain the viable genetic diversity of the herd.

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