Appendix D

Standards and Guidelines

APPENDIX D
FOREST AND GRASSLAND-WIDE STANDARDS AND GUIDELINES

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APPENDIX D

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FEIS Appendix D

Forest-and Grassland-Wide Standards and Guidelines

Purpose

This appendix contains the Forest and Grassland standards and guidelines that are used by several of the alternatives identified in Chapter 2 of the FEIS. The standards and guidelines included in this appendix are associated with Alternatives E-Departure, A, and C-Modified. The Forest and Grassland-wide standards and guidelines are applied within all of these alternatives. The management area standards and guidelines are applied according to the amount of land allocated to each management area (See Table 2-7, Acreage in Management Areas by Alternative, in Chapter 2 of this FEIS).

The standards and guidelines in this appendix apply to the draft management areas and are identified by a 'D' in front of the management area number. For example, the draft management area known as General Forest is identified as MA-D1, draft management area number 1. Here are all of the draft management areas and their identifiers.

Management Area Name	**Identifier**
General Forest	MA-D1
Big Game Winter Range	MA-D2
Big Game Summer Range	MA-D3
Old Growth	MA-D4
Retention	MA-D5
Partial Retention - Foreground	MA-D6
Partial Retention - Middleground	MA-D7
Wilderness	MA-D7
Semiprimitive Nonmotorized	MA-D9
Semiprimitive Motorized	MA-D10
Developed Recreation	MA-D11
Research Natural Areas	MA-D12

Riparian in Acceptable Condition	MA-D13
Riparian in Excellent Condition	MA-D14

See Chapter 2 - Alternatives Including the Proposed Action, Comparison of Alternatives, for emphasis and desired future condition statements for each of the draft and final management areas.

Alternatives B-Modified and I use a different set of forest-wide and management area standards and guidelines. These are not included in this appendix since they are discussed in Chapter 4 of the Final Land and Resource Management Plan documents for the Forest and Grassland.

Between the Draft and Final EIS, some alternatives were dropped and others (three) were modified. Alternatives E-Departure, A, and C-Modified now include additional management areas; they are:

Black Canyon Wilderness	MA-F1
Bridge Creek Wilderness	MA-F2
Mill Creek Wilderness	MA-F3
North Fork Crooked River Wilderness Study Area	MA-F4
Eagle Roosting Areas	MA-F12
Bandit Springs Recreation Area	MA-F16
North Fork Crooked River Recreation Corridor	MA-F23
North Fork Crooked River Scenic Corridor	MA-F24
Facilities	MA-F28
Crooked River Recreation Area	MA-G6
Deschutes River Scenic Corridor	MA-G7

The standards and guidelines that apply to the above management areas are not included in this appendix, but can be found in Chapter 4 of the Final Land and Resource Management Plans for the Forest and Grassland. "F" refers to Forest, and "G" refers to Grassland.

Organization

Standards and guidelines state the bounds or constraints within which all practices are to be carried out. They are intended to supplement, but do not replace policy direction found in Forest Service Manuals and Handbooks, and the Regional Guide for the Pacific Northwest Region. They also must comply with applicable State and Federal laws and regulations.

Forest- and Grassland-wide, and management area standards and guidelines are grouped together by resource (or functional area), so that the user will have the total management direction available in one package, as opposed to sifting

through separate sections of the document in order to get a total understanding for a particular use. Management area standards and guidelines are more site-specific than Forest- and Grassland-wide standards and guidelines, and must be in compliance with them as well as higher order policy, regulation and law.

Some resource direction is only applicable on a Forest- and Grassland-wide basis and does not vary by management area. Hence, no management area standards and guidelines are presented for the following resources: Air Quality, Biological Diversity, Old Growth, and Social and Economic.

Air Quality

Forest-and Grassland-Wide Standards and Guidelines

Comply with regulations of the Clean Air Act, as amended, and coordinate activities with the Oregon State Department of Environmental Quality and the Oregon State Department of Forestry.

Demonstrate reasonable progress in reducing total suspended particulate (TSP) emissions from prescribed burning. Monitor particulate emissions originating from Forest and Grassland activities.

Conduct prescribed burning in accordance with State smoke management plans.

Follow Regional standards and guidelines for smoke emissions as stated in Regional Vegetation Management Final Environmental Impact Statement.

Use the best available predictive methods and Modifiers and most cost-efficient technologies to minimize the impact of prescribed burning on designated smoke sensitive areas and Class I areas. Comply with regulations of the Oregon State Implementation Plan for Protection of Visibility in Class I Areas.

Protect the Forest air resources against pollution sources outside the Forest boundaries through application of the Prevention of Significant Deterioration (PSD) regulations contained in the Clean Air Act. Take appropriate action to contact the Oregon State Department of Environmental Quality when outside air pollution sources, in particular that originating on a regular seasonal basis from the Madras basin and Willamette Valley, exceed Forest standards.

Biological Diversity

Forest and Grassland-Wide Standards and Guidelines

Protect Research Natural Areas (RNA's) from influences which detract from their purposes. Monitor vegetation to insure that all major vegetative types and unique plant communities are preserved for future knowledge and gene pool diversity.

Manage and protect wildernesses in a manner that allows ecological processes, succession, fire, and similar influences to play a natural role, while protecting resources outside the areas from unnecessary risk of catastrophic fire.

A minimum of two percent of the Forest and Grassland, in addition to areas in wilderness and some RNA's, will be managed for old growth, representing climax or near climax forest stand conditions.

Identify and protect unique ecological situations, through the Forest and Grassland implementation and monitoring process. Examples of these include: eagle roosting, anadromous fish spawning, representative examples of old growth forest, aspen clones, river canyons, riparian areas and important connective habitat.

Disperse created openings and limit their size(s) to that described under the timber management guidelines.

Maintain soil productivity through management practices which reduce erosion, and the application of guidelines that limit use of heavy equipment and skid road densities.

Incorporate plant association information (Hall, 1973 and 1989; Hopkins, et al, 1983) and their management implications, into project design and implementation.

Protect fragile sites such as shallow soil areas (scablands) and natural meadows.

Incorporate and design habitat specific species requirements--such as those for cavity excavators--into guidelines and prescriptions for individual projects.

Monitor plant communities/associations to determine conditions and trends. Encourage recovery or prevent deterioration where activities may be leading to poor conditions, downward trends, the displacement of native plants or plant communities by undesirable weedy, annual or noxious vegetation, or where cover is unusually low for the particular plant associations (see Hall, 1973 and Hopkins et al, 1983). Manage aspen stands to produce a vigorous population, Forest-wide.

Limit the frequency of underburning of plant communities to the natural fire cycle, or less frequently, until research is completed on ecological effects of burning.

Cultural Resources

Forest-and Grassland-Wide Standards and Guidelines

Update the existing Cultural Resource Overview each decade to incorporate all known cultural resource information on each District. The Overview will provide a framework for evaluating cultural resources located through survey efforts, will assist in the development of a Forest Inventory Plan approved by the Oregon State Historic Preservation Office (SHPO), and will help to identify opportunities for site interpretation.

Conduct cultural resource surveys (inventories) in advance of all ground-disturbing actions. This will be accomplished through the implementation of the Interim Inventory Design (Dyrden 1988) or Forest Inventory Plan (when formally approved) during the earliest stages of the planning (NEPA) process for individual projects (e.g timber sales); both project and non-project areas will be surveyed. Submit project Cultural Resource Reports for SHPO review and Section 106 (National Historic Preservation Act, as amended) compliance prior to issuance of the Decision Notice and Environmental Assessment or Environmental Impact Statement.

Evaluate cultural resource properties located during inventory to determine their eligibility to the National Register of Historic Places. This will be accomplished through the Lithic Scatter Programmatic Memorandum of Agreement (PMOA), individual site and thematic Determinations of Eligibility.

Develop contexts and themes from which to evaluate all classes of sites through thematic Determinations of Eligibility. Develop management plans, Memorandums of Agreement, and PMOA's in cooperation with the State Historic Preservation Office, the Advisory Council on Historic Preservation, and other interested publics (Native Americans, local historical societies, groups and professional organizations) to facilitate cultural resource treatment and future management.

Document through the NEPA process the results of cultural resource surveys for all proposed ground-disturbing projects (Federal, Federally-funded or permitted) or projects determined to have an effect upon cultural resource sites or values.

Prepare a Determination of Effect for all projects and submit for Oregon SHPO review and consultation (i.e. No Effect, No Adverse Effect, or Adverse Effect).

Mitigate adverse effects to eligible and significant sites under consultation with the Oregon SHPO, Advisory Council on Historic Preservation, and interested publics. In ranked order of preference , the following treatment options will be considered:

Avoidance through project design modification or abandonment (No Effect).

Combination of project modification and scientific data recovery under an

approved data recovery plan (No Adverse Effect or Mitigation of Adverse Effect).

Data recovery and analysis such that cultural resource values are protected and preserved in forms useful to various scientific, government, ethnic and local groups (Mitigation of Adverse Effect).

Cultural resource sites, districts and thematic classes of such will be nominated to the National Register of Historic Places.

Schedule nominations incrementally until the Forest-wide inventory of cultural resources is completed.

Protect significant sites from degradation due to public use or natural deterioration.

Protection methods may include, but are not limited to, scientific study and collection, the use of fences or barriers, prudent use of signs, site stabilization, closure orders, site monitoring, area patrolling, and restriction of access to site locational information as provided for under the provisions of the Freedom of Information Act.

Interpret and enhance selected sites for the education and enjoyment of the general public. A priority will be given to sites within or adjacent to public use areas, and which are being degraded through natural or human impacts.

Produce scientifically accurate and culturally sensitive displays, brochures, posters, tours, lectures, etc.

Support the distribution of scientific reports, monographs, video tapes, and books for the benefit of interested members of the public.

Promote public-private partnerships which will benefit Forest visitors through enhancing and interpreting sites.

Burial Sites

Treat historic or prehistoric burial remains as follows:

Evaluate the site to determine if the skeletal material is human and to what time period or ethnic group it may be ascribed.

Contact local authorities, Native American Tribal Group(s), other ethnic groups and County Historical Societies where appropriate.

For Native American burials, reinter in-place with involvement by the appropriate representatives of a federally recognized Tribe or Native American group. Project planning for management activities in the site vicinity shall consider burial location in planning decisions and if necessary modify implementation so as to avoid direct and indirect impacts to the burial site.

Where reinterment in-place is not feasible or prudent, alternative locations for reinterment will be reviewed and selected in consultation with the appropriate Indian Tribal representatives. In situations where a direct link cannot be made

to an existing Federally recognized Tribe, this consultation shall take place with the nearest tribe or confederation.

Religious Freedom

Meet all requirements of the American Indian Religious Freedom Act (AIRFA). This law makes it the policy of the Federal government "to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise [their] traditional religions." This protection includes, but is not limited to, access to sites, use and possession of sacred objects, and the enactment of ceremonies and traditional rites. Related activities include the gathering and processing of plants for food, medicinal, or craft uses, the construction of sweat lodges, or "vision quest" structures, and the like.

AIRFA addresses the religious freedom of all Native Americans without regard for Federal tribal recognition, but does not convey exclusive use of areas or free use of Forest products In considering access to properties or sites within its boundaries, the Forest will examine other potential or existing uses and activities. Publicly owned properties, sites, objects of antiquity, etc. remain the property of the United States government. Activities which may effect such properties, sites, or objects are subject to existing laws, regulations and treaties.

Treaty Rights

Honor the rights reserved by the Confederated Tribes of Warm Springs Indians for lands ceded to the Federal Government through the Treaty of 1855.

On the ceded lands, the Tribes have the right to take fish in streams running through and bordering the Reservation and at all other usual and accustomed stations in common with the citizens of the United States.

The right of hunting, gathering roots and berries, and pasturing stock on unclaimed lands in common with citizens was also secured within the ceded lands.

Management Area Standards and Guidelines

(Forest Only)

Resource - Cultural Resources

Practice

Enhancement and Interpretation

Standard and Guideline

On-site interpretation and enhancement of cultural resources will not be done. Off-site interpretation and enhancement is permissible.

Applicable Management Area
MA-D8 Wilderness
MA-D12 Research Natural Areas
MA-D13 Riparian in Acceptable Condition

Standard and Guideline
Enhancement and interpretation of cultural resources will not be emphasized. Significant cultural resource sites and features may be enhanced and interpreted if the action does not detract from the management area objectives.

Applicable Management Area
MA-D4 Old Growth
MA-D9 Semiprimitive Nonmotorized
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Selectively enhance and interpret cultural resources, with priority on identifying sites that will complement the management emphasis of the specific areas.

Applicable Management Area
MA-D11 Developed Recreation
MA-D10 Semiprimitive Motorized

Standard and Guideline
Enhance and interpret cultural resources while meeting Forest-wide standards and guidelines.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D5 Retention Foreground
MA-D6 Partial Retention -Foreground
MA-D7 Partial Retention -Middleground

Practice
Structures

Standard and Guideline
Structures, such as old fences, that do not qualify for the National Register of Historic Places, will be removed or allowed to deteriorate naturally.

Applicable Management Area
MA-D8 Wilderness
MA-D12 Research Natural Areas

Management Area Standards and Guidelines
(Grassland Only)

Resource - Cultural Resources

Practice
Enhancement and interpretation

Standard and Guideline
Do not enhance or interpret cultural resources in this area.

Applicable Management Area
MA-D4 Old Growth
MA-D8 Wilderness
MA-D13 Riparian in Acceptable Condition

Standard and Guideline
Reserve cultural resources for the purposes of research Generally, do not enhance or interpret cultural resources.

Evaluate research proposals on a case-by-case basis.

Applicable Management Area
MA-D12 Research Natural Areas

Facilities

Forest-and Grassland-Wide Standards and Guidelines

Buildings, utility systems and related facilities should be planned, developed, maintained and operated for safe use, support of Forest and Grassland resource programs, and cost effectiveness. Historic buildings will be managed in accordance with the Programmatic Memorandum of Understanding (PMOA) for Depression-Era Administrative Buildings.

Construction of new buildings, or additions to existing buildings and utility systems, shall comply with approved site development plan.

Provide and manage administrative facilities in a manner sufficient to accomplish land and resource management and protection objectives of the Forest. Prepare administrative site development plans for all Forest administrative sites. Long-term development and maintenance costs will be a consideration in facilities planning.

Management Area Standards and Guidelines

(Forest Only)

Resource - Facilities

Practice

Construction, Reconstruction and Maintenance of Administrative Buildings and Structures

Standard and Guideline

No administrative buildings or structures allowed.

Applicable Management Area

MA-D8 Wilderness
MA-D12 Research Natural Areas

Standard and Guideline

Allow no administrative facilities within floodplains unless no feasible alternative sites exist (Executive Order 11988).

Applicable Management Area

MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline

Locate and design facilities to blend into the natural terrain as much as possible; properly utilize the site; and provide for traffic control, sanitation, public safety, site protection, and use distribution. New and upgraded facilities will incorporate a barrier-free design in order to be accessible to the physically handicapped.

Applicable Management Area

MA-D11 Developed Recreation

Practice

Nonconforming Structures

Standard and Guideline

Except for facilities necessary to protect fragile resources, limit to trail shelters, sanitary and safety needs. All should be of simple design, and of native, rustic-like materials. Site Modification for facilities should be very minimal to none.

Applicable Management Area

MA-D9 Semiprimitive Nonmotorized

Management Area Standards and Guidelines
(Grassland Only)

Resource - Facilities

Practice
Construction, Reconstruction and Maintenance of Administrative Buildings and Structures

Standard and Guideline
Construct no buildings or other facilities.

Applicable Management Area
MA-D4 Old Growth
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D12 Research Natural Areas

Standard and Guideline
Develop no facilities.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Fire

Forest-and Grassland-Wide Standards and Guidelines

Fire Management

Planning
Use the National Fire Management Analysis System to determine the most cost-efficient fire protection organization. Reevaluate organization as conditions change and better information is developed. Due to the nature of intermixed land ownerships, including a number of wildland subdivisions, interagency cooperation must be considered in the planning process.

Prevention
Monitor current and recent fire reports to target specific risks. Coordinate

activities through the Central Oregon Fire Prevention Cooperative (or its equivalent).

Detection

Periodically review the mix of aerial and ground detection activities to maintain the most cost-effective combination.

Initial Attack

Apply aggressive suppression action to wildfires that threaten life, private property, public safety, improvements, or investments.

Where wildfires do not threaten to exceed acceptable sizes and intensities, apply the lowest cost suppression option.

If a wildfire escapes initial action and threatens to exceed established limits, prepare an escaped fire situation analysis. Weigh the cost of suppression against the resource potential losses. Suppression costs should be commensurate with the values threatened.

Secondary Attack Forces

Provide equipment and training for Forest Service employees outside of the fire management organization to assist in initial attack.

Fuel Treatments

Burn excess residues from management activities or natural events only after an interdisciplinary team evaluation of site needs and appropriate utilization efforts have been considered. As a guide, the Ochoco National Forest Residue Management Plan, 3/89, will be used for identifying site-specific treatment selections. All treatments will comply with Forest-wide Standards and Guidelines and Management Area Standards and Guidelines for Forest Residues, of this chapter.

A desired "protection" residues profile will be identified using an economic efficiency model, such as the Fuels Analysis Process recently developed by Region 6. This will be a guide for developing the appropriate share of cost in helping meet the overall desired residue profile(s) described in Forest-wide and management area standards and guidelines for "Forest Residues" (this Section)

Prescribed Fire

All planned prescribed fires will have prescriptions approved by the appropriate line officer.

Unplanned ignitions may be used as prescribed fires if: 1) a prescribed fire plan has been prepared and approved, 2) the fire is burning within prescription, and 3) there are enough personnel and equipment available to provide the staffing necessary to carry out the existing prescribed fire plan.

Conduct prescribed burns within existing Federal and State regulations affecting

the timing, duration, and dispersal of emissions. Coordination with adjacent local smoke management groups and local agency offices will be required.

Construct water diversions on firelines in hilly or steep terrain to drain water into areas with sufficient vegetation or other protection to avoid erosion.

Provide for a protective strip of undisturbed surface between the prescribed burn area and perennial water courses, considering local topographic, vegetation, and soil characteristics.

Avoid intense prescribed fires on soils that are highly erodible and/or are subject to the development of hydrophobic (nonwettable) conditions.

Fuelbreaks

Use existing transportation and topographic features as much as possible for planned fuel breaks

Use fuelbreaks only where risk analysis indicates this to be the most economically viable alternative treatment, and where doing so meets the objectives of management area prescriptions, listed in Section 2, this chapter.

Piling and Burning

Locate piles outside of the normal high water flow area of natural and man-made drainages or water courses.

Burn slash piles located within mapped floodplains within one year after piling.

Remove slash created within the normal highwater zone of a stream, unless needed for soil protection purposes.

Slash will not be piles on scablands unless there is no other feasible location, i.e. under circumstances dictated by topography or at a skyline landing (See Soils Standards and Guidelines).

Chipping, Burning, Lopping and Scattering

Dispose of material so it will not reach stream courses.

Disperse material over a wide area when practical.

Management Area Standards and Guidelines

(Forest Only)

Resource - Fire

Practice

Fire Suppression (P04)

Standard and Guideline

Confine and contain will be the principle suppression strategies on most natural ignition (lightning) fires. The control strategy will be invoked when lightning fires threaten to escape the Wilderness Areas or pose unacceptable risks to life or wilderness values. Utilize the "light hand on the land" techniques.

Suppression activities should minimize disturbances of the land surface.

Use of chainsaws, helicopters, air tankers, or pumps must be approved by the Forest Supervisor. Allow no heli-spot construction for initial attack.

Crawler tractors will not be used without prior approval from the Regional Forester.

Applicable Management Area

MA-D8 Wilderness

Standard and Guideline

Fire encroaching on research natural areas should be contained or controlled as quickly as possible. Confine and contain will be the principle suppression strategies on most natural ignition (lightning) fires.

Ground disturbing activity to suppress fires will be avoided if possible, and only water will be used as fire retardant.

Applicable Management Area

MA-D12 Research Natural Areas

Standard and Guideline

Wildfires within or threatening designated old growth areas will be suppressed with emphasis on the tactical strategy of "contain." The objective is to minimize the acreage affected by wildfire. Minimize damage from suppression activities

Applicable Management Area

MA-D4 Old Growth

Standard and Guideline

The confine, contain and control strategies may be considered as per preattack block economic efficiency analysis. However,confine and contain will receive emphasis. Emphasize minimum physical disturbance by suppression activities.

Applicable Management Area

MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized

Standard and Guideline

Suppression activities in these prescriptions should emphasize minimum physical disturbance. Confine, contain or control strategies are to be considered and utilized as directed in preattack block economic efficiency analysis.

Applicable Management Area

MA-D6 Partial Retention -Foreground

Standard and Guideline

Strategy is to control all wildfires. Suppression should emphasize minimum physical disturbance.

Applicable Management Area

MA-D11 Developed Recreation

Standard and Guideline

Suppression activities should be very limited within the riparian zone. The objective is to minimize soil and vegetation disturbance. Confine and contain are the principle strategies.

Applicable Management Area

MA-D13 Riparian in AcceptableCondition
MA-D14 Riparian in Excellent Condition

Standard and Guideline

All three suppression strategies (confine, contain, or control) will be utilized in accordance with the economic efficiency analysis for each Preattack Block.

Applicable Management Area

MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D7 Partial Retention -Middleground

Standard and Guideline

Maximum acceptable individual wildfire size by Fire Intensity Level, and total area by decade can be found in Fire Management Direction Table, in Appendix A3, Forest Plan, for all management areas.

Practice

Treatment of Activity Fuels (P11)

Standard and Guideline

Fuel treatment (particularly mechanical treatments) should be very limited within riparian areas. In particular, activities which would reduce the shading potential or woody debris sources of the site should be avoided. Greater levels of wildfire risk are acceptable in these areas.

Nonmechanical treatments will receive preference. When mechanical treatments are necessary they shall be carefully managed to meet the objectives of the management area.

Applicable Management Area

MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline

Projects will meet retention visual objectives and emphasis will be on nonmechanical treatments.

Applicable Management Area

MA-D5 Retention
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline

Use nonmechanical treatments where possible. Manage to meet visual quality objective of partial retention.

Applicable Management Area

MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D10 Semiprimitive Motorized

Standard and Guideline

Fuels usable by recreationists should be stacked or piled in convenient locations. Unusable fuels should be piled and burned.

Applicable Management Area

MA-D11 Developed Recreation

Standard and Guideline

Meet Forest-wide Standards and Guidelines.

Applicable Management Area

MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Practice
Treatment of Natural Fuels (P12)

Standard and Guideline
With the consent of PNW Station Director, manage prescribed fire in natural fuels to perpetuate conditions that the RNA represents, but with prudent measures to avoid catastrophic fire within, and outside the RNA.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Naturally caused ignitions may be allowed to burn if they meet conditions in an approved prescribed burn plan, if the funds are available, and the necessary staffing is available.

Planned ignitions may be utilized within wilderness areas if that is the best way of returning fire to its natural role, and thus reducing the fuels profile to one more natural and lessening the risk of damaging the wilderness resource. Planned ignitions within the Wilderness are also permitted if there is no other practical and economic way to lessen the likelihood of the escape of damaging wildfire from the Wilderness.

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
Ponderosa pine old growth may treated with prescribed fire approximately every 25 years to control the encroachment of other tree species. Downed logs will be protected to the degree possible.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Fuel treatment (particularly mechanical treatments) should be very limited within riparian areas In particular, activities which would reduce the shading potential or woody debris sources of the site should be avoided. Greater levels of wildfire risk are acceptable in these areas.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline

Maintain a vegetative type similar to natural conditions as identified through fire history and to meet specific visual resource management objectives on each corridor plan. Planned ignition prescribed burns will be scheduled as follows:

	Years
Ponderosa pine	20-25
Non-commercial	20-25
Grassland	20-25
Mixed Conifer	50-60
Tree shrub	Spot burning

Applicable Management Area

MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground

Standard and Guideline

Maintain a vegetation type similar to natural conditions as identified in the desired residue photos. Planned ignition prescribed burns should be scheduled as follows:

	Years
Ponderosa pine	20-25
Non-commercial	20-25
Grassland	20-25
Mixed Conifer	50-60
Tree shrub	Spot burning

Applicable Management Area

MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized

Standard and Guideline

Natural fuels on managed stands may be treated by prescribed fire where stand age is 25 years or more when necessary to maintain desired protection residue profile if this activity is consistent with other management objectives. Special emphasis is placed on consideration of cover objectives.

Applicable Management Area

MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Standard and Guideline

Natural fuels on managed stands may be treated by prescribed fire where stand age is 25 years or more, when necessary to maintain desired protection residue

profile if this activity is consistent with other management objectives.

Applicable Management Area
MA-D1 General Forest

Practice
Fuel Break Construction and Maintenance (P13,14)

Standard and Guideline
Limited shaded fuelbreak segments may be constructed along boundaries to take advantage of logical natural terrain features aiding in the prevention of fire spread across management area boundaries. The majority of such fuel break systems will be outside of the area.

Applicable Management Area
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D12 Research Natural Areas

Standard and Guideline
Construct and maintain no fuelbreaks.

Applicable Management Area
MA-D4 Old Growth
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Use fuel breaks only where they do not conflict with management area emphasis. Also, see Forest-wide Standards & Guidelines.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D5 Retention
MA-D6 Partial Retention -Foreground
MA-D7 Partial Retention -Middleground
MA-D11 Developed Recreation

Management Area Standards and Guidelines

(Grassland Only)

Resource - Fire

Practice
Suppression

Minimize acreage affected by wildfire. Suppress fires using the tactical strategy of control. Minimize damage from suppression activities.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Permit no suppression of natural fires on the Island RNA. Suppress natural fires on Haystack Butte if facilities or resources outside the RNA are threatened.

Use only water as a retardant.

Applicable Management Area
MA-D12 Research Natural Areas

Practice
Prevention

Standard and Guideline
Encourage State to post appropriate fire prevention. Inform visitors about fire prevention needs and regulations.

Applicable Management Area
MA-D11 Developed Recreation

Practice
Prescribed Fire

Standard and Guideline
Normally, utilize manual and mechanical methods of fire hazard reduction. Prescribed fire may be used under limited circumstances.

Applicable Management Area
MA-D11 Developed Recreation

Standard and Guideline
Allow the use of managed or naturally occurring fire as needed to perpetuate the plant community the RNA is meant to represent.

Where prescribed fire is used to perpetuate a plant community, it should mimic a natural fire, but be managed prudently to avoid catastrophe.

Allow fuels to accumulate at natural rates unless they threaten the objectives of the RNA.

Applicable Management Area
MA-D12 Research Natural Areas

Practice
Treatment of Natural Fuels

Standard and Guideline
Emphasize protecting cover needs.

Applicable Management Area
MA-D2 Big Game Winter Range

Forage and Livestock Use

Forest-and Grassland-Wide Standards and Guidelines

Forage Utilization

Utilization tables have been developed for "Primary Range" (Except Riparian) and "Riparian" (see Tables D-1 and D-2). In addition, special seasonal restrictions have been directed for individual management areas (i.e for fall green-up). See Management Area Standards and Guidelines, Forage for detailed information.

Administration and Grazing Systems

Identify allotments with riparian areas in less than satisfactory condition

Range allotment management plans will include a strategy for managing riparian areas to meet the emphasis and desired future condition stated in management area prescriptions (See MA-D14, Chapter 2, Alternatives Including the Proposed Alternative) The process recommended in *Managing Riparian Ecosystems (Zones) for Fish and Wildlife in Eastern Oregon and Eastern Washington,*

TABLE D-1
RIPARIAN FORAGE UTILIZATION

Allowable Use of Available Forage 1/

	Maximum Annual Utilization (%) By Existing Range Condition			
	Grassland Communities 2/		Shrubland Communities 3/	
Range Resource Management Level	Sat *	Unsat *	Sat.	Unsat
B - Livestock use managed within current grazing capacity by riding, herding, salting, and cost-effective improvements used only to maintain stewardship of the range	40	0-30	30	0-25
C - Livestock managed to achieve full utilization of allocated forage Management systems designed to obtain distribution and maintain plan vigor include fencing and water development	45	0-35	40	0-30
D - Livestock managed to optimize forage production and utilization Cost-effective culture practices improving forage supply, forage use and livestock distribution may be combined with fencing and water development to implement complex grazing systems	50	0-40	50	0-35

1/ This will be incorporated in annual operating plans and Allotment Management Plans Allotment Management Plans may include utilization standards which are either higher or lower than associated with intensive grazing systems and specific vegetation management objectives which will meet objectives for the riparian dependent resources. Includes cumulative annual use by big game livestock.

2/ Utilization based on percent of total annual forage production removed by weight

3/ Utilization based on percent of the current years growth removed Example measure length of current years growth of browsed and unbrowsed leaders and determine incidence of use Calculate percent of current years growth removed

• For satisfactory and unsatisfactory condition see Glossary in FEIS

TABLE D-2
PRIMARY RANGE (Except Riparian)

Allowable Use of Available Forage 1/

	Maximum Annual Utilization (%) 2/					
	Forested Communities		Grassland Communities		Shrubland Communities	
Range Resource Mgmt Level	Sat.	Unsat.	Sat.	Unsat.	Sat.	Unsat.
B - Livestock use managed within *current grazing capacity by riding*, herding, salting, and cost-effective improvements used only to maintain stewardship of the range.	40	0-30	50	0-30	40	0-25
C - Livestock managed to achieve full utilization of allocated forage. Management systems designed to obtain distribution and maintain plant vigor include fencing and water developments.	45	0-35	55	0-35	45	0-30
D - Livestock managed to optimize forage production and utilization. *Cost-effective culture practices* improving forage supply, forage use and livestock distribution may be combined with fencing and water development to implement complex grazing systems	50	0-40	55	0-40	50	0-35

1/ Incorporate into annual operating plans and allotment management plans Allotment management plans may include utilization standards that are either higher or lower when associated with intensive grazing systems and specific management objectives that meet other resource objectives

2/ Utilization based on percent by weight of total annual forage production removed for grass, grasslike, and forbs, and percent of current years growth removed for shrubs See example in riparian table for shrubs

* For satisfactory and unsatisfactory condition see Glossary in FEIS

1979, was used in establishing these conditions, and management objectives in grazing allotment plans should follow these. When the current riparian condition is less than that described, allotment objectives will include a schedule for improvement. Measurable objectives will be set for key parameters, such as stream surface shaded, streambank stability, and shrub cover. Allotment plans will address the monitoring needed to determine if the desired rate of improvement is occurring, and those plans currently not consistent with this direction will be developed or revised on a priority basis under a schedule established by the Forest Supervisor.

Develop, revise, and maintain allotment management plans to incorporate other Forest Plan direction.

Administer lands available and suitable for domestic livestock grazing according to the Forest Service grazing permit system.

Utilize intensive grazing management systems where feasible.

Coordinate transitory range management with timber management.

Encourage demonstration projects when they are compatible with other standards and guidelines.

Grazing on scablands will occur through planned use of other plant communities within an allotment. As a result, scablands will contribute some forage, however, they will not be considered or mapped as primary range in an allotment. The installation of structural improvements, or various types of livestock management will not be used to specifically concentrate livestock use on scablands.

Wild Horse Management

The Big Summit Ranger District Wild Horse territory will be managed for a base herd of 60 head of horses, as is outlined in the Wild Horse Management Plan, on file in the Ochoco National Forest Administrative Record, and Appendix I of the Forest Plan.

Management Area Standards and Guidelines

(Forest Only)

Resource - Forage

Practice
Forage Utilization

Standard and Guideline
No livestock grazing allowed.

Applicable Management Area
MA-D11 Developed Recreation
MA-D12 Research Natural Areas

Standard and Guideline
Follow Riparian Forage Utilization Table, Table D-1.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Follow Primary Range Utilization Table, Table D-2.

Applicable Management Area
MA-D1 General Forest
MA-D3 Big Game Summer Range
MA-D4 Old
MA-D5 Retention
MA-D6 Partial Retention Foreground
MA-D7 Partial Retention - Middleground
MA-D8 Wilderness
MA-D9 SemiprimiNonmotorized
MA-D10 Semiprimitive Motorized

Standard and Guideline
Reserve fall green up of grasses for big game use Grant no seasonal extensions for livestock

Applicable Management Area
MA-D2 Big Game Winter Range

Practice
Nonstructural Improvements

Standard and Guideline
None Programmed

Applicable Management Area
MA-D4 Old Growth
MA-D5 Retention
MA-D6 Partial Retention -Foreground
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D12 Research Natural Areas

Standard and Guideline
Allow nonstructural improvements such as seeding and burning unless they conflict with the management emphasis for the area.

Applicable Management Area
MA-D1 General Forest

MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D7 Partial Retention - Middleground

Practice
Structural Improvements

Standard and Guideline
Allow construction and maintenance of structures to exclude livestock from the area only, except in connection with approved research projects.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Encourage developments to disperse livestock away from riparian areas.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline

Maintain existing developments. New developments can be constructed only to protect the wilderness resource or to alleviate problems or conflicts, and only with the approval of the Regional Forester. Use of power equipment for maintaining range improvements will be for exceptional needs only, and approved on a case by case basis by the Regional Forester. Use native or natural appearing materials and design improvements to blend into the surrounding landscape.

Applicable Management Area

MA-D8 Wilderness

Standard and Guideline

Allow new developments unless they conflict with the management emphasis for the specific management areas.

Applicable Management Area

MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D4 Old Growth
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation

Practice

Use of Motorized Equipment for Improvements and Maintenance

Standard and Guideline

Require permittees to maintain improvements with nonmotorized equipment except where requests to use motorized equipment have been approved by the Forest Supervisor on a case by case basis.

Applicable Management Area

MA-D8 Wilderness

Management Area Standards and Guidelines

(Grassland Only)

Resource - Forage

Practice
Utilization

Standard and Guideline
Continue to keep campground closed to livestock grazing.

Applicable Management Area
MA-D11 Developed Recreation

Standard and Guideline
Permit no grazing of domestic livestock within the RNA unless needed to maintain a specific vegetative type.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Give top priority to providing high quality forage by fall green-up for deer. Control spring sheep grazing to prevent reduction in forage species important to wintering deer.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Follow Table D-1, Riparian Forage Utilization Table.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Practice
Nonstructural Improvements

Standard and Guideline
None Programmed.

Applicable Management Area
MA-D4 Old Growth
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D11 Developed Recreation

Standard and Guideline
Allow mechanical and nonmechanical treatments that are compatible with the primary objectives of the management area.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D7 Partial Retention - Middleground

Practice
Structural Improvement

Standard and Guideline
Construct and maintain fences needed to exclude livestock.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Maintain existing improvements where they are not in conflict with the primary objectives of the management area.

Construct additional improvements where they will aid in improved livestock management.

Guidelines for constructing or reconstructing fences:

(1) Top wire: Not more than 40 inches above the ground.

Bottom wire: Smooth wire at least 16 inches above the ground.

(2) Use white-topped fence posts.

(3) Tie white flagging to top wire to increase visibility.

(4) Install no stays between posts.

After the livestock are off the Grassland in the fall, leave gates open to facilitate antelope passage (except where needed for road management objectives).

Applicable Management Area
MA-D2 Big Game Winter Range (Antelope)

Standard and Guideline
Encourage developments to disperse livestock away from riparian areas.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Maintain existing improvements. Permit new improvements only when they are compatible with the primary objectives of the management area.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Maintain existing developments where they are not in conflict with the primary objectives of the management area.

Construct additional developments as needed to aid in livestock distribution and facilitate using domestic livestock as a management tool to improve the palatability and availability of winter deer forage.

Applicable Management Area
MA-D2 Big Game Winter Range (Metolius Deer Winter Range)

Forest and Grassland Health

Forest and Grassland-Wide Standards and Guidelines

Use Integrated Pest Management (IPM) strategies to manage pests within the constraints of laws and regulations, and meet Forest management objectives. IPM strategies include manual, mechanical, cultural, biological, chemical, prescribed fire, and regulatory means. Select strategy through the environmental analysis process, and in compliance with the Regional Vegetation Management, Environmental Impact Statement, 1988.

Coordinate strategies with the Agricultural Pest Health Inspection Service (APHIS).

Pesticide application, if used, will conform with EPA regulations, label restrictions, and the Regional EIS on pesticide or herbicide applications.

Use the Integrated Pest Management strategies on forested types as shown in Table D-3. Exceptions for individual management areas are listed in management area standards and guidelines, Forest Health (Table D-4).

Noxious Weeds

Control noxious weeds and invader plants to prevent threats to adjacent agricultural lands or to prevent unacceptable loss of range productivity.

Management Area Standards and Guidelines

(Forest Only)

Maintenance of a healthy forest resource is important as it relates to the ability of the forest stands to meet the objectives of each management area. The major factor in the overall health of the forest is the vigor of the trees and other forest vegetation. If the majority of the trees in a given area have reached or exceeded their pathological age, or have densities that result in stagnated stands, then trees become vulnerable to attack by insects and disease.

The Ochoco National Forest will use a combination of silvicultural practices and the concept of Integrated Pest Management to manage the health of the Forest resource. Integrated Pest Management (IPM), is a process that incorporates all factors and strategies for evaluating and treating pest and host conditions to manage pest populations.

Stands of trees on the Ochoco Forest will be managed according to the objectives of each management area. The health of the Forest resource will be managed to meet the objectives, within the management constraints, for each management area. Some management areas will be more restrictive in treatment options, and may also accept more risk to the forest from pest damage.

Table D-4 will be used to guide forest health management practices for each management area. The table provides guidance for the identified major insects and diseases affecting the Ochoco National Forest.

TABLE D-3
FOREST PEST MANAGEMENT STRATEGIES

Host Type	Pest	Conditions Favoring Damage	Management Strategies
Ponderosa Pine	Mountain Pine Beetle	Overstocked Stands	Control stocking levels by thinning, cleaning, or prescribed burning Keep stands in vigorous condition, i e growth at least one inch per decade
	Western Pine Beetle	Overmature, low vigor trees	Employ rotations of 150 years or less when possible Where large, old trees are desired in the stand (1) Salvage infested trees as rapidly as possible, (2) remove high risk trees that exhibit declining crown vigor preferentially during normal entries, and (3) decrease intertree competition by thinning, cleaning, or under burning
	Western Dwarf Mistletoe	Multistoried host stands with already-infected overstories	Eliminate inoculum by regeneration harvest of infected stands If a seed tree system is employed, remove infected seed trees before regeneration is 3 feet tall or 10 years old Establish mistletoe-free unit boundaries
Lodgepole Pine	Mountain Pine Beetle	Stands of low vigor trees due to overstocking and old age	Keep lodgepole pine stands vigorous Control stocking by thinning, cleaning, or prescribed fire to insure that crop trees are free to grow Use rotations of 80 years or less
	Lodgepole Dwarf Misletoe	Multistoried host stands with already infected overstories	Eliminate inoculum by regeneration harvest of infected stands If a seed tree system is employed, remove seed trees before regeneration is 3 feet tall or 10 years old Establish mistletoe-free unit boundaries
Mixed Conifer*	Defoliating Insects (western spruce budworm and Douglas-fir tussock moth	Stands with major true fir/ Douglas-fir components, multistoried stands	Long-term strategy--develop stands composed of larch and pines Short-term strategy--treat infested fir stands with biological or chemical insecticides

Host Type	Pest	Conditions Favoring Damage	Management Strategies
	Root Diseases** (Laminated root rot, Armillaria root disease, and annosus root disease)	Stands with major true fir/ Douglas-fir components where inoculum is present	Remove all sosts in root disease centers and 50 foot buffers. Regenerate these areas with tolerant or resistant tree species For laminated root rot and Armillaria root disease, discriminate against white and Douglas-fir, favor pines and larch For annosus root disease, discriminate against white fir, favor any other species In areas where white fir management is desired, consider stump treatment with borax within 48 hours of cutting to prevent annosus infection
	Douglas-fir Dwarf Mistletoe	Multistoried host stands with alreasy infected overstories	Alternative I--eliminate inoculum by regeneration harvest If a seed tree system is employed and Douglas-fir regeneration is desired, remove infected seed trees before regeneration is 3 feet tall or 10 years old Establish mistletoe-free unit boundaries Alternative II--favor non-hosts (any species but Douglas-fir).
	Larch Dwarf Mistletoe	Multistoried host stands with alreasy infected overstories	Alternative I--eliminate inoculum by regeneration harvest. If a seed tree system is employed and western larch regeneration is to be managed, remove infected larch seed trees before regeneration is 3 feet tall or 10 years old Establish mistletoe-free unit boundaries Alternative II--favor non-hosts (any species but western larch and lodgepole pine)
	White Fir Stem Decays (mainly Indian paint fungus)	Stands that contain a major component of white fir and have a history of tree suppression and wounding	Do not manage high risk understories Eliminate and start over Where whit fir management is desired, keep rotations under 120 years and promote tree vigor throughout the life of the stand Avoid wounding of white fir crop trees

*Mixed conifer stands on the Ochoco National Forest are composed of white fir, Douglas-fir, western larch, lodgepole pine, and ponderosa pine with Engelmann spruce at high elevations Firs tend to dominate

**Fir engraver beetles and Douglas-fir beetles are common associates of root diseases Management of the diseases will usually also minimize beetle damage

TABLE D-4
FOREST HEALTH STANDARDS AND GUIDELINES AND ALLOWABLE TREATMENT OPTIONS FOR MAJOR PEST GROUPS BY MANAGEMENT AREA

		Treatment Options 1/				
		Pine		Mixed Conifer		
Management Area	Standards & Guidelines	BB 2/	DM 3/	DEF 4/	RR 5/	DM
D8 Wilderness	Insect and disease outbreaks will not be controlled unless treatement is necessary to prevent unacceptable damage to resources on adjacent lands or an unnatural loss to the wilderness resource due to exotic pests FSM 2324 12 (1) Management of insects and diseases in wilderness will follow direction in FSM 2324 1	NT	NT	NT	NT	NT
D12 Research Natural Areas	Take no action to control insects or diseases, unless an outbreak will drastically alter the natural processes within the RNA Treatment to control insects and diseases within a research natural area must support and promote the basic objectives and purposes of establishing the area FSM 4063 3(8)	NT	NT	NT	NT	NT
D4 Old Growth	Generally, insects and diseases will not be controlled or suppressed Exceptions, may occur when treatment is necessary to prevent unacceptable damage to resources on adjacent lands or to the old growth resource Acceptable treatments are prescribed burning and use of synthetic or biological chemicals, based on site specific environmental analysis	PF	NT	S	NT	NT
D5, D6, D7 Visuals	All treatment strategies may be utilized to manage insects and diseases, to meet the management area objectives Emphasize strategies that improve aesthetics and safety Treatment of bark beetles and root diseases are emphasized	ALL H	ALL	ALL	ALL H	ALL
D9, D10 Roadless	Prescribed fire may be used to help reduce conditions favorable for bark beetle and dwarf mistletoe in ponderosa pine and root diseases in mixed conifer types Control of defoliators may also be done by spraying following an environmental analysis Use of salvage harvest is limited to catastrophic events	PF	PF	S	PF	NT
D11 Developed Recreation Sites	Utilize all methods to prevent or suppress insect and disease outbreaks Emphasize detection and treatment of bark beetle and root disease occurrences, as these relate to providing a safe environment Control of defoliators in the mixed conifer type is also emphasized to meet visual objectives	ALL H	ALL	ALL H	ALL H	ALL

Management Area	Standards & Guidelines	BB 2/	DM 3/	DEF 4/	RR 5/	DM
D13, D14 Riparian Areas	Utilize all methods, except chemical spraying, to prevent or suppress insect and disease outbreaks. Pest management activities must consider the effects on the stands ability to provide shade, bank stability, and large woody material to the stream Minimize use of mechanized equipment (tractors, backhoes, etc)	ALL L	ALL L	ALL	ALL	ALL L
D2, D3 Big Game Emphasis Areas	Take aggressive action to suppress insect or disease caused mortality, where action could prevent loss of winter thermal cover and is cost effective Design harvest and thinning schedule so that no more than 50% of stands would be in moderate to high susceptibility to bark beetle attack	ALL H	ALL L	ALL	ALL	ALL L
D22 General Forest	Utilize an integrated pest management approach to managing insect and disease conditions Aggressive monitoring and detection of pest conditions and populations will be done so corrective treatments can be prescribed early Emphasis will be on the prevention of stand and fuels conditions that will provide favorable habitat for pests to increase above endemic levels Sanitation and salvage harvest treatments will be used where they are appropriate and meet the objectives of the management area	ALL H	ALL H	ALL H	ALL H	ALL H

1/ Treatment Options
NT - No Treatment
PF - Prescribed Fire
S - Spraying
SC - Stocking Control
All- All Methods Used

Emphasis
H - High
L - Low

2/ BB - Bark Beetles

3/ DM - Dwarf Mistletoe

4/ DEF - Defoliators

5/ RR - Root Rots

Management Area Standards and Guidelines
(Grassland Only)

Resource - Grassland Health

Practice
Insects and Disease

Standard and Guideline
Take no action to control insects, disease or noxious weeds unless the outbreak drastically alters the natural ecological processes within the RNA.

Applicable Management Area
MA-D12 Research Natural Areas

Forest Residues

Forest-Wide Standards and Guidelines

Residue Management

Retain the kind and amount of residues needed on-site for the benefit of multiple resources (soil, water, wildlife).

If residues need to be removed, encourage the use of these residues for a mix of appropriate products.

Provide for individual firewood gathering and other family oriented endeavors centered around residue use.

Table D-5 shows Forest-wide averages and ranges of acceptable residue combinations identified from the Photo Series for Natural Forest Residues in Common Vegetation Types of the Pacific Northwest They provide target levels for average loadings in the stand size classes represented by the photos. These are arranged by stand types found on the Forest and provide general guidance on acceptable residue loads on both natural and managed stand conditions. The photo series can be consulted for specific break down into smaller size class combinations that are considered acceptable.

A series of desired residue profiles have been developed to meet the management emphasis for each of the 8 draft management areas on the Forest. See Management Area Standards and Guidelines, Forest Residues, and Table D-6.

Management Area Standards and Guidelines

(Forest Only)

Resource - Forest Residues

Practice

Residue Management

Standard and Guideline

Manage residues through the natural processes of accumulation and decomposition (including natural fire). In the event of activity fuel generation, residues shall be treated to a level consistent with the immediate surroundings in the wilderness and which will protect wilderness values.

Applicable Management Area

MA-D8 Wilderness

Standard and Guideline

Manage residues through the natural processes of accumulation and decomposition (including natural fire regimes). In the event of activity fuel generation, such residues shall be treated to a level consistent with the immediate surroundings. Vegetation and residue mosaic management guidelines may be developed for each area in the future. At that time a mix of desired residue profiles may be identified.

Applicable Management Area

MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D12 Research Natural Areas*

* Only with approval of PNW Station Director

Standard and Guideline

Manage residues to allow natural accumulations of dead and down woody debris Reduce fuel load only if created or natural fuels accumulate to a level likely to result in a catastrophic fire. Fuel reductions should leave adequate downed material to meet the criteria for old growth. Desired residue profiles for this prescription area are approximated by the residue photos in Table D-6 (except for Grassland Old Growth)

Applicable Management Area

MA-D4 Old Growth

TABLE D-5
TONS PER ACRE LOADINGS

	FUEL DIAMETER SIZE CLASSES (INCHES)		
Stand Type	Less Than or Equal To 3	Greater Than 3	Total
MIXED CONIFER			
Average	4 82	9 18	14 0
Range	3 30 - 5 80	2 00 - 15 50	6 8 - 20 9
LODGEPOLE			
Average	4 75	1 25	6 0
Range	2 20 - 9 00	0 80 - 2 10	3 0 - 11 1
PONDEROSA PINE & ASSOC			
Average	3 28	8 52	11,8
Range	0 40 - 5 80	1 00 - 27 60	1 4 -31 8
PONDEROSA			
Average	2 38	9 11	11 5
Range	0 70 - 4 50	0 10 - 44 0	0 8 - 48 5

TABLE D-6
DESIRED RESIDUES PROFILE

The desired residue profile references shown below are extracted from "Photo Series for Quantifying Forest Residues," a cooperative publication by the Pacific Northwest Forest and Range Experiment Station, U S Department of Agriculture, Forest Service, Portland, Oregon, (1976-1980) PNW 52, PNW 95, and PNW 105 This information may be technically confusing to some readers, but it is needed to provide specific direction in lieu of dulicating the photo series document

	STAND TYPE					
FUEL TYPE	PP	LP	MC	TS	GL	Management Area(s)
NATURAL (PNW 105)	7-PP-3 2-PP-4 8-PP-4 3-PP-3		3-PP&ASSOC-3 2-PP&ASSOC-4 1-MC-3 3-MC-3	1-JU-2		MA-F6
	3-LP-3 1/ 8-PP-4 2/					MA-F15
	1-PP-3 7-PP-3 1-PP-4 8-PP-4		3-PP&ASSOC-3 2-PP&ASSOC-4 1-MC-3	1-JU-2	1-JU-1	MA-F7 MA-F25 MA-F26 MA-F27
	1-PP-3		1-MC-3	1-JU-2	1-JU-1	MA-F13 MA-F14 MA-F28
	7-PP-3 2-PP-4 8-PP-4 3-PP-3		3-PP&ASSOC-3 2-PP&ASSOC-4 1-MC-3 3-MC-3		1-JU-2 2-JU-2	MA-F9 MA-F18 MA-F20 MA-F21

FUEL TYPE	PP	LP	MC	TS	GL	Management Area(s)
	7-PP-3	3-LP-3	3-PP&ASSOC-3			MA-F12 MA-F22
THINNING 3/						MA-F7 MA-F25 MA-F26 MA-F27 MA-F13 MA-F14 MA-F28
THINNING (PNW 52 & 95)	1-PP-1TH 1-MC-3-PC 1-PP-1-TH		1-PP-1-TH			MA-F9 MA-F18 MA-F20 MA-F21 MA-F12 MA-F22
PARTIAL CUT (PNW 52)	1-PP-4-PC		1-MC-4-PC			MA-F7 MA-F25 MA-F26 MA-F27 MA-F13 MA-F14 MA-F28
	2-PP-4-PC 3-PP-4-PC 4/		2-PP&ASSOC-4-PC			MA-F9 MA-F18 MA-F20 MA-F21
PARTIAL CUT (PNW 52 & 105)	3-PP&ASSOC-3 2-PP-4-PC	2-LP-3-PC	2-MC-3 (FOR LT 3") 5/ 1-MC-4 (FOR GT 3")			MA-F12 MA-F22
CLEARCUT (PNW 52 & 95)	2-LP-3-PC		1-MC-4-PC			MA-F7 MA-F25 MA-F26 MA-F27 MA-F13 MA-F14 MA-F28
CLEARCUT (PNW 52)	2-PP&ASSOC-4-PC		2-PP&ASSOC-4-PC			MA-F9 MA-F18 MA-F20 MA-F21
	2-PP&ASSOC-4-PC	1-LP-3-CC 2-LP-3-PC	2-PP&ASSOC-4-PC			MA-12 MA-F22

1/ 3-LP-3 For discouraging livestock use
2/ 8-PP-4 For more open conditions
3/ All thinning photos contain too much slash
4/ Jackpot burn recommended if area is greater than 40 acres
5/ The fuel bed depth in this photo is too high Lopping is needed to bring high particle intercept to less than 18"

These are found in "Photo Series for Quantifying Forest Residues," a cooperative publication by the Pacific Northwest Forest and Range Experiment Station, U S Department of Agriculture, Forest Service, Portland, Oregon (1976-1980) PNW 52, PNW 95, and PNW 105

Standard and Guideline
Manage residues to allow natural accumulations of dead and down woody debris A natural appearance consistent with riparian stand types is the goal of activity fuel treatments and vegetation management. Desired residue profile for this management are are approximated by the residue photos in Table D-6.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Allow natural accumulations of dead and down woody debris. Desired residue profiles for this management area are approximated by the residue photos in Table D-6.

Applicable Management Area
MA-D5 Retention

Standard and Guideline
Manage residues to allow light natural accumulations of dead and down woody debris. A natural appearance consistent with stand types is the goal of activity fuel treatments and vegetation management. Desired residue profiles for this prescription area are approximated by the residue photos in Table D-6.

Applicable Management Area
MA-D6 Partial Retention - Foreground
MA-D11 Developed Recreation

Standard and Guideline
Manage residues to maintain site productivity, protect wildlife habitat, and reduce the loss of thermal cover to wildfire. Desired residue profiles for this management area are approximated by the residue photos in Table D-6.

Applicable Management Area
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Standard and Guideline
Manage residues to maintain site productivity, reduce the chance of wildfire damage to timber, enhance forage productivity and access, and provide for wildlife habitat needs. Desired residue profiles for this management area are approximated by the residue photos in Table D-6.

Applicable Management Area
MA-D1 General Forest
MA-D7 Partial Retention - Middleground

Fuelwood

Forest-and Grassland-Wide Standards and Guidelines

General

The fuelwood program should be considered as a means to meet resource objectives in appropriate areas, such as low productivity lodgepole pine stands and bug-killed material in mixed conifer understory.

Fuelwood availability, as well as public demand, will be considered during preparation, administration, and post sale activities associated with timber sales.

Permit removal of only standing dead or down lodgepole pine and juniper for firewood unless otherwise specified.

Sign wildlife trees, which are not to be cut, that are near roadsides or otherwise accessible to firewood cutters.

Commercial Fuelwood

Make commercial fuelwood sales available in areas less accessible to the general public, areas where National Forest funds are expended to make wood available, and areas where control is needed to meet environmental concerns. Examples are:

Contract areas with concentrations of slash where heavy equipment may be required for removal (timber sales, backlog slash, thinning areas).

More remote areas where hauling costs make large loads more economical to haul than small loads.

Areas where timing or environmental constraints require special control.

Beetle or insect infested low value green trees.

Personal Use

The following areas will be used for gathering personal firewood:

Areas with easy access (landings, extensive areas of dead trees, slash piles, forest fires, etc.).

Areas designated and reserved for fuelwood gathering.

Management Area Standards and Guidelines

(Forest Only)

Resource - Fuelwood

Practice
Commercial and Personal Gathering

Standard and Guideline
Commercial and personal use prohibited.

Applicable Management Area
MA-D4 Old Growth
MA-D12 Research Natural Areas

Standard and Guideline
Commercial use prohibited, personal use of down material for on-site use only.

Applicable Management Area
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
All firewood gathering prohibited from December 1 to May 1.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Firewood gathering subject to permit regulations only.

Applicable Management Area
MA-D1 General Forest
MA-D3 Big Game Summer Range
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground

Management Area Standards and Guidelines

(Grassland Only)

Resource - Fuelwood

Practice

Commercial and Personal Gathering

Standard and Guideline

Allow no fuelwood gathering.

Applicable Management Area

MA-D4 Old Growth
MA-D11 Developed Recreation (Cove Palisades State Park)
MA-D12 Research Natural Areas

Standard and Guideline

Allow fuelwood gathering for on site use only.

Applicable Management Area

MA-D5 Retention
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D11 Developed Recreation

Standard and Guideline

Fuelwood cutting areas will only be provided where they will be a tool to provide a proper cover forage ratio for optimum deer winter range.

Do not allow fuelwood cutting when deer are concentrated on the winter range.

Applicable Management Area

MA-D2 Big Game Winter Range (Metolius Deer Winter Range)

Lands

Forest- and Grassland-Wide Standards and Guidelines

Special Uses

Utility Corridors

Coordinate analysis of utility corridors with other Forests and land management agencies. Determine the lead agency and develop a study plan prior to the start of any analysis. Develop environmental analysis and documentation in compliance with the Forest and Grassland Plans, and with procedures set forth in the Regional Guide. Determine the compatibility of each alternative with the management areas affected.

Designation of corridors does not imply entitlement of use and environmental review must precede occupancy on a project-specific basis. Whenever possible, utility rights-of-way will be designated to allow joint use of the right-of-way.

Electronic Sites

Manage Round Mountain Electronic site in accordance with the approved site plan (Ochoco National Forest Analysis File). In accordance with Environmental Assessment Report "Selection of Sites for Electronic Communication Facility Development," 1979, (also Forest Analysis File), the following sites are designated as electronic sites:

Drake Butte
Dry Mountain (existing site)
Mt. Pisgah
Round Mountain (existing site)
Wolf Mountain

Other Uses

Review applications for other uses through the NEPA process

Review special use fees in accordance with the special use fee review schedule (see Appendix A).

Issue special use permits though a prospectus process when a competitive interest has been identified.

Recreation Special Uses

Issue recreational special use permits only after a public need has been demonstrated that applies to a significant number of the recreating public, which may not necessarily include business opportunities.

The experience provided through the permit must be compatible with the Recreational Opportunity Spectrum classification of the management area.

Limit the number of special use permits for a specific use, to the extent possible, in order to minimize administrative costs and to create economic conditions that

provide a high quality public service.

Minimize the impact of special use permits on other users through the operating plans.

Land Ownership Adjustment

Acquire and dispose of lands in accordance with the Land Ownership Map (map packet) and Lands Management Area Standards and Guidelines in the Forest Plan.

Survey and mark property boundaries to prevent encroachments, protect present corners or references where the possibility of disturbance exists, and assist in administration of the Forest.

Public and private land adjustment opportunities have been classified and prioritized.

Management Area Standards and Guidelines

(Forest Only)

Resource - Lands

Practice

Special Use Permits

Standard and Guideline

Compatible uses, such as nondestructive research projects, may be permitted with Regional Forester approval. Land occupancy permits are prohibited. Terminate existing noncompatible permits as opportunities arise. Award outfitter guide permits only when it will meet management objectives to provide a needed wilderness opportunity.

Applicable Management Area

MA-D8 Wilderness

Standard and Guideline

Compatible uses, such as nondestructive research projects and simple fish habitat improvement projects, may be permitted with consent of PNW Station Director. Land occupancy permits are prohibited. Terminate existing noncompatible permits as opportunities arise

Applicable Management Area

MA-D12 Research Natural Areas

Standard and Guideline
Compatible uses, such as nondestructive research projects and simple fish habitat improvement projects, may be permitted with Line Officer approval. Land occupancy permits are prohibited. Terminate existing noncompatible permits as opportunities arise.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Compatible uses are permitted. Terminate existing noncompatible permits as opportunities arise. Land occupancy permits are prohibited.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation

Standard and Guideline
Compatible uses are permitted.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Practice
Land Ownership and Adjustment

Standard and Guideline
Retain and acquire lands that are necessary to maintain or enhance the management emphasis of the specific areas.

Applicable Management Area
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D4 Old Growth
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized

MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D12 Research Natural Areas

Standard and Guideline

Consolidate land ownership to increase management efficiency by reducing administrative costs and increasing goods and services.

Applicable Management Area

MA-D1 General Forest
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Practice

Rights-of-Way Grants for Roads and Trails, and Cost-Share Agreements

Standard and Guideline

Grant no rights-of-way; enter into no cost-share agreements, except as prescribed by law.

Applicable Management Area

MA-D8 Wilderness
MA-D12 Research Natural Areas

Standard and Guideline

Grant rights-of-way, and enter into cost-share agreements, only when no other reasonable alternatives exist to maintain the integrity of the management area.

Applicable Management Area

MA-D4 Old Growth
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline

Grant rights-of-way, and enter into cost-share agreements, only when no other reasonable alternatives exist to maintain the integrity of the management area. Include stipulations to prohibit activities from December 1 to May 1.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Grant rights-of-way, and enter into cost-share agreements, that are compatible with the management areas emphasis.

Applicable Management Area
MA-D1 General Forest
MA-D3 Big Game Winter Range
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground

Practice
Federal Energy Regulatory Commission Licenses and Permits

Standard and Guideline
Allow uses that are compatible with management emphasis for the specific areas.

Applicable Management Area
All Management Areas except wildernesses and RNA's

Standard and Guideline
Stipulate additional restrictions to prohibit activities from December 1 to May 1.

Applicable Management Area
MA-D2 Big Game Winter Range

Practice
Utility and Transport Corridors

Standard and Guideline
Exclusion Areas for utility corridors; significant barriers in which legislation exists to preclude establishment and use.

Applicable Management Area
MA-D8 Wilderness
MA-D12 Research Natural Areas

Standard and Guideline
Category 1 Avoidance Areas for utility corridors; establishment and use of corridors conflict with management objectives.

Applicable Management Area
MA-D4 Old Growth
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Establishment and use of utility corridors must be compatible with management emphasis for the specific areas. Additional stipulation to prohibit activities from December 1 to May 1.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Establishment and use of utility corridors must be compatible with management emphasis of the specific areas.

Applicable Management Area
MA-D1 General Forest
MA-D3 Big Game Summer Range
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Management Area Standards and Guidelines
(Grassland Only)

Resource - Lands

Practice
Land Ownership and Adjustment

Standard and Guideline
Cooperate with the State in defining optimum ownership patterns and lease terms.

Applicable Management Area
MA-D11 Developed Recreation (Cove Palisades State Park)

Standard and Guideline
Retain and acquire all lands in National Forest System ownership. Seek transfer of Bureau of Reclamation (BOR) lands to the Forest Service.

Applicable Management Area
MA-D11 Developed Recreation (Haystack)

Standard and Guideline
Retain old growth lands unless they are small isolated blocks surrounded by privately owned lands.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Retain all lands and acquire inholdings.

Applicable Management Area
MA-D12 Research Natural Areas

Practice
Special Uses

Standard and Guideline
Allow only minimal, temporary or semipermanent research facilities and installments.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Consider relocating the existing powerline outside the area when the special use permit comes up for renewal.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized (Squaw Creek)

Standard and Guideline
Allow only special use permits for activities that are consistent with the visual management objectives for the area.

Applicable Management Area
MA-D5 Retention
MA-D6 Partial Retention - Foreground

Practice
Rights-of Way

Standard and Guideline
Obtain the right-of-way for the trail to Alder Springs. Permit private landowners access only to private land during seasonal road closures.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized (Squaw Creek)

Standard and Guideline
Establish no exclusion areas on the Grassland. Avoidance areas include Squaw Creek, Haystack RNA, Island RNA, Rimrock Springs, and antelope winter range.

Corridor widths are 1000 feet for each existing corridor. Discourage development of additional facilities. Confine additional facilities to existing corridors. Require present facilities to be upgraded before allowing new facilities.

Designation of corridors does not imply entitlement of use.

Evaluate application for use on a project-by-project basis.

Where possible, encourage joint use of the rights-of-way.

Additional utility rights-of-way or corridors may be identified and approved subject to site specific environmental analysis.

Applicable Management Area
All management areas.

Minerals & Energy

Forest- and Grassland-Wide Standards and guidelines

Leasing
Include stipulations needed to protect surface resources and/or meet management objectives in leases. Refer to management area standards and guides for specific guidance.

Issue leases with a stipulation stating "no surface occupancy" on slopes greater than 40 percent.

Evaluate surface-use plans of operation through the environmental analysis and documentation process.

Common Variety Minerals

Use existing sources instead of developing new sources; exceptions include:

when existing sources are unable to economically supply the quantity and quality of material needed; and

when conflicts with other resource uses are found to be unacceptable.

Cinder, hardrock, and gravel sources which are available for use during the planning period are designated on the Material Source Map (Grassland Plan, Appendix I).

Evaluate the supply of gravel or aggregate on the Forest before selling to the private sector. Insure that the public interest is being maintained during this process.

Sell minor amounts of clay, sand, and stone to the public on a case-by-case basis.

Develop a management plan describing development and reclamation for each mineral material source to be developed or used during the planning period.

Proposals for capital investments and improvements on structures, which may occur on known material source deposits, should be analyzed within the context of management direction within this plan. Do not unnecessarily reduce options for future removal of materials, by making significant investments on sources when equally viable options exist in other areas.

Mining Claim Administration

Administer appropriate laws and regulations relating to minerals in a reasonable and consistent manner.

Assure that operating plans include reasonable and operationally feasible requirements needed for timely and effective coordination with other resources.

Require that reclamation plans describe final management objectives for specific mined areas and detail reasonable procedures and time frames which will be followed to accomplish those objectives. Formulate reclamation bond amounts on actual reclamation costs.

Under the mining laws, claimants are entitled to access to their mining claims. Analyze access for exploration and development of locateable mineral resources through the environmental analysis process, and include reasonable provisions for access in operating plans.

Notify mining claimants of impending Forest Service actions that may affect their claims. Protect claim corners and mine workings from disturbance resulting from Forest Service activities

Recommend withdrawal from mineral entry when an established or anticipated use is not compatible and cannot be mitigated as part of the mineral entry.

Rockhounding

Rockhounding (hunting and collecting rocks and minerals as a hobby) on land under Forest Service jurisdiction will be allowed without a permit, providing: the activity does not conflict with existing rights, and specimens are used for personal, noncommercial use. Activities involving other than casual removal of small amounts of material with minimal surface disturbance are provided for under the mining laws or Materials Act

Management Area Standards and Guidelines

(Forest and Grassland)

Resource - Minerals and Energy

Practice
Oil And Gas Leasing

Standard and Guideline
Issue no leases.

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
Issue leases with consent of PNW Station Director only Include a "no surface occupancy" stipulation.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Issue leases with a "no surface occupancy" stipulation.

Applicable Management Area
MA-D4 Old Growth
MA-D11 Developed Recreation
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Issue leases with a seasonal use stipulation prohibiting exploration, drilling and other development activity from December 1 to May 1. This limitation does not apply to maintenance and operation of producing wells.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Issue leases with a stipulation requiring drilling and storage facilities to be set back a specified distance from the area or feature.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition (Outside of management area)
MA-D14 Riparian in Excellent Condition (Outside of management area)

Standard and Guideline
Issue leases with a stipulation requiring all permanent and semipermanent facilities to blend into the surrounding landscape or be located out of view.

Applicable Management Area
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground

Standard and Guideline
No special restrictions.

Applicable Management Area
MA-D1 General Forest
MA-D3 Big Game Summer Range

Practice
Locatable Minerals (Mining Claims)

Standard and Guideline
The following areas are withdrawn from mineral entry under the mining laws. Prospecting will be allowed if conducted in a manner compatible with the wilderness environment

Applicable Management Area
MA-D8 Wilderness

(except existing valid claims)

Standard and Guideline
The following areas are withdrawn from mineral entry under the mining laws.

Applicable Management Area
MA-D12 Research Natural Areas(Ochoco Divide only)
MA-D11 Developed Recreation (Delintment Lake and Walton Lake Campgrounds only)
MA-D5 Retention (600 ft. right-of-way corridor only)

Standard and Guideline
Recommend withdrawal from mineral entry.

Applicable Management Area
MA-D12 Research Natural Areas (Dry Mountain, Silver Creek and Stinger Creek)

Standard and Guideline
Include reasonable measures in operating plans in order to meet management emphasis for the specific areas. Include stipulation to prohibit activity from December 1 to May 1.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Include reasonable measures in operating plans in order to meet management emphasis for the specific areas.

Applicable Management Area
MA-D1 General Forest
MA-D3 Big Game Summer Range
MA-D4 Old Growth
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D8 Wilderness (existing claims)
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Practice
Common Variety Minerals

Standard and Guideline
Do not develop material sources.

Applicable Management Area
MA-D4 Old Growth
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D12 Research Natural Areas
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Do not remove material from sources from December 1 to May 1.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Material sources development allowed.

Applicable Management Area
MA-D1 General Forest
MA-D3 Big Game Summer Range

Old Growth

Forest- and Grassland-Wide Standards and Guidelines

All old growth stands meeting the definition stated in the Regional Guide, 1984 will be periodically inventoried and monitored. Juniper old growth on the Grassland does not meet this definition.

Specific allocations have been made to provide habitat for old growth dependent species, with the pileated woodpecker as the indicator species. A portion of these acres are included in wilderness, roadless areas, and Research Natural Areas due to the distributional needs of dependent species. See management area standards and guidelines for Wildlife and Fish.

Other old growth (including juniper on the Grassland), outside of that allocated for wildlife habitat, is also available throughout the Forest, but subject to less stringent standards and guidelines, depending on the management area in which it is found.

For example, old growth stands currently existing in visual management areas, or riparian areas are available for management and will decline over time.

Old growth in research natural areas, wilderness, and roadless areas, but not included in the wildlife habitat allocation, are also subject to the standards and guidelines for the respective management areas (i e. underburning in wilderness and research natural areas).

Recreation

Forest- and Grassland-Wide Standards and Guidelines

General

Recreational activities will be managed to prevent site deterioration within riparian areas.

Developed Sites

Prepare comprehensive and detailed site plans prior to rehabilitation, expansion, or construction projects.

Dispersed Recreation

Provide facilities needed to protect public health and safety (e.g portable toilets, campfire rings, and environmental protection)

Off-Road Vehicles (ORV'S)

ORV use varies by management area.

ORV use will be limited to over snow vehicles on scablands (See Soils Standards and Guidelines).

Trails

Construct and maintain the trail system to standards suitable for type and amounts of use. Maintain trails to prevent resource damage, protect the

investment in the system and provide for user safety. In areas of concentrated use, trails should be designed and maintained to minimize impacts on riparian communities.

Encourage volunteer groups or individuals to maintain or construct parts of the trail system.

Additional direction on trails is contained in specific management area prescriptions.

Management Area Standards and Guidelines

(Forest Only)

Resource - Recreation

Practice
Wilderness Recreation Spectrum (WRS)

Standard and Guideline
Primitive and Semiprimitive.

Applicable Management Area
MA-D8 Wilderness

Practice
Recreation Opportunity Spectrum

Standard and Guideline
Semiprimitive Nonmotorized.

Applicable Management Area
MA-D4 Old Growth
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Semiprimitive Motorized.

Applicable Management Area
MA-D10 Semiprimitive Motorized

Standard and Guideline
Roaded Natural.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Roaded Natural, Roaded Modified or Rural.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D4 Old Growth
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D11 Developed Recreation

Practice
Developed Recreation

Standard and Guideline
Develop no interpretive, demonstration, or recreational sites.

Applicable Management Area
MA-D4 Old Growth
MA-D8 Wilderness
MA-D12 Research Natural Areas

Standard and Guideline
Do not locate developed sites in floodplains unless no feasible alternative sites exist outside floodplains. (Executive Order 11988).

All activities within floodplains must meet water quality standards and goals.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Trails, trail heads and trail shelters may be built to facilitate nonmotorized recreation. Minimum site modifications are allowed. Some minor improvements at high use camp sites, such as fire pits, may be allowed.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Developed camp sites may be opened to the public from May 1 to December 1. New or additional developed campgrounds must be analyzed in a site specific plan.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Prepare environmental assessments, design narratives and site plans prior to rehabilitation, expansion, or construction projects.

Applicable Management Area
MA-D11 Developed Recreation

Practice
Dispersed Recreation

Standard and Guideline
Discourage recreational activities and use, including overnight camping, and pack and saddle stock use.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Manage to protect the naturalness of the areas. Use of the areas for nonmotorized recreation is acceptable, but should not be encouraged

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Where conflicts develop, riparian objectives will take precedence over dispersed recreational needs.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Promote driving for pleasure and mountain biking.

Applicable Management Area
MA-D5 Retention

MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground

Standard and Guideline
Develop a variety of ATV routes for a variety of terrain and experience levels.

Applicable Management Area
MA-D1 General Forest
MA-D10 Semiprimitive Motorized

Standard and Guideline
Promote backcountry recreational opportunities for hiking, horseback riding, and mountain biking.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Camp Sites
Discourage development of "permanent" dispersed campsites. Disguise, obliterate, or rehabilitate such campsites when found.

Allow no caching of camping supplies.

No more than two campsites will be visible or audible from any other campsite (within 500 feet).

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
Encounters
Primitive Area, encounters per day 80% of the time: seven or less

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
Semiprimitive Area, encounters per day 80% of the time: 12 or less

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
Group Size

Maximum permissible group size: 12 people

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
Camp Sites

No more than two camp sites should be visible or audible from any other camp site (within 500 feet).

Encounters

During all use periods there should be no more than 10 other groups encountered per day.

Group Size

The maximum permissible party size is 12 people with 18 head of livestock.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Close area to camping from December 1 to May 1 except within 300 feet of designated access roads.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Utilize minimum on-site controls and restrictions to protect resources and promote safe use of the area.

Applicable Management Area
MA-D10 Semiprimitive Motorized

Standard and Guideline
Provide recreational improvements where needed to protect the resources or sites.

Sites receiving recurring use should be checked periodically for safety considerations (water sources, hazard trees).

Recommend the "pack it out policy" for garbage. Promote "leave no trace" camping techniques.

Applicable Management Area
MA-D1 General Forest
MA-D3 Big Game Summer Range

Practice
Search and Rescue

Standard and Guideline
Use of motorized vehicles for search and rescue must be approved by the Forest Supervisor.

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
Use of motorized vehicles for search and rescue must be approved by the District Ranger.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Practice
Signing

Standard and Guideline
Use minimum natural-appearing signing in wilderness areas identifying destinations, but not mileages.

Applicable Management Area
MA-D8 Wilderness

Practice
Trails

Standard and Guideline
Coordinate trail and trailhead planning to disperse users and offer a range of challenges. Design trails to blend with landscape, and construct with native materials

Applicable Management Area
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
No motorized or mechanized use allowed on trails.

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
No motorized use allowed on trails.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
No motorized use of trails, except snowmobiles operating on designated routes, and on an adequate snow base between December 1 and May 1.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Motorized use on designated trail routes is allowed. Restrict motorized use during the period December 1 to May 1.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
No motorized use of trails except on designated routes for research purposes.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
No motorized use of trails except on designated routes.

Applicable Management Area
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D3 Big Game Summer Range
MA-D5 Retention
MA-D6 Partial Retention - Foreground

MA-D7 Partial Retention - Middleground
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Motorized use of trails encouraged on designated routes. Off-trail use will be discouraged.

Applicable Management Area
MA-D1 General Forest

Management Area Standards and Guidelines

(Grassland Only)

Resource - Recreation

Practice
Recreation Opportunity Spectrum

Standard and Guideline
Semiprimitive nonmotorized except for Road 6360 corridor.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Practice
Dispersed Recreation

Standard and Guideline
Protect the environment in and around dispersed camp sites.

Do not encourage dispersed recreational use during the time antelope and deer are concentrated on the winter range.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Use of the area for nonmotorized recreation is acceptable.

Applicable Management Area
MA-D4 Old Growth

Practice
Trails

Standard and Guideline
Allow existing trails to remain as long as the RNA objectives are not compromised.

Construct no new trails unless needed for research purposes.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Relocate trails to avoid wet areas.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Practice
Off-Road Vehicle Use

Standard and Guideline
Allow ORV use on designated routes where such use will not conflict with other resources. Restrict ORV use when conflicts with management area objectives will occur.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Scenic Resources

Forest- and Grassland-Wide Standards and Guidelines

Manage for the visual quality objectives (VQO's) listed for each management area. See management area standards and guidelines for SCENIC RESOURCES.

Where natural catastrophes such as large wildfires, insect epidemics, or windthrows occur, management activities may differ from stated visual quality objectives.

In areas of the Forest managed for "modification" or "maximum modification," be sensitive to the needs of the viewing public by utilizing cost-effective visual management techniques while meeting the emphasis of the management area. Examples of these techniques may include:

Leaving desirable looking seed-trees in regeneration units.

Modifying harvest boundaries to eliminate "sharp line" effects.

Construction of facilities, roads and other physical structures, with native materials, where possible.

Management Area Standards and guidelines

(Forest Only)

Resource - Scenic Resources

Practice
Visual Quality Objective (VQO)

Standard and Guideline
Preservation.

Applicable Management Area
MA-D8 Wilderness
MA-D12 Research Natural Areas

Standard and Guideline
Retention.

Applicable Management Area
MA-D4 Old Growth

MA-D5 Retention
MA-D9 Semiprimitive Nonmotorized
MA-D11 Developed Recreation

Standard and Guideline
Partial Retention.

Applicable Management Area
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D10 Semiprimitive Motorized
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Maximum Modification.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Management Area Standards and Guidelines

(Grassland Only)

Resource - Scenic Resources

Practice
Visual Quality Objectives (VQO's)

Standard and Guideline
Preservation.

Applicable Management Area
MA-D8 Wilderness
MA-D12 Research Natural Areas

Standard and Guideline
Retention.

Applicable Management Area

MA-D4 Old Growth
MA-D5 Retention
MA-D9 Semiprimitive Nonmotorized
MA-D11 Developed Recreation

Standard and Guideline
Partial Retention.

Applicable Management Area
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Maximum Modification.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Social and Economic

Forest- and Grassland-Wide Standards and Guidelines

Human Resources

Minimize social, cultural and administrative barriers to legitimate uses of the Forest, within the legal authority of the agency.

Maintain and implement an affirmative action plan.

Consider needs of the handicapped in the design of facilities and in other possible ways.

Conduct compliance reviews as required by the Title VI of the Civil Rights Action of 1964

Inform the general public, including minorities and the underprivileged, of benefits they are eligible to receive from Forest and Grassland programs. Use techniques and the media best suited to increase awareness and participation

Protect and preserve for American Indians, access to, and use of traditional sites, possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. Coordinate location and protection of these areas with representatives of the Confederated Tribes of the Warm Springs Indian Reservation and Burns Paiute tribes. Consider the plans and policies of other Federal, State, local, and American Indian tribal governments in plan implementation

Consider and provide for the ceded land rights (treaty rights) of the Warm Springs Confederated Tribes in all Forest related management activities (cf. Middle Oregon Treaty of June 25, 1855)

Coordinate resource activities with the designated representatives of the Confederated Tribes of the Warm Springs Indian Reservation.

Soil

Forest- and Grassland-Wide Standards and Guidelines

General

The standards and guidelines stated below apply to all proposed activities occurring on the Ochoco National Forest. Other standards and guidelines are specific to certain types of activities, such as timber harvesting and road building, and are listed under those sections in order to increase the ease and effectiveness of management direction.

Compaction, displacement, puddling, and severely burned soils are to be considered collectively, when assessing impacts.

Watershed Management

Even though watershed effects are the cumulative result of all activities occurring in a particular watershed (including road building, recreation, grazing, etc.), timber management has the greatest potential for detrimental impacts. Therefore, Forest-wide standards and guidelines have been established and designed in the appropriate context, towards timber harvest scheduling and dispersion (see Forest-wide Standards and Guidelines-Timber).

Soil Compaction and Displacement

The threshold level of detrimental compaction is defined as any bulk density increase of 15 percent or more, or any macro pore space reduction of 40 percent or below 15 percent. These values are critical changes over the natural state in the top 12 inches of soil.

In order to maintain site productivity, all project activities will be planned to reduce soil compaction and displacement to the lowest reasonable level. Strive

to reduce compaction and displacement to get as close to 90% of the total activity area (including permanent, rocked, and non-surface roads) remaining in a non-compacted/non-displaced condition, as realistically possible, one year after any land management activity. The minimum will be 80 percent of the total activity area. Existing areas exceeding these standards will be scheduled for rehabilitation as soon as possible.

Surface Soil Erosion

Land management activities will be planned to achieve effective ground cover as defined by the classes shown in Table D-7.

TABLE D-7
Soil Resource Inventory Minimum % Effective Ground Cover

Erosion Hazard Class	First Year	Second Year
Low	20-30	30-40
Moderate	30-40	40-50
Severe	50-60	60-75
Very Severe	60-75	75-90

Effective ground cover is defined as the basal area of perennial vegetation, plus litter and coarse fragments (greater than 2mm sizes), including tree crowns and shrubs that are in direct contact with the ground. Exceptions may occur where specific projects meet erosion control objectives without meeting the ground cover objectives stated above.

Soil Mass Wasting

When a project could result in an increased potential for mass wasting, which could cause significant soil loss or sedimentation, hazards to property, loss of fish habitat, or damage to other resource values, alternative project proposals will be evaluated and documented through the project's environmental analysis.

An activity area is the total area for which a ground-impacting activity is planned, for example, a unit for a timber sale, slash disposal project, grazing allotment. The area would also include transportation systems within and directly adjacent to the project.

Fragile Areas

Recognize the sensitivity and potential of certain areas and/or situations to be adversely affected by management activities and plan accordingly to minimize those effects. Fragile areas include scablands (shallow soil areas), elk wallows, and other isolated soil areas which exhibit sensitivities that require special care.

Scablands

Scablands are recognized as among the most fragile ecosystems on the Ochoco National Forest. Damage to the soil and vegetation as a result of management activities is nearly impossible to mitigate. This is a result of their having very shallow soils which are subject to severe water saturation and frost heaving during winter, thus making revegetation virtually impossible. For this reason, all management activities will be analyzed as to their affect on scablands, prior to implementation. Use *Plant Communities of the Blue Mountains in Eastern Oregon and Southwestern Washington,* Hall, 1973, to identify scabland plant communities.

Other standards and guidelines for scablands are specific to certain types of activities, such as timber harvesting, livestock grazing, and road building, and are listed under those sections.

Management Area Standards and Guidelines

(Forest Only)

Resource - Soil

Practice
Soil Conditions

Standard and Guideline

Limit displacement and erosion to a rate that approximates natural processes. Soil compaction should not exceed limits that prevent plant establishment except at some campsites and in designated trail tread.

Locate, relocate, or close campsites to prevent excess soil erosion and compaction when necessary.

Correct areas of human-caused soil instability which contribute to resource degradation, utilizing measures compatible with the Wilderness objectives.

Manage for no human-caused change in rock formations.

Applicable Management Area

MA-D8 Wilderness

Standard and Guideline

Allow activities that do not conflict with the objectives of RNA's, such as special studies, monitoring, and research. Develop soil rehabilitation plans to implement in the event of soil disturbing activities such as fire suppression.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Limit erosion to a rate that approximates natural processes. Soil compaction should not exceed limits that prevent plant establishment.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Limit erosion to a rate that approximates natural processes. Soil compaction should not exceed limits that prevent plant establishment except at some camp sites or on designated trails.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
No more than 10 percent of an activity area can be compacted or displaced to a degree which degrades vegetative productivity.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Management Area Standards and Guidelines

(Grassland Only)

Resource - Soil

Practice
Soil Conditions

Standard and Guideline
Develop soil rehabilitation plans. Implement in the event of soil disturbing activities such as fire suppression.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Maintain 90 percent of the area in an acceptably productive condition.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Timber

Forest-Wide Standards and Guidelines

Suitable Forest Land

Regulated timber harvest will only be allowed on lands classified as available, capable and suitable. Lands currently classified as suitable but found unsuitable in project analysis will be identified as such on planning maps and treated as unsuitable.

Where unmapped, unsuitable lands are found, project implementation will recognize these areas and plan mitigation measures to avoid adverse impacts. An example of this may be small slumps (unstable soil areas) where soil disturbing activities are avoided.

Silviculture

Prepare silvicultural prescriptions for all activities proposing the management of trees or timber stands to meet resource management objectives. Prescriptions will be recorded in analysis files and stand records.

All prescriptions will be prepared or approved by a Certified Silviculturist.

Elements required in a silvicultural prescription are documented in FSH 2470, the Silvicultural Examination and Prescription Handbook, and by Regional direction. No standardized format will be required, but all requirements must be addressed in the prescriptions or through project environmental analysis.

Plant communities of the Blue Mountains in Eastern Oregon and Southeastern Washington, Hall, 1973, or any future accepted guide, will be used as a guide to site productivity of forest communities and for other applicable management considerations.

The silvicultural prescription should consider integrated pest management. Pests refer to any biotic or abiotic influence on the Forest, including insects, diseases, atmospheric deposition, silvicultural treatments, harvesting practices, and competing vegetation.

Develop site-specific prescriptions to provide for biological diversity and ecosystem function, including consideration for long-term productivity. Vegetation management should allow for all natural species to function. None should be eliminated from the site.

Silvicultural prescriptions must provide for snags, and trees for future snags, that will meet the habitat requirements for cavity nesting species, according to management area objectives (see Management Area Standards and Guidelines for Wildlife and Fish); exceptions could be fuelbreaks or situations where snags could cause a safety hazard. During preparation of marking guides, include provisions which specify that damaged, defective, or low value trees be used for replacement snags as much as possible, especially in commercial thinnings. However, take precautions not to leave disease ridden trees that may spread infection to adjacent healthy trees.

Retain trees whose roots stabilize streambanks along Class III and IV streams, especially where fair to poor streambank stability conditions exist. Generally large mature trees provide bank stability for a distance of 5 to 10 times the diameter of the trunk, though this area of influence may be considerably larger. Understory trees and juniper play a role in bank stability in an area approximately equal to their crown diameter. Merchantable trees may be removed if sufficient trees remain to provide root strength for bank stability or if streambank stability is good or excellent and shade and large woody debris are present in sufficient amounts.

Stand examinations and/or other data gathering processes will be used to verify or develop silvicultural prescriptions.

A regeneration system providing the desired establishment conditions will be selected. Leave trees per acre and leave basal area per acre for seed tree or shelterwood systems will be silviculturally prescribed on a site specific basis.

Uneven-aged Management

The application of uneven-aged management is characterized by stands which contain at least two well defined age classes. Even-aged aggregations of trees within these uneven-aged stands should be of a size such that regeneration never loses the protection of the adjacent older age classes. Regulation of the rate of harvest within uneven-aged stands requires the control and maintenance of a desired distribution of size classes.

Uneven-aged management can be applied using either individual tree or group selection silvicultural systems. The decision to apply either system should be based on actual stand and site conditions.

Uneven-aged management is applicable to immature, mature, and overmature stands of essentially pure ponderosa pine within the ponderosa pine community types. Uneven-aged management can be most readily applied to relatively vigorous pure stands of ponderosa pine which display an uneven or mixed stand structure.

Uneven-aged management is most applicable to the mature and overmature stands within the pine/associated community types, but only where silvicultural activities will result in stands dominated by early successional species, including ponderosa pine and western larch. Dominance in these community types is established when stocking by early successional species can be maintained at or above 50 percent of the minimum stocking level basal area established in the silvicultural prescription, on 80 percent of the treated acres. As an objective, dominance by early successional species should assure long-term stand health and vigor, as well as provide for the final harvest of preferred species as planned in the silvicultural prescription.

Stands which are severely understocked, overmature and single-storied, decadent, heart-rotted, or are producing little net growth are generally poor candidates for uneven-aged management.

Uneven-aged management is not recommended in lodgepole pine community types.

Uneven-aged management is applicable where there is reasonable assurance that natural regeneration of acceptable genetic quality and diversity will occur within 10 to 15 years. Planting or interplanting is also appropriate to maintain acceptable genetic quality and/or diversity, dominance by early successional species, or to assure timely regeneration under extremely harsh site conditions.

Uneven-aged management is most applicable on slopes less than 30 percent where tractors normally operate.

Uneven-aged management is most applicable where the total area impacted by detrimental soil compaction, erosion or displacement can be restricted to less than 20 percent of the stand

Uneven-aged management is most applicable where stands are free from dwarf mistletoe. Where stands are lightly infected, uneven-aged management is applicable only where dwarf mistletoe can be confined to the lower half of the tree crowns and within a single canopy layer. The infection of lower canopy layers by upper canopy layers should be avoided. The objective is to maintain stand growth within 80 percent of its disease-free potential.

Uneven-aged management is most applicable where stands are free from root rots. Where stands are lightly infected, uneven-aged management is applicable only where root rot can be managed to maintain stand growth within 80 percent of its disease-free potential. Root rot centers should be managed using even-aged systems.

Silvicultural prescriptions should be designed to maintain or improve the existing size class diversity and uneven-aged structure. Emphasis should be given to managing the existing growing stock. The existing relationship between trees in all size classes, and the condition of those trees, should be considered first as a basis for developing marking guidelines, rather than the ultimately desired size class distribution or upper diameter limit.

Timber harvest and post sale activities should generally be planned on a 20-year entry cycle. All post sale activities should be completed within nine years following the harvest entry. Stands should not be salvage logged at other than the prescribed entry cycle except where wildfire, bark beetles, disease, or other conditions have created catastrophic mortality.

No minimum or maximum sized stand treatment units are specified where an uneven-aged structure can be maintained throughout the stand treatment unit. An average treatment unit of approximately 100 acres or larger is recommended to facilitate inventory and record keeping needs.

Timber marking guidelines should be developed which retain the most vigorous trees of best quality. First priority for leave trees are those with demonstrated good vigor. Second priority are those trees which will produce high value products in the future.

Following each commercial harvest entry, post sale activities should emphasize natural regeneration and stocking level control. Where natural regeneration is a planned objective, post sale activities should be closely coordinated to produce disturbance to the litter and vegetation as necessary for natural regeneration to occur.

Timber harvest, fuel treatment, and site preparation activities should strive to avoid damage to residual trees.

Treatment areas will be coordinated with wildlife habitat needs for cover. Silvicultural prescriptions will address the size, spacial arrangement, and opportunities presented by the existing vegetation within a treatment area.

Pruning may be done where it is economically efficient to produce clear, quality lumber.

Even-aged Management

General

Size of units for intermediate treatments, over-wood removal treatments, and precommercial thinning will be determined through the interdisciplinary process during environmental analysis. Normally these units will not exceed 100 acres. Possible exceptions are stands which have a high susceptibility to insects and disease or where they are exhibiting retarded growth due to disease.

Vegetation diversity will be considered when preparing prescriptions and schedules for large homogenous areas that are generally the same age, in order to provide a mosaic of stands at different conditions and ages.

Rotation Age

The minimum rotation age (at which stands are scheduled for harvest) will be the age at which the mean annual increment (MAI) is equal to or greater than 95 percent of culmination of mean annual increment (CMAI) Harvesting may be at older stand ages to meet specific management objectives (see management area standards and guides for Timber).

Dispersion

The maximum size of a created opening will be 40 acres, except when openings up to 60 acres will be allowed:

When larger created openings will reduce the disturbance to soil, water, fish, or riparian resources, and residual vegetation by: (1) allowing economically feasible logging systems that reduce landing and road construction, or (2) locating roads away from unstable soils, and (3) reducing soil and vegetation disturbance from dragging logs.

Where groups of dwarf mistletoe or root rot disease infected trees need to be incorporated into the created opening to avoid infection, and their inclusion cannot be achieved by centering the created opening over the area of infection.

Where the visual quality objectives require shaping and blending of openings to fit landforms.

When natural catastrophic situations such as fires, windstorms, or insect and disease attacks occur.

On an individual case basis, after a 60-day public notice and review by the Regional Forester.

A harvested area will no longer be considered a created opening when (a) trees are four and one half (4.5) feet tall, free to grow, and meet minimum stocking requirements, or (b) when the vegetation in the harvested area meets the management area objectives, emphasis and desired future condition as stated in Section 3, Management Area Prescriptions, this chapter.

Created openings will be separated by blocks of land generally not classed as created openings as described above. The blocks of land between created openings shall vary in size and contain one or more logical harvest units. These blocks of land shall be large enough and of a stand structure appropriate to meet resource requirements of the Forest Plan.

Openings to be created contiguous to natural openings should receive an exceptional level of attention during the analysis and prescription for treatment since natural openings are recognized as important or critical. The decision to create openings contiguous to natural openings shall be supported by prescriptions specific to individual natural openings or to a group of natural openings where their importance is diminished by more frequent occurrence. Created openings should generally not exceed 1/3 the size and/or be contiguous to more than 1/3 the edge of a natural opening where the natural opening exceeds 30 acres in size. Limitations for created openings contiguous to natural openings less than 30 acres in size will be subject to the interdisciplinary decision making process and its review of land management objectives.

Reforestation

Stocking

Forest stocking guides will be utilized to assess adequate stocking on all regeneration units prior to certifying them as being satisfactorily reforested (See Table D-8 below).

TABLE D-8
STOCKING STANDARDS AT 4.5 FEET

	Level	
	Recommended	Minimum
Pine Low Site Tractor 1/	50-200	2/ 50
Ponderosa Pine Tractor Cable	150-300 125-250	3/ 75 3/ 75
Mixed Conifer Tractor Cable	150-350 150-300	3/ 75 3/ 75

1/ No reforestation work planned for cable ground on low site

2/ Overstory will not be removed if stocking is below this level

3/ Replanting or additional effort will be required if stocking is below this level Area can not be certified as stocked, and will need to be reported as a failure.

Standards are established for each of the three timber types (low site pine, ponderosa pine, and mixed conifer) and by logging method (tractor or cable). They are based on 4.5 feet tall crop trees (usually between five and ten years of age). Make allowances for expected mortality and natural fill in that will occur prior to crop trees reaching 4.5 feet, based on staked tree and/or stocking surveys of similar stands. If rework is necessary, the stocking should be brought to the recommended level.

Recommended range of stocking is that which will produce the yields predicted in the Forest Plan. A variety of harvesting and cultural activities are allowed for, so recommended stocking varies to cover this range.

Tree species used in planting harvest units should be based on the potential of the site as indicated by plant communities. Consideration should be given to regenerating and maintaining a mixture of species, where appropriate for the site.

The recommended stocking for each stand will be established by the silviculturist in the prescription, based on local conditions and objectives, with consideration given to meet costs and outputs projected in the Forest Plan.

Natural regeneration opportunities will be taken advantage of if acceptable genetic quality and diversity is likely to result. If artificial regeneration is necessary, the recommended method will be to plant.

Planting should generally not be prescribed for low site pine types.

In clearcut units, site preparation should normally be completed within two years of harvest. Planting shall occur within one year of site preparation. Exceptions can occur, but only for resource objectives that have been documented through environmental analysis. These units should be suitable and certified as satisfactorily reforested three years after planting.

Planting will be done with seed from selected trees for all ponderosa pine seedlings and for other species when available.

Precommercial Thinning

Precommercial thinning is recommended when:

Existing overstocking will reduce future yields below predicted or planned levels (1973, op cit) which varies by Hall's Community Types and management emphasis.

The expected return from increased timber production and value exceeds the cost of precommercial thinning.

It is consistent with management objectives.

Stands with an average DBH over six inches should not be precommercially thinned, except when threatened by insects and disease. Sanitation cutting may be done to control mistletoe, or to remove defective or damaged trees that will not make a merchantable product.

The maximum acceptable stocking for ponderosa pine is 450 trees per acre, and for mixed conifer is 500 trees per acre. If the DBH for the stand is under three inches (excluding trees planned for overstory removal, if any) include all trees. If DBH is three inches or larger, exclude seedlings under 4.5 feet high from the trees per acre calculations.

There needs to be at least minimum stocking in trees capable of responding to release. This includes a minimum of 30 percent with live crown ratio, and sufficiently free of disease (such as mistletoe) or damage, to make a merchantable product.

Consider economics, as well as stocking, mistletoe (disease), and management objectives as criteria before arriving at decisions to precommercially thin stands. Thinning must be determined to be economically viable and to meet management prescription objectives.

Thinnings should retain a diversity of species based on site potential.

Harvest Schedule

Allowable Sale Quantity

The allowable sale quantity (ASQ) is planned to remain constant over the next five decades and beyond (See Objectives for Timber, Section 1 of this Chapter). The ASQ represents projected, potential outputs based on available inventory and assumptions, and accountability is on a decade basis. The planned harvest does not infer a commitment on the part of the Forest to supply the stated level on a regular basis, but rather states the maximum output available, subject to budgetary constraints and the broad discretion of the agency.

Salvage

Salvage volume is standard sound material from dead or dying trees, standing or down, that is calculated outside of the planned ASQ. Harvest levels will vary from decade to decade and from year to year within a decade depending on mortality, economics of harvesting, etc. but total timber sold (ASQ plus salvage) for the decade will not exceed planned level by more than five percent (10 MMCF or 62 MMBF). If a catastrophic event makes more salvage volume available, it will be substituted for ASQ volume to keep total sale volume within five percent per decade. The salvage program may be increased up to 10 percent of ASQ (12 MMBF) to harvest timber killed by a catastrophic event. Any increase above this will require an equal reduction in the ASQ sell volume. The amount of salvage available may be constrained by snag habitat requirements for the Forest, in any one year (See Cavity Nester Habitat, Wildlife and Fish Standards and Guidelines, this section of this chapter).

Harvest Levels by Forest Watershed

Based on current conditions, the following equivalent harvest acres (EHA) guidelines will be in effect and will remain in effect until updated or changed in the Forest Plan. This guideline assumes that suitable dispersion of harvest within a given watershed is achieved as well (also use for meeting water quality objectives).

Logging Methods

Ground skidding and slash piling equipment will be avoided on slopes exceeding 35 percent, and on soil conditions with high compaction, erosion or displacement hazards, or wherever soil productivity standards cannot be met.

Designated skid trails will be confined to 20 percent or less of the activity area for all timber harvest practices (including disposal of slash), unless it can be demonstrated beyond a reasonable doubt, that particular circumstances or equipment exist which will not detrimentally impact soils as stated in Soils Forest-Wide Standards and Guidelines.

Locate skid trails and roads to avoid paralleling stream channels. New landings should not be placed in riparian areas. Existing landings within streamside areas which are impacting or could impact water quality should be rehabilitated.

TABLE D-9
EQUIVALENT HARVEST ACRES (EHA) GUIDELINES

Watershed Sensitivity	EHA Threshold Harvest Level (Percent)
High	25
Moderate	30
Low	35

TABLE D-10
FOREST WATERSHEDS BY SENSITIVITY CLASS

Watershed	Sensitivity	Threshold Value
Middle Fork Crooked River	Low	35 percent
Dry/Stinger Creek (D-1)	↓	↓
Dry Stinger Creek (D-3)	↓	↓
Beaver Creek (East)	↓	↓
Beaver Creek (West)	↓	↓
Bear/Camp Creek	↓	↓
Keeton Creek	↓	↓
North Fork Crooked River	Medium	30 percent
Marks Creek	↓	↓
Emigrant Creek	↓	↓
McKay Creek	↓	↓
Howard/Porter Creek	↓	↓
Ochoco Creek	↓	↓
Mill Creek	↓	↓
Silver Creek	↓	↓
Deschutes River	↓	↓
Willow Creek	↓	↓
John Day River	High	25 percent
Rock Creek	↓	↓
Trout Creek	↓	↓
Bridge Creek	↓	↓
Deep Creek	↓	↓
Wolf Creek	↓	↓
Nicoll/Sawmill Creek	↓	↓
Badger Creek	↓	↓
Bear Creek	↓	↓

Scablands will not ordinarily be used for landings and skid trails. An exception to this would be in the case of skyline logging where a particular location would necessitate using a scab. Should this occur, the affected area will be erosion-proofed through use of rock or other appropriate methods.

Low Productivity Lands

On timbered lands where site productivity is expected to be less than 20 cu.ft./ acre/year, the regeneration method will be natural regeneration. This will be accomplished under the shelterwood method. Overstory will not be removed until regeneration is securely established.

Christmas Trees

Consistent with other resource objectives, Christmas trees will be offered for sale. Emphasis will be placed on personal use by individuals. Special restrictions are to be applied to prevent indiscriminate cutting of trees.

Management Area Standards and Guidelines

(Forest Only)

Resource - Timber

Practice
Scheduled Harvest

Standard and Guideline
No timber harvest allowed (including salvage).

Applicable Management Area
MA-D4 Old Growth
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D12 Research Natural Areas

MA-D11 Developed Recreation

Harvest Scheduling
Harvest only for the purpose of maintaining safe and attractive recreational sites. No scheduled timber harvest.

Reforestation
Rely on natural regeneration. Planting may be done to meet management area objectives.

Visual Influence Area

Silvicultural System

Both even- and uneven-aged silvicultural systems may be used. Emphasize maintenance of large, yellow bark ponderosa pine and western larch.

Uneven-aged management systems will follow Forest-wide standards and guidelines.

Cultural Treatments

Precommercial thinning and commercial thinning may be done to meet the visual quality objectives and maintain healthy stands.

Harvest

Cutting practices may be used that meet the objectives shown in Table D-11.

TABLE D-11
TIMBER HARVEST OBJECTIVES

	Ponderosa Pine	Mixed Conifer
Unit Size (Acres)		
Even-aged		
Two Story Stands	4-10	2-5
Regeneration Cuts	2-5	2-5
Uneven-aged		
Group Selection	<2	<2
Single Tree Selection	No limit	No limit
Rotation Age (years)		
Even-aged	250	200
Entry Cycle (years) 1/		
Uneven-aged	20	20
Diameter 2/	30"	27"

1/ Actual harvest entry cycle will be prescribed in a site-specific silvicultural prescription

2/ The indicated diameter is an average end point diameter at rotation age for even-aged stands For uneven-aged stands, the indicated is a target diameter

Manage ponderosa pine to encourage large trees and open park-like stands. Manage mixed conifer for a mix of species with emphasis on maintaining western larch where possible. Provide views of scenic features, such as aspen stands and rock outcroppings.

MA-D10 Semiprimitive Motorized

Silvicultural Systems

Harvest ponderosa pine on an uneven-aged management system as follows:

1. 40 year entry cycle
2. Basal area 40 - 80 sq. ft./ac.
3. Maintain 5 - 10 trees per acre in 20"+ size class

Harvest mixed conifer stands using the patch cut system on a 200 to 220 year rotation. Harvest patch size will be 2 - 5 acres in size.

Reforestation

Rely on natural regeneration in ponderosa pine. Plant mixed conifer where necessary.

Intermediate Harvest

Two entries in mixed conifer stands.

If logging cannot be done while meeting road objectives, then delay logging until it is economical or practical to meet road objectives. Helicopter or logging to the existing road system should be considered in lieu of building high standard roads in these areas.

MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Silvicultural Systems

Even-aged and uneven-aged systems may be used. Select the system that best meets the shading and woody debris objectives.

Even-aged Systems

Reforest by natural regeneration or plant. Select the method that creates the least soil disturbance Schedule harvest on a 200 year rotation (five percent per decade). Limit the size to 180 linear feet along streams. Design harvest units (shape, size, and distribution) to meet shading objectives over time.

Uneven-aged Systems

Use a forty-year entry cycle. Maintain basal area at 50 - 90 square feet per acre. Maintain 5 - 10 trees per acre greater than 20 inches in diameter.

Reforestation

Rely on natural regeneration or plant to obtain desired stocking. Allow no mechanical site preparation, application of herbicides, or fertilization.

Precommercial Thinning

May be used to obtain desired stocking levels.

Commercial Thinning

May be used to obtain desired stocking levels.

TABLE D-12
Objectives For Modeling Stand Conditions

	Ponderosa Pine	Mixed Conifer
Unit Size (Acres)		
Even-aged		
Two Story Stands	4-10	2-5
Regeneration Cuts	2-5	2-5
Uneven-aged		
Group Selection	<2	<2
Single Tree Selection	No limit	No limit
Rotation Age (years)		
Even-aged	250	200
Entry Cycle (years) 1/		
Uneven-aged	20	20
Diameter 2/	30"	27"
Lineal Feet of Road Frontage in an Open Condition per Mile 3/	600	400

1/ Actual harvest entry cycle will be prescribed in a site-specific silvicultural prescription

2/ The indicated diameter is an average end point diameter at rotation age for even-aged stands For uneven-aged stands, the indicated is a target diameter

3/ Does not apply to intermediate treatments such as commercial thinnings, or single tree selection

TABLE D-13
Objectives For Modeling Stand Conditions

	Ponderosa Pine	Mixed Conifer
Unit Size (Acres)		
Even-aged		
Two Story Stands	10-20	5-8
Regeneration Cuts	5-8	5-8
Uneven-aged		
Group Selection	<2	<2
Single Tree Selection	No limit	No limit
Rotation Age (years)		
Even-aged	200	150
Entry Cycle (years) 1/		
Uneven-aged	20	20
Diameter 2/	27"	22"
Lineal Feet of Road Frontage in an Open Condition per Mile 3/	800	600

1/ Actual harvest entry cycle will be prescribed in a site-specific silvicultural prescription

2/ The indicated diameter is an average end point diameter at rotation age for even-aged stands For uneven-aged stands, the indicated is a target diameter

3/ Does not apply to intermediate treatments such as commercial thinnings, or single tree selection

MA-D5 Retention

Silvicultural Systems

Utilize both uneven-aged and even-aged systems where ecologically suitable. Manage ponderosa pine for a combination of: 1) multiple age class stands, and 2) open, park-like stands. Manage mixed conifer for a mix of species with emphasis on maintaining western larch where possible. Provide views of scenic features such as distant landscapes, aspen stands and rock out-crops.

Uneven-aged management systems will follow Forest-wide standards and guidelines while protecting the scenic qualities in these areas.

A silviculturist will model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the objectives shown in Table D-12.

MA-D6 Partial Retention - Foreground

Silvicultural Systems

Utilize both uneven-aged and even-aged systems where ecologically suitable. Manage ponderosa pine for a combination of: 1) multiple age class stands, and 2) open, park-like stands. Manage mixed conifer for a mix of species with emphasis on maintaining western larch where possible. Provide views of scenic features such as distant landscapes, aspen stands and rock out-crops.

Uneven-aged management systems will follow Forest-wide standards and guidelines while protecting the scenic qualities in these areas.

Silviculturist will model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the objectives shown in Table D-13.

MA-D7 Partial Retention - Middleground

Silvicultural Systems

Cutting practices may be used that meet the partial retention objectives shown in Table D-14.

For Alternatives E-Departure and A
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Reforestation

Practices may vary from natural regeneration to planting at normal or increased stocking depending on target acres. Select the most productive and accessible lands for increased stocking. Utilize natural regeneration on lower productivity sites and where natural regeneration is likely to be successful.

Precommercial Thinning
Thin according to management objectives. Stocking should be within 50 trees per acre of what is shown in the appropriate yield table.

Commercial Thinning
Select areas to thin based on management objectives and economic feasibility.

Regeneration Harvest
At culmination of mean annual increment or later as scheduled.

Silvicultural Systems
Both even- and uneven-aged management systems will be practiced. Uneven-aged management is the preferred management system on low sites. Uneven-aged management systems will follow Forest-wide standards and guidelines.

For Alternative C
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Silvicultural Systems
Mixed conifer stands and stands on slopes greater than 30% will be managed using even-aged systems. Ponderosa pine stands, on slopes less than 30% and with suitable age class distributions, will be managed using uneven-aged systems.

Uneven-aged management systems will follow Forest-wide standards and guidelines.

A silviculturist will model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the objectives shown in Table D-15.

Reforestation
Plant at normal or increased stocking levels. Select the most productive and accessible sites for increased stocking as shown in the model component. Utilize natural regeneration on lower productivity sites and where natural regeneration is likely to be successful.

Cultural Treatments
Precommercial and commercial thinnings will be done according to Management Objectives and economic feasibility. For precommercial thinning, stocking should be within 50 trees per acre of the number shown in the appropriate Managed Yield Table. Pruning may also be done where economically feasible in ponderosa pine stands to improve wood quality.

Uneven-aged Stands

Uneven-aged management is the preferred silvicultural system within portions of these Management Areas. This system should be prescribed within ponderosa pine stands where stand and site conditions are appropriate, and no other resource objectives which preclude the use of uneven-aged management have been identified and documented during the project planning process.

TABLE D-14
Partial Retention Objectives

	Ponderosa Pine	Mixed Conifer
Rotation Age (years)		
Even-aged	100	90
Diameter 1/	18	16
Unit Size (acres) 2/	10-20	5-8

1/ The indicated diameter is an average end point diameter at rotation age for even-aged stands

2/ Does not apply to intermediate treatments or overstory removals

TABLE D-15
Objectives for Modeling Stand Conditions

	Ponderosa Pine	Mixed Conifer
Rotation Age (years)		
Even-aged	130	90
Entry Cycle (years) 1/		
Uneven-aged	20	20
Diameter 2/		
Even-aged	18"	16"
Uneven-aged	24"	

1/ Actual harvest entry cycle will be prescribed in a sit-specific silvicultural prescription

2/ The indicated diameter is an average end point diameter at rotation age for even-aged stands For uneven-aged stands, the indicated is a target diameter

TABLE D-16
Objectives For Treating Timber Stands

	Ponderosa Pine	Mixed Conifer
Rotation Age (years)		
Even-aged	130	90
Diameter 1/		
Even-aged	18"	16"

1/ The indicated diameter is an average end point diameter at rotation age for even-aged stands

MA-D1 General Forest

Silvicultural Systems

In this management area, either present net value or timber production will be maximized by utilizing a number of cultural practices, including:

Planting of genetically improved trees at two stocking levels.

Natural regeneration,

Precommercial thinning;

Commercial thinning from one to three times; and

Rotation ages from 95 percent of culmination of mean annual increment (CMAI) (usually from 80 to 90 years) to 150 years.

Timber stands will be managed using even-aged systems with trees uniformly spaced and fully occupying sites except in the seedling and sapling stages. Stands will be treated to meet the objectives shown in Table D-16.

Reforestation

Plant at normal or increased stocking levels depending on target acres. Select the most productive and accessible sites for increased stocking as shown in the model component. Utilize natural regeneration on lower productivity sites and where natural regeneration is likely to be successful.

Cultural Treatments

Precommercial and commercial thinnings will be done according to Management Objectives and economic feasibility. For precommercial thinning, stocking should be within 50 trees per acre of the number shown in the appropriate Managed Yield Table.

Regeneration Harvest

At Culmination of Mean Annual Increment (CMAI), unless blowdown, insect infestation, or other such events interrupt rotation.

Transportation System

Forest- and Grassland-Wide Standards and Guidelines

Planning

Transportation systems will be planned to support resource activities in the management areas and to serve multiple resource needs rather than individual project proposals.

Roads and trails will be at the lowest density which meets long-term resource needs. Where existing roads or trails are impacting water quality steps will be taken to mitigate the problem.

The planned transportation system will be constructed to the required standards to meet the needs of the planned resource activities of the area. This standard will be such that repeated reconstruction to upgrade any given section of the system will be minimized during the planning period.

Prepare and maintain road management objectives (RMO's) for proposed and existing system roads and identify roads not needed for future maintenance.

Coordinate with the State and Counties on management of their roads to complement Forest uses.

Identify roads that require Forest Service jurisdiction to meet resource objectives.

Update the "Forest Sign Plan" annually to reflect road management objectives.

Traffic Management

General

The adequacy and safety of the transportation system will conform to the Forest Service Manuals and Handbooks. If a road does not exist at an adequate and safe standard for the traffic expected to use it, traffic can be restricted to a level where the existing road is adequate. This could eliminate the need to reconstruct the road.

Manage traffic as needed to control access due to structural limitations of the road, safety, or to meet resource objectives, such as those to meet wildlife needs or off-road vehicle (ORV) travel management needs.

Strategies for managing traffic will range from highly restrictive low impact, single user, short-term roads to unrestricted long-term roads.

Strategies for managing traffic could include prohibiting use on a seasonal or year long basis, or eliminating all standard vehicle use for more than one year.

Put sign traffic control devices (such as gates) to let users know why use is restricted and for what period of time.

No construction or logging equipment parking or turn around will be allowed on scablands except under landings.

Commercial Hauling

During commercial hauling activities, public access will generally be discouraged or prohibited on single user local access roads.

Generally, primary commercial haul routes are reconstructed, operated and maintained to permit low clearance (passenger car) traffic. However, some commercial haul routes may be maintained for high clearance vehicles, maintenance Level 2.

Recreation

Encourage ORV use only on roads where all standard vehicle use has been eliminated, or on roads which have no current or planned future use where appropriate with other resources.

Access routes to developed sites will generally be reconstructed, operated and maintained to permit low clearance (passenger car) traffic. However, public use may be seasonally discouraged, or restricted.

Local road access to historical dispersed recreation sites are generally graveled to prevent investment loss and resource damage during wet periods of the year. Road access management strategies to the dispersed sites will generally be "accept" or "encourage" use by dispersed recreationists.

Construction and Reconstruction

Design, construct, and reconstruct roads according to standards based on the following criteria: resource management objectives, environmental constraints, safety, physical environmental factors, traffic requirements, traffic service levels, vehicle characteristics, road users, and economics.

Roads will not be constructed through the length of a riparian area. Roads crossing a riparian area will not alter stream or groundwater flow characteristics to a degree which will impact the riparian characteristics.

Road drainage will be designed and maintained to eliminate any influx of sediment road runoff directly into stream channels, to the extent possible.

Road construction activities will be managed to minimize the amount of unprotected soil surfaces when heavy rain or heavy surface runoff are most likely to occur.

Ensure that erosion control measures are completed prior to times of year when heavy rain or heavy runoff are normally expected.

Whenever practical, roads should be located on areas with the lowest erosion hazard.

Provide cost effective timber haul based on the various seasons of the year.

Ensure that temporary culverts or bridges are used where stream bottoms or banks would otherwise be damaged, and that these temporary structures are removed after use.

Roads which pass through high water table areas should be constructed in a manner which does not alter the flow characteristics of the groundwater.

Stream Crossings

Design and construct the transportation system to minimize the numbers of stream crossings.

Locate stream crossings and the approach alignment to minimize stream damage.

Bridge approach fills should be riprapped or protected by wing walls.

Ensure adequate sizing of culverts or bridges to accommodate anticipated high streamflows and to allow fish passage.

Schedule stream crossing construction during low streamflow and/or outside fish spawning periods.

Stream crossings should not change floodplain or streamflow characteristics.

Maintain existing riparian communities both upstream and downstream from the crossing.

Scablands

Road construction on scablands will be limited to long-term collector, arterial and local roads. Temporary or short-term roads or trails will not be constructed across scablands unless there is no other feasible alternative. Should a specific activity necessitate the construction of temporary access, the area affected will be completely erosion proofed through use of crushed rock and other appropriate methods.

Thoroughly analyze the long term need before establishing borrow pits on scablands.

Visuals

Include parking areas and view points in road plans and designs where appropriate.

Locate material stockpiles out of site of the main travel route.

Gravel pits, barrow areas, landings, etc. should meet visual objectives for the management area.

Avoid locating roads in the visual foreground other than at junctions. Design roads to fit the topography, minimizing cuts and fills. Roads should not dominate the natural pattern of line, form or color.

Necessary road closures in visual management areas should be designed and constructed to blend with the natural characteristics of the landscape.

Road Operations and Maintenance

Operate and maintain all roads within available financing according to maintenance levels established in Road Management objectives and standards defined in Table D-17.

TABLE D-17
Definitions of Road Management Objectives and Standards

Minimum Maintenance Level	Use
Obliterated	No current or future use (36 CFR 261 5)
1 (Closed)	No current use, planned future use
2	High clearance vehicles
3, 4, 5	Low clearance vehicles

If funding is inadequate to maintain some roads at the intended maintenance level, maintain roads at a lower maintenance level, such as high clearance access (Level 2) to a closed level (Level 1).

Stabilize and re-establish vegetation on obliterated roads.

Ensure that necessary road and trail maintenance is performed on all runoff control and drainage structures (dips and culverts).

Provide for additional maintenance of road drainage and crossing structures during periods when unusual runoff is expected.

Ensure that appropriate traffic management is established to prevent the creation of pollution-generating conditions, such as deep wheel tracks in roads during wet weather.

Management Area Standards and Guidelines

(Forest Only)

Resource - Transportation System

Practice

Construction and Reconstruction

Standard and Guideline

None allowed.

Applicable Management Area

MA-D8 Wilderness

Standard and Guideline

None allowed except for research purposes, and approved by PNW Station Director.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Develop no permanent roads. Develop and maintain trails and trailheads to meet semiprimitive recreational objectives.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Allow no road construction unless there are no reasonable alternatives. When essential, allow construction or reconstruction only between July 15 and January 31 to protect wildlife values, such as nesting.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Construct primitive roads and trails of varying levels of difficulty for recreation and limited timber harvest. Manage road density to maintain the semiprimitive character of the area.

Applicable Management Area
MA-D10 Semiprimitive Motorized

Standard and Guideline
Construction and reconstruction are allowed to access Forest resources, according to management area emphasis, subject to Forest-wide Standards and Guidelines.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D11 Developed Recreation
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Practice
Operations and Maintenance

Standard and Guideline
Obliterate and revegetate and revegetate all existing roads except those authorized for mining operations. Where appropriate, utilize the old road system for a nonmotorized trail.

Applicable Management Area
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Hazard tree felling is permitted. Felled trees shall remain in place unless lying across an approved road or trail.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Hazard tree felling is permitted for public safety.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D4 Old Growth
MA-D5 Retention
MA-D6 Partial Retention - F
MA-D7 Partial Retention - Middleground
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Practice
Traffic Management

Standard and Guideline
No access permitted except for authorized mining claims.

Applicable Management Area
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Access routes will be restricted to administrative use and use by permit for research related purposes only.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Except for constant service through routes and short existing open local access, use will be restricted to approved projects designed to meet management area objectives. These will be closed to motorized use at the end of the projects.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Limit open roads to two miles per square mile following timber harvest and post-sale activities. Close roads following timber sales if post-sale activities are delayed longer than one year.

Keep roads closed unless needed in emergencies for protection of life or property.

Applicable Management Area
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Standard and Guideline
Certain local roads may be restricted to administrative use and use by permit only.

Applicable Management Area
MA-D11 Developed Recreation

Standard and Guideline
Constant service roads will remain open. Use on all other roads across the management areas will be eliminated.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Generally, access routes will be open subject to Forest-wide Standards and Guidelines.

MA-D1 General Forest
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D10 Semiprimitive Motorized

Practice
Off-Road Use

Standard and Guideline
No motorized use allowed.

Applicable Management Area
MA-D4 Old Growth
MA-D8 Wilderness
MA-D9 Semiprimitive Nonmotorized
MA-D11 Developed Recreation
MA-D12 Research Natural Areas

Standard and Guideline
Allow no off-road use from December 1 through April 15, including snowmobiles. Use a road closure system (such as the Green Dot System) to protect wildlife habitat, minimize harassment, maintain escapement opportunity, and promote quality hunting.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Restrict off-road use where needed to protect wildlife habitat, minimize harassment of wildlife and to promote quality hunting. Use a system similar to the green dot system.

Applicable Management Area
MA-D3 Big Game Summer Range

Standard and Guideline
Discourage off-road use.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Where off-road use impacts are evident, close areas to use and rehabilitate.

Applicable Management Area
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground

Standard and Guideline
Motorized use encouraged on designated routes.

Applicable Management Area
MA-D1 General Forest
MA-D10 Semiprimitive Motorized

Management Area Standards and Guidelines
(Grassland Only)

Resource - Transportation System

Practice
Operations and Maintenance

Standard and Guideline
Generally maintain roads for high clearance vehicles. County roads are generally maintained for low clearance vehicles.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Generally, maintain roads for low clearance vehicles. However, some roads may be maintained only for high clearance

Applicable Management Area
MA-D1 General Forest

Standard and Guideline
Maintain roads for low clearance vehicles.

Applicable Management Area
MA-D11 Developed Recreation

Standard and Guideline
Design and maintain transportation systems needed to support the installation and maintenance of the structures associated with the utility corridors. Normally, close roads to public use.

Applicable Management Area
Utility Corridors within all management areas.

Practice
Traffic Management

Standard and Guideline
Transportation within the park boundary is the responsibility of the State.

Applicable Management Area
MA-D11 Developed Recreation (Cove Palisades State Park)

Standard and Guideline
Control access to protect old growth habitat.

Applicable Management Area
MA-D4 Old Growth

Standard and Guideline
Limit open roads to one mile per square mile.

Applicable Management Area
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range

Standard and Guideline
Close Road 6360 seasonally to protect deer winter range. Close all other roads in the management area to public use year-round, allowing only administrative and permittee use.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized (Squaw Creek)

Practice
Off-Road Access

Standard and Guideline
Allow no vehicle use off designated routes, except for administrative use.

Applicable Management Area
MA-D11 Developed Recreation (Haystack)

Water

Forest- and Grassland-Wide Standards and Guidelines

Water Quality

Comply with State requirements in accordance with the Clean Water Act for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), through planning, application, and monitoring of Best Management Practices (General Water Quality Best Management Practices, Pacific Northwest Region, November 1988) in conformance with the Clean Water Act, regulations, and federal guidance issued thereto.

In cooperation with the State of Oregon, the Forest will use the following process:

Select and design BMP's based on site-specific conditions, technical, economic, and institutional feasibility, and the water quality standards for those waters potentially impacted.

Implement and enforce BMP's.

Monitor to ensure that practices are correctly applied as designed.

Monitor to determine the effectiveness of practices in meeting design expectations and in attaining water quality standards.

Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMP's do not perform as expected.

Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level. Evaluate the appropriateness of water quality criteria for reasonably assuring protection of beneficial uses. Consider recommending adjustment of water quality standards.

dums of Understanding between the Oregon Department of Environmental Quality and U.S. Department of Agriculture, Forest Service (2/12/79 and 12/7/82). Also use "Attachments A and B" referred to in this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest, 12/78, and Best Management Practices for Range and Grazing Activities on Federal lands, respectively).

Temperature

The requirements for shade along streams will generally correspond to provisions for more than 80 percent of the surface shaded. Where this can not be attained, 100 percent of the potential for shade is the standard.

Shade requirements may be reduced in cases where management is necessary to sustain a thrifty community of shade providing species over time, e.g., in the case of local infestation or disease, or for managing for future shade in a decadent stand, but activities may not result in an increase in temperatures above the limits specified.

John Day River System, Silver and Emigrant Creeks, and Associated Tributaries.

Existing temperatures at or below 66° F. may be raised a maximum of 2° F. Where stream temperatures exceed 68° F., management activities will include objectives for reducing temperatures to levels that will improve fish habitat capability.

Deschutes River, Crooked River, and Associated Tributaries.

Existing temperatures at or below 56° F. may be raised a maximum of 2° F. Where stream temperatures exceed 58° F., management activities will include objectives for reducing temperatures to levels that will improve fish habitat capability.

Turbidity

Stream channel cutbanks should not exceed an average of 20 percent for any given stream drainage.

Allow no more than 10 percent cumulative increase in stream turbidity. Short-term deviations (50 years) from this standard to accommodate emergency or other legitimate activities will comply with state requirements for notification and approval.

Waste Disposal

Dispose of waste effluents (e.g. sanitary waste, fuels, solvents, and pesticides) in a manner that will prevent contamination of surface or subsurface water.

Project Planning

See Forest-wide Standards and Guidelines for TIMBER for direction on equivalent harvest acres (EHA) guidelines.

Plan for no management activities in and around Class III and Class IV streams that contribute to the deterioration of water quality below standards set for downstream Class I and II streams. Protection will be provided primarily through mitigation measures. Some short-term temperature and/or turbidity increases may be allowed, providing the standards for Class I and II streams

continue to be met. Consider the potential for cumulative impacts. Provide suitable amounts of woody material based on specific characteristics of individual stream courses.

Develop specific objectives for the management of streams through the NEPA process for all projects that could impact water quality.

Floodplains and Wetlands (including springs and wet meadows).

Riparian areas are a unique and biologically important system on the Forest. Special attention shall be given to land and vegetation for approximately 100 feet form the edges of all perennial streams, lakes, and other bodies of water. This area shall correspond to at least the recognizable area dominated by the riparian vegetation. No management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment which seriously and adversely affect water conditions or fish habitat shall be permitted within these areas. Topography, vegetation type, soil, climatic conditions, management objectives, and other factors shall be considered in determining what management practices may be performed within these areas, or the constraints to be placed upon their performance. (36 CFR 219.27e.)

Give preferential consideration to riparian-dependent resources over other resources in case of unresoluble conflicts.

Consider the presence of, and potential impacts to any inventoried floodplain in project area environmental analysis.

Do not locate major structures, roads, or other facilities within floodplains unless no feasible alternative sites exist outside floodplains.

Allow projects causing short-term impacts on floodplain values only if specific mitigation measures designed to minimize the impacts are documented in the project environmental analysis. Restore natural floodplain characteristics after the activity has ceased

Discuss the presence of potential impacts to riparian areas in all project-level environmental documents.

Vegetation and ground cover requirements:

Where site potential and topographic factors permit, manage riparian areas to provide the shade necessary to meet stream temperature goals.

Maintain upper streambanks in a stable condition along at least 80 percent of the length of a stream.

Retain at least 80 percent of the potential ground cover in grass-forb riparian communities. Also, retain at least 80 percent of the potential tree or shrub cover in riparian areas dominated by trees or shrubs. In riparian areas with mixed layers, the cover requirement may be met by taking credit for the

effective cover provided by all vegetative layers of the riparian community including shrubs, tree understories, and the dominant overstory. Consider the mitigating effect of stream size and orientation, as well as surrounding topography, when determining the amount of cover that may be removed.

Management Area Standards and Guidelines

(Forest and Grassland)

Resource - Water

Practice

Water Quality Improvement Projects

Standard and Guideline

Enhancement of riparian vegetation or other water related resources, is restricted to research purposes, unless authorized by PNW Station Director.

Applicable Management Area

MA-D12 Research Natural Areas

Standard and Guideline

Use of motorized equipment for water improvement projects will be approved by the Regional Forester on a case-by-case basis.

Applicable Management Area

MA-D8 Wilderness

Standard and Guideline

Construction and maintenance for water improvement projects allowed, subject to Forest and Grassland-Wide Standards and Guidelines.

Applicable Management Area

MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D4 Old Growth
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground
MA-D9 Semiprimitive Nonmotorized
MA-D10 Semiprimitive Motorized
MA-D11 Developed Recreation
MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition

Wildlife and Fish

Forest- and Grassland-Wide Standards and Guidelines

Planning

Coordinate activities that affect fish or wildlife resources with the Oregon Department of Fish and Wildlife, Columbia River Inter-tribal Council, Bureau of Land Management, and the U.S. Fish & Wildlife Service. The level at which coordination occurs will be based on the magnitude of proposed activities, and the species involved.

Structural improvements to provide water, or otherwise concentrate wildlife (big game) use will not be planned specifically for scablands (See Forest and Grassland-wide Standards and Guidelines, Soils).

Management Indicator Species

Determine if the species' use of the area is incidental or if it is essential habitat. If it is determined to be essential habitat (roosting sites, for example) protect it from adverse modification through curtailment of conflicting activities, modification of activities, seasonal restriction of activities, or avoiding the area. For bald eagles, request an informal consultation with the Endangered Species Branch of the Fish and Wildlife Service on proposed actions which may adversely affect the species.

For newly discovered essential habitat, conduct environmental analysis under the NEPA process to determine if it is necessary to designate the area as essential habitat. If so, the Forest or Grassland Plans will be amended or supplemented where appropriate, and the essential habitat designation will supersede previous land allocations or can be substituted for other habitat allocated to threatened or sensitive species.

Pileated Woodpecker

Approximately 19,250 acres of old growth, and another 19,250 acres of supplemental feeding habitat have been allocated across the Forest (outside of wilderness and Research Natural Areas) to meet the needs of old growth dependent wildlife, with the pileated woodpecker as the major indicator species.

Another 2,100 acres of old growth within wilderness and Research Natural Areas are considered necessary to meet the distributional needs of the woodpecker, but have not been specifically allocated, due to legal precedence for these areas. Natural processes (natural fire ignitions, etc.) shall continue to occur in these stands and may circumvent management desires to maintain them for wildlife habitat. But, any planned management activities in wilderness and RNA's (planned ignitions or research) should be done in such a way as to protect the integrity of these areas. See management area standards and guidelines for specific management direction Also, see locations of old growth stands for habitat (both inside and outside wilderness and Research Natural Areas) on the Alternative I map.

Primary Cavity Excavators

Primary cavity excavators create cavities for themselves and other cavity users. In addition to the ecological diversity provided by these species, they also play an economic role in the forest environment. These species, plus the secondary cavity nesters, consume insects that are destructive to forests. While these birds may not prevent epidemic populations from building, many authors have indicated a suppressive influence on insects at endemic levels. For these reasons, more than a minimum population of the primary excavators is desirable. Effective population levels of these excavators is believed to be above 40 percent of their potential population levels, as compared to a viable population of only 20 percent. See *Wildlife Habitats in Managed Forests, the Blue Mountains of Oregon and Washington,* Thomas, 1979, for further discussion of management of this specialized habitat.

Provide habitat to support populations of cavity nesters at various levels by management area in order to achieve a Forest-wide objective of 47% of maximum potential over the first decade (see management areas standards and guidelines, Wildlife and Fish).

Snag Distribution

Provide snags within areas that are generally no larger than normal harvest unit size (40 acres). These snags will be maintained through the full rotation on these areas by providing for green replacement trees that will become snags of adequate size when existing snags fall. It is not intended or possible that dead and defective tree habitat be uniformly distributed over every acre. But, do not (arbitrarily) combine areas with high concentrations of dead and defective tree habitat with non-adjacent areas devoid of dead and defective habitat to arrive at a prescribed average number per acre. Plan dead and defective tree habitat by units, such as project planning areas or subdrainages (3,000 to 5,000 acres maximum) where specific management levels can be monitored.

Where adequate snags are not currently available to meet the desired level (40%,etc.), created snags should be used to meet the direction as nearly and as soon as possible.

If snags are not present and cannot be created, higher snag levels can be managed in adjacent areas and averaged with the low levels in deficient areas to meet management objectives. However, averaging should be done over as small an area as possible, and replacement snags should be planned for in the deficient areas to meet the distribution requirements as soon as possible.

In a forested setting (uneven-aged management or mid to late successional stages in even-aged management), either clumped or evenly distributed snags are acceptable.

In early successional stages (grass/forb, seedlings and saplings) of even-aged management areas (i.e. clearcut and overstory removal), it is more desirable to manage snags in patches because

Snag patches can provide foraging as well as nesting habitat;

Snag patches are more likely to support species that won't nest in the open

than are single, uniformly distributed snags;

It is operationally safer and more efficient to provide snags in patches rather than in single, uniformly distributed patterns, and

Snag patches better provide opportunities for live trees that can become replacement snags throughout the rotation of a stand.

Golden Eagle and Prairie Falcon

Carefully evaluate activities having the potential to alter or disturb cliffs, talus, or cave habitats.

Bald Eagle

Preserve the integrity of actual and potential bald eagle winter roost sites. Utilize the findings and recommendations of a bald eagle winter roost survey, conducted by the Oregon Cooperative Wildlife Research Unit in 1986 through 1987. See Eagle Management Prescription (Management Area F12-Eagle Roosting Areas), and FEIS Chapter 2, *Alternatives Including the Proposed Action.*

Rocky Mountain Elk and Mule Deer

Big game capability models should be used in project planning to determine habitat effectiveness (HE), as affected by quality and quantity of cover and forage, and open road density. Resulting HE values will be compared with those predicted for future outputs, to determine whether or not big game objectives are being met. Specific actions should be taken when project alternatives chosen for implementation are shown to reduce HE values below those predicted over the planning period. See management area standards and guidelines for Wildlife and Fish, this chapter for predicted HE values and specific actions to take. Also see Chapter 5, Implementation of the Forest Plan, for monitoring requirements.

The model used to predict the influence of forest management on elk is a Habitat Effectiveness model. It is a biologically based model that tells us how effective an area will be in supporting elk. The model was designed to measure effectiveness on a scale of 0 to 180, with 180 representing the highest potential effectiveness and 0 representing the least desirable situation for elk. It is intended to be only a relative measure of effectiveness, and does not consider many factors that would influence the actual number of elk found in an area. These additional factors include the effects of hunting, predators, disease, yearly changes in weather and forage production, competition with other animals, and the rate at which elk populations can change from one level to another.

To make the results of the model easier to interpret, the effectiveness index was translated into a number of animals that could be supported on an area. This was done by estimating the density of animals that could be supported on an area if the habitat were maintained at optimum effectiveness. It was then assumed that a habitat effectiveness value of 180 translated to this highest possible density of elk, and that lower values would translate to proportionally lower densities. The numbers shown in Chapter 2 are those numbers of elk that could potentially be supported on the area. The numbers are not projections of actual elk populations. As noted above, many additional factors would have to be considered in

order to project actual elk populations. It is especially important to note that the current elk numbers on an area may not be the direct result of factors that are measured in the habitat effectiveness model. The current population in an area could be limited by the availability of winter range on private land, by hunting pressure, or by any of the other factors discussed above. In this case, habitat effectiveness might decline but have no real influence on the number of elk that occupy the area, or habitat effectiveness might increase but still have no net influence on the number of elk. Because the numbers shown as outputs in Chapter 2 for Wildlife only represent habitat effectiveness, it is important to read the full text in order to understand the effect of forest management on the elk population.

Protect the character of elk calving sites. Minimize disturbance from human activity during calving season (approximately May 15 to June 30). Also protect wallows during rutting season (September 1 to October 15).

Provide forage sufficient to meet management objectives for population levels of Rocky Mountain elk and mule deer.

Rainbow Trout, Brook Trout, Steelhead

Provide habitat by managing as per riparian prescriptions (Chapter 2).

Threatened, Endangered, and Sensitive Plant and Animal Species

Inventory and protect threatened and endangered species and their habitat(s).

Cooperate with State and Federal fish and wildlife agencies in developing and implementing recovery plans for threatened or endangered species.

Consult with the U.S. Fish and Wildlife Service when conflicts between project activities and habitat needs cannot be resolved, or when uncertainty exists.

Maintain inventories of essential or critical habitats including their locations and distribution.

Maintain contacts with Federal, State, and other agencies, groups, and individuals concerned with the management of threatened, endangered, and sensitive species. Consult with the Oregon Department of Fish and Wildlife, Oregon Natural Heritage Data Base and U.S. Fish and Wildlife Service for technical assistance in developing species management guides and in determining viable population levels.

During environmental analysis of each project activity, available habitat, location records, and other information should be reviewed to determine whether known or suspected locations of sensitive species or their habitat occur.

If no suitable habitat or reported locations of sensitive species are identified, these findings should be documented, and no further investigation is required.

When suitable habitats or reported locations are suspected to occur in the area of influence of the project, a field reconnaissance will be performed to more precisely verify the presence, abundance, and distribution of the sensitive

species. If the search is conducted during a season of the year when positive identification is probable and no listed species are found, this fact should be documented and no further investigation is needed.

If listed species are found in the project influence area, their actual distribution and current status will be determined. Informal consultation with the Endangered Species Branch of the Fish and Wildlife Service will be initiated if the species is Federally listed. If the proposed project would jeopardize the existence of the species it would be modified or curtailed.

Identified safeguards will be clearly spelled out in the environmental analysis and project plan and project personnel will be fully responsible for being aware of and implementing them. Supervision of the activity must assure that actions which jeopardize the listed species do not occur.

If actions which may adversely affect habitat for Federally listed endangered or threatened species cannot be avoided, the activity will be deferred until a formal consultation with the Endangered Species branch of the Fish and Wildlife Service is completed to determine a course of action.

In cases where other high values or uses would be foregone if the proposed activity were modified or deferred, a full investigation of the species involved may be conducted. Management guidelines will be developed that will make possible an assessment of the significance of the specific population involved. Based on these findings and consultation with appropriate state and federal agencies, a course of action will be determined.

Coordinate with the Native Plant Society of Oregon to exchange information on local plant distributions and status.

Other Species

Antelope

Manage antelope habitat on the Forest in accordance with Oregon Department of Fish and Wildlife population objectives. Population control necessitated by conflicts will also be dealt with by that agency.

Raptor Habitat

Protect active bird of prey nests from human disturbance until nesting, feeding, and fledging are completed. Provide protection of nest sites and nesting habitat sufficient for the species involved.

Bald and Golden Eagles

Nesting sites, and roosting sites used in conjunction with nesting sites, will be protected under the "Act for Protection of Bald and Golden Eagles" ref. title 50 CFR, USC 668-668d.

Nesting

Eagle nesting territories are divided into primary and secondary management zones.

Primary

The boundary of the primary zone shall not be less than 20 chains from the nest.

Human activities should be controlled during the critical period. The critical period is the time between arrival of adults at the nest site and three weeks after the fledging of any young. The critical period will usually fall between March 1 and August 15.

Secondary

The purpose of this zone is to further minimize disturbance.

The size of the secondary zone will be determined by local topography and resulting visibility from the nest. It shall lie outside the primary zone and be approximately circular with a minimum boundary of 40 chains from the nest.

Human activities into the secondary zone should be restricted during the critical period.

Roosting

Within 1/2 mile (40 chains) of existing nests, save three to five old growth trees for potential roost and perch trees during the breeding season.

Hawks and Owls, Except Prairie Falcons

Nesting

Nesting areas are divided into primary and secondary zones.

Primary

The boundary of the primary zone should not be less than five chains. The management objective for this zone will be to maintain the present habitat characteristics.

The critical period, during which human activities should be restricted, will usually fall between March 1 and August 1.

Secondary

The boundary of the secondary zone should be an additional five chains radius beyond the primary zone (total 10 chain radius). In this secondary zone, modified treatments will be required. "Modified" means intermediate between that required in the primary zone, and that normally prescribed outside of the whole protection zone.

The critical period is the same as for primary zone 'Hawks' above.

Prairie Falcons

Nesting

Nesting areas are divided into primary and secondary zones.

Primary

Size: same as for primary zone Hawks.
Critical period: same as for primary zone Hawks.

Secondary

The boundary of this zone should be an additional 15 chains beyond the primary zone. The management direction for this zone will be a modified treatment between the primary zone, and full treatment beyond the secondary zone.

Critical period: same as for primary zone Hawks.

Species Associated with Dead and Downed Logs

Down dead log requirements for wildlife are expected to be met through attrition of standing snags as they fall. Removal of these logs will not be allowed for other purposes. Wherever possible, two uncharred logs per acre should be left for wildlife habitat. These logs should be at least 12 inches in diameter or greater, and at least 20 feet in length.

Species Associated with Various Plant Communities and Successional Stages

Diversity is to be provided for by maintaining representative portions of all plant associations and having various successional stages represented in an area through time.

Species Associated with Springs, Bogs, and Other Unique Habitat

Seeps, springs, bogs, wet areas, and any other unique habitats, often or generally less than 10 acres in size, will be identified and evaluated on a project level basis and given appropriate protection.

Introduced Species

Evaluate proposals for introducing wildlife (case-by-case) through the National Environmental Policy Act (NEPA) process.

Management Area Standards and Guidelines

(Forest Only)

Resource - Wildlife and Fish

Practice

Habitat Management

General

Standard and Guideline

Manipulation of habitat to sustain the value of wilderness or to perpetuate a Threatened or Endangered wildlife species may be allowed with approval of the Chief of the Forest Service.

Applicable Management Area
MA-D8 Wilderness

Standard and Guideline
Manipulation of habitat will be allowed only for research purposes, with consent of the PNW Station Director.

Applicable Management Area
MA-D12 Research Natural Areas

Standard and Guideline
Habitat improvement projects are acceptable providing they meet the visual objective.

Applicable Management Area
MA-D9 Semiprimitive Nonmotorized

Standard and Guideline
Habitat improvements that do not dominate the landscape may be implemented.

Applicable Management Area
MA-D5 Retention
MA-D6 Partial Retention - Foreground
MA-D7 Partial Retention - Middleground

Standard and Guideline
Habitat improvements that meet the partial retention visual quality objective are acceptable.

Applicable Management Area
MA-D10 Semiprimitive Motorized

Standard and Guideline
Allow activities that meet the visual quality objectives and do not detract from the recreational value of the area.

Applicable Management Area
MA-D11 Developed Recreation

Standard and Guideline
Construct needed fish and wildlife habitat improvements.

Applicable Management Area
MA-D13 Riparian in Acceptable Condition

Standard and Guideline
Manage habitat for maximum populations of brook, rainbow trout, and steelhead.

Applicable Management Area
MA-D14 Riparian in Excellent Condition

Standard and Guideline
Permit habitat improvements compatible with the primary objectives of the management area.

Applicable Management Area
MA-D1 General Forest
MA-D2 Big Game Winter Range
MA-D3 Big Game Summer Range
MA-D4 Old Growth

Pileated Woodpecker Habitat

Standard and Guideline
300 acres or more is the optimum size stand, but clusters and smaller blocks (50 acre minimum) that are no more than 1/4 mile apart and total 300 acres are acceptable. Within a 1000 acre unit, which includes and surrounds each old growth habitat allocation, maintain a minimum average of two hard snags per acre greater than 10 inches DBH, on an additional 300 acres for feeding.

Standards by forest types are as follows:

Ponderosa Pine

Stands will contain at least 10 mature to overmature trees per acre with ponderosa pine representing 75 percent of the overstory.

Stem size will be 21 inches or greater in the overstory tree layer. Broken topped trees may be present. Overstory canopy closures will seldom exceed 50 percent on poor sites A minimum of one standing snag per acre with at least 1.5 tons of down material, including three logs per acre will be present.

Mixed Conifer

Stands include both intolerant and tolerant species. The stands should contain at least 15 trees per acre, 21 inches or more in diameter; and two snags with at least three tons of down material, including three logs per acre. Broken-topped trees may be present. Overstory canopy closure will be 70%.

Applicable Management Area
MA-D4 Old Growth

Big Game Habitat

Standard and Guideline
Manage to provide high capability for elk and deer use on winter range.

Manage 50 percent of the total area in thermal cover. Cover types may include mountain mahogany for deer and elk, and juniper for deer but not for elk.

Maximum distance from cover to any point in a forage area should not exceed 400 feet.

Treat isolated cover producing lands to produce the best balance of cover over time when the general area inherently has a low cover production potential.

Limit open roads to two miles per square mile following timber harvest and post-sale activities.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Manage 40 percent of the area in thermal cover. Thermal cover patches should be 30 to 60 acres each.

Maximum distance from cover to any point in a forage area should not exceed 600 feet.

The spacing of thermal patches will be controlled when these patches are isolated by noncover producing lands. Thermal cover patches, when adjacent to each other will not be treated simultaneously if the treatment results in thermal cover spacing greater than 1800 feet.

When an island of thermal cover is partially treated, the remaining portion will not be scheduled for treatment until the first portion is again in a thermal cover producing condition.

Forested stands, that have been previously treated in a manner that precludes development of thermal cover will be scheduled for treatment at the earliest possible time to meet cover management objectives.

Limit motorized access to two miles per square mile following completion of timber harvesting and post-sale activities

Applicable Management Area
MA-D3 Big Game Summer Range

Standard and Guideline

Maintain hiding cover in big game travel corridors.

Applicable Management Area

MA-D5 Retention
MA-D6 Partial Retention - Foreground

Cavity Nester Habitat

Strive to provide snag habitat at the levels shown in Table D-18, while meeting the primary management emphasis for the specific area. The 40 percent level is the lowest level for any management area, except where safety is involved.

TABLE D-18
SNAG HABITAT LEVELS

Snag Level (Percent)	Management Area
* 40	MA-D1 General Forest
* 60	MA-D2 Big Game Winter Range
* 60	MA-D3 Big Game Summer Range
100	MA-D4 Old Growth
100	MA-D5 Retention
80	MA-D6 Partial Retention-Foreground
40	MA-D7 Partial Retention-Middleground
100	MA-D8 Wilderness
100	MA-D9 Semiprimitive Nonmotorized
100	MA-D10 Semiprimitive Motorized
0	MA-D11 Developed Recreation
100	MA-D12 Research Natural Areas
40	MA-D13 Riparian in Acceptable Condition
80	MA-D14 Riparian in Excellent Condition

* These levels are hard target objectives, even though not specifically required as minimum. Others are anticipated and predicted results of implementation of the primary prescription

Snag habitat may be provided through either identifiable snag patches, or even distribution. Snag patches (clumping) is the preferred method in most cases.

Snag Patch Method (Clumping)

When using the snag patch method, the acreage and number of the untreated clumps or units will vary according to timber type and acres treated. These areas may be managed on a double rotation, and made available for harvest in the future when adjacent and previously harvested areas are suitable for snag habitat production.

Snag patches should be distributed as evenly as possible, and located (on the average) one per 10 acres. This is necessary to meet the smallest territory size needs of a pair of excavator species.

Permanence of snag patches is more effectively achieved when size of snag patches exceeds one acre. But, it may be necessary to designate patches less than one acre in size in order to meet the territory need stated above, which is the more important habitat need.

Table D-19 shows the size of areas needed to be left for a double rotation based on major species groups and snag level. Areas selected for double rotation should be fully stocked and have a variety of size and tree conditions In two-story pine types, full stocking may very often not occur. When this is encountered, use the Individual Snag Distribution Method instead.

TABLE D-19
ACRES MANAGED FOR SNAGS PER ACRES TREATED ON EXISTING STANDS

	Ponderosa Pine		Mixed Conifer	
Snag Level (percent)	Size of snag patch at 1 per 10 acres (Acres)	% YT Reduction	Size of snag patch at 1 per 10 acres (Acres)	% YT Reduction
20	0 3	3	0 2	2
40	0 6	6	0 4	4
60	0 9	9	0 6	6
80	1 2	13	0 8	8
100	1 4	17	1 1	10

Individual Snag Distribution Method

Table D-20 shows the number of large green trees to leave per acre when using the individual snag distribution method. This will ensure a supply of large snags and part of the smaller snags (10-20").

TABLE D-20
GREEN TREES LEFT PER ACRE TO MEET DIFFERENT SNAG LEVELS
(20" DBH +)

	Understory Managed 1/		Understory Not Managed 2/	
Snag Level	Trees/Acre	% Volume	Trees/Acre	% Volume
20	2	3	3	4
40	.4	6	5	7
60	.6	9	7	10
80	.8	11	9	12
100	1.0	13	11	14

1/ Assumes 100 years before large snags will be produced

2/ Assumes 120 years before large snags will be produced

For Both Clump and Individual Tree Method

The size of residual stocking and adjacent stand conditions need to be considered to ensure a supply of small snags. If there is a predicted shortage of small snags, then additional trees in the 10 inch plus size class should be left within the managed stand to meet this need.

Species Management

Native animal species will be maintained. Allow no intentional introduction of non-native wildlife species

Applicable Management Area

MA-D8 Wilderness
MA-D12 Research Natural Areas

Management Area Standards and Guidelines
(Grassland Only)

Resource - Wildlife and Fish

Practice
Habitat Management

Big Game

Standard and Guideline
Maintain 75 percent of the area in a natural ecological condition.

Provide 20 to 40 percent cover.

Cover units may vary in size from 10 to 20 acres.

Encourage shrub components within different plant communities and successional stages.

Applicable Management Area
MA-D2 Big Game Winter Range

Standard and Guideline
Maintain a good ecological condition while managing for 15 to 20 percent deer cover.

Cover units may vary from 5 to 20 acres.

Encourage the shrub component within communities and successional stages.

Manage antelope fawning areas to protect their value and character.

Restrict vehicle use in antelope fawning areas from May 15 through June 15.

Applicable Management Area
MA-D3 Big Game Summer Range

Common Flicker

Standard and Guideline
Old Growth Juniper: 40 acres minimum; may be composed of scattered stands as small as five acres in size located no more than 1/8 mile apart. Spacing of old growth units (totaling 40 acres) should be a minimum of two miles and a maximum of five miles apart.

Juniper stands should contain 50 to 150 trees per acre with an average age greater than 150 years. Decadence within the stand is common, at least one juniper snag greater than 12 inch DBH present per acre. Percent crown closure will be low, 10 to 25 percent. The majority of the trees are large with hollow centers.

Applicable Management Area

MA-D4 Old Growth

Standard and Guideline

Manage riparian vegetation to provide cover for upland game birds.

Applicable Management Area

MA-D13 Riparian in Acceptable Condition
MA-D14 Riparian in Excellent Condition