Management Area Standards and Guidelines

Resource - Forest Health

Maintenance of a healthy forest resource is important as it relates to the ability of forest stands to meet the objectives of each management area. A 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, they 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 National 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 4-33 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 4-33
FOREST HEALTH STANDARDS AND GUIDELINES AND ALLOWABLE TREATMENT OPTIONS FOR MAJOR PEST GROUPS BY MANAGEMENT AREA

		Pine		Mixed Conifer		
Management Area	Standards & Guidelines	BB 1/	DM 2/	DEF 3/	RR 4/	DM
1-4 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
5 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
6 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 synthestic or biological chemicals, based on site specific environmental analysis	PF	NT	S	NT	NT
7, 25, 26, 27 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
8, 10, 11A 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
9 Rock Creek/ Cottonwood Creek Unroaded Helicopter	Utilize prevention strategies that preserve the unroaded character of this area Stocking level control and prescribed fire are recommended for treatment of bark beetles in pine types Control prevention for dwarf mistletoe in pine and root rot in mixed conifer are low priority	SC,PF	ALL L	ALL	ALL L	ALL
11(B), 16-19, 23, 24 Recreation/Wildlife Emphasis Areas	Generally, treatment of insect and disease conditions will not be in high priority, except when the ability of the forest resource to meet the area objectives is threatened Treatment of pest conditions will also be considered when damage is catastrophic and threatening to the surrounding area There are no constraints for selection of control strategy Treatments to control or prevent bark beetles and root disease may be emphasized to meet visual objectives	ALL H	ALL	ALL	ALL H	ALL

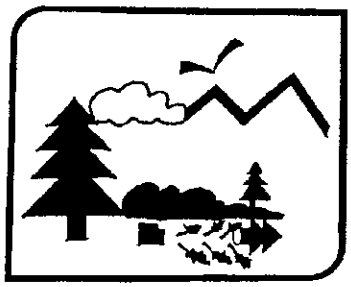
Management Area	Standards & Guidelines	BB 1/	DM 2/	DEF 3/	RR 4/	DM
12 Eagle Roosting Areas	Utilize all strategies to meet the area objectives for providing roosting habitat for bald eagles Emphasize reducing risk of bark beetle infestation, through stocking level control, to maintain large diameter trees All treatments must meet seasonal restriction (Dec 1 to May 1)	ALL H	ALL L	ALL	ALL	ALL L
13, 14, 28 Recreation Sites and Facilities	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
15 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
20. Winter Range	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
21 General Forest Winter Range	Utilize all methods to prevent or suppress insect and disease outbreaks Consider thermal cover objectives when prescribing stocking levels for ponderosa pine stands	ALL H	ALL H	ALL H	ALL H	ALL H
22 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

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

Emphasis
H - High
L - Low

1/ BB - Bark Beetles
2/ DM - Dwarf Mistletoe
3/ DEF - Defoliators
4/ RR - Root Rots

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 (e.g. 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 4-34 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 28 management areas on the Forest.

Management Area Standards and Guidelines

Resource - Forest Residues

Practice
Residue Management

Standard and Guideline
Manage residues through the natural processes of accumulation and decomposition (including natural fire). Activity fuel 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-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 NFCR Wilderness Study Area

Standard and Guideline
Reduce fuel loading to natural conditions on 20 percent of the Wilderness (about 3,500 acres) each decade when feasible.

Applicable Management Area
MA-F3 Mill Creek Wilderness

Standard and Guideline
Manage residues through the natural processes of accumulation and decomposition (including natural fire regimes). Activity fuel 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-F5 Research Natural Areas
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor

* 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 4-35.

Applicable Management Area
MA-F6 Old Growth

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 profiles for this management are approximated by the residue photos in Table 4-35.

TABLE 4-34
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 4-35
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 duplicating 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
	7-PP-3	3-LP-3	3-PP&ASSOC-3			MA-F12 MA-F22

FUEL TYPE	PP	LP	MC	TS	GL	Management Area(s)
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

Applicable Management Area
MA-F15 Riparian Areas

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 4-35.

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail

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 4-35.

Applicable Management Area
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F28 Facilities

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 4-35.

Applicable Management Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

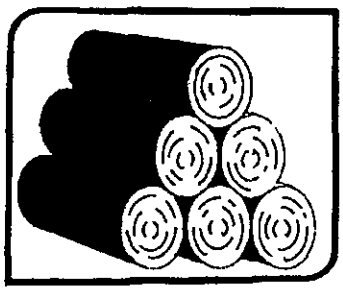
Standard and Guideline
Manage residues to protect stand characteristics desirable for eagles. Residues shall be treated to minimize risk of stand destructive fires. Desired residue profiles for this management area are approximated by the residue photos in Table 4-35.

Applicable Management Area
MA-F12 Eagle Roosting Areas

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 4-35.

Applicable Management Area
MA-F22 General Forest

Fuelwood



Forest-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 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 Firewood

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

Resource - Fuelwood

Practice
Commercial and Personal Gathering

Standard and Guideline
Commercial and personal use prohibited.

Applicable Management Area
MA-F5 Research Natural Areas
MA-F6 Old Growth
MA-F28 Facilities

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

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife & Recreation Area
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F27 Round Mountain National Recreation Trail

Standard and Guideline
Trees, downed logs, or other significant features will be "signed" to prohibit use as fuelwood, otherwise, fuelwood (commercial and personal) is allowed.

Applicable Management Area
MA-F7 Summit National Historic Trail

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

Applicable Management Area
MA-F12 Eagle Roosting Areas

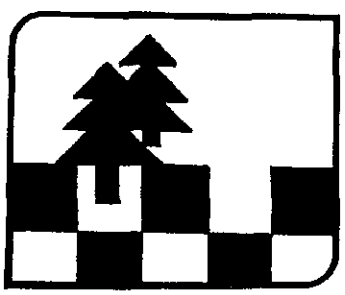
Standard and Guideline
All firewood gathering restricted to open roads and adjacent areas from December 1 to May 1.

Applicable Management Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

Standard and Guideline
Firewood gathering subject to permit regulations only.

Applicable Management Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F16 Bandit Springs Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F22 General Forest
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors

Lands



Forest-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 this Plan, and with procedures set forth in the Regional Guide.

Determine the compatability of each alternative with 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 the 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 Sites

Review applications for other uses through the NEPA process.

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

Recreational 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 (ROS) 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 Adjustment Map (Map Packet) and management area standards and guidelines.

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.

Management Area Standards and Guidelines
Resource - Lands

Practice
Special Uses

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-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area

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-F5 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-F6 Old Growth
MA-F10 Silver Creek Area

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

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded-Helicopter Area
MA-F11 Lookout Mountain Recreation Area
MA-F13 Developed Recreation
MA-F27 Round Mountain Recreation Trail
MA-F28 Facilities

Standard and Guideline
Compatible uses are permitted. Activities prohibited from December 1 to May 1.

Applicable Management Area
MA-F12 Eagle Roosting Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

Standard and Guideline
Compatible uses are permitted.

Applicable Management Area
MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F16 Bandit Springs Recreation Area
MA-F17 Steins's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F22 General Forest
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors

Practice

Land Ownership and Adjustment (By Ownership Category)

Standard and Guideline

Category 1

Retain and acquire lands, or scenic easements, under Congressional direction, that are necessary to maintain or enhance the management emphasis of the specific areas.

Applicable Management Area

MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F12 Eagle Roosting Area
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor

Standard and Guideline

Category 2

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

Applicable Management Area

MA-F5 Research Natural Areas
MA-F6 Old Growth
MA-F7 Summit National Historic Trail
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife Area
MA-F19 Deep Creek Recreation Area
MA-F20 Winter Range
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

Standard and Guideline
Category 3

Retain and acquire lands where the primary objective is for commodity production (regardless of ownership). Federal lands may be used to acquire (exchange) lands in Categories 1 and 2. However, lands in this category will not be disposed of if that would result in a breach in a sold block of Federally-owned land Private lands within this category may be acquired in order to consolidate Federal ownership.

Applicable Management Area
MA-F21 General Forest Winter Range
MA-F22 General Forest

Standard and Guideline
Category 4

Use small, isolated blocks of lands which do not contain special features, and which are expensive and difficult to manage, to acquire lands in Categories 1, 2, and 3. Disposal of Category 4 lands will have priority over the disposal of lands in Category 3.

Applicable Management Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

Standard and Guideline
Category 5

More intensive study and planning are necessary to determine the optimum land ownership patterns.

Applicable Management Area
MA-F4 North Fork Crooked River Wilderness Study Area

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-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness

MA-F4 North Fork Crooked River Wilderness Study Area
MA-F5 Research Natural Areas
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F27 Round Mountain Recreation Trail

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-F6 Old Growth
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F13 Developed Recreation
MA-F15 Riparian

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-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife Recreation Area
MA-F20 Winter Range
MA-F21 General Forest 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-F7 Summit National Historic Trail
MA-F14 Dispersed Recreation
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F20 General Forest
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F28 Facilities

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-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F21 General Forest Winter Range
MA-F22 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-F1 Black Canyon Wilderness Area
MA-F2 Bridge Creek Wilderness Area
MA-F3 Mill Creek Wilderness Area
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F5 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-F6 Old Growth
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area

Standard and Guideline

Category 2 Avoidance Areas for utility corridors, management areas with unique values that have been accorded specific and protected management status through legislative action.

Applicable Management Area

MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F27 Round Mountain National Recreation Trail

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-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

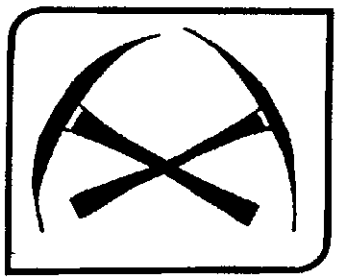
Standard and Guideline

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

Applicable Management Area

MA-F7 Summit National Historic Trail
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F22 General Forest
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F28 Facilities

Minerals & Energy



Forest-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,

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 (Forest Supervisor's Office).

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.

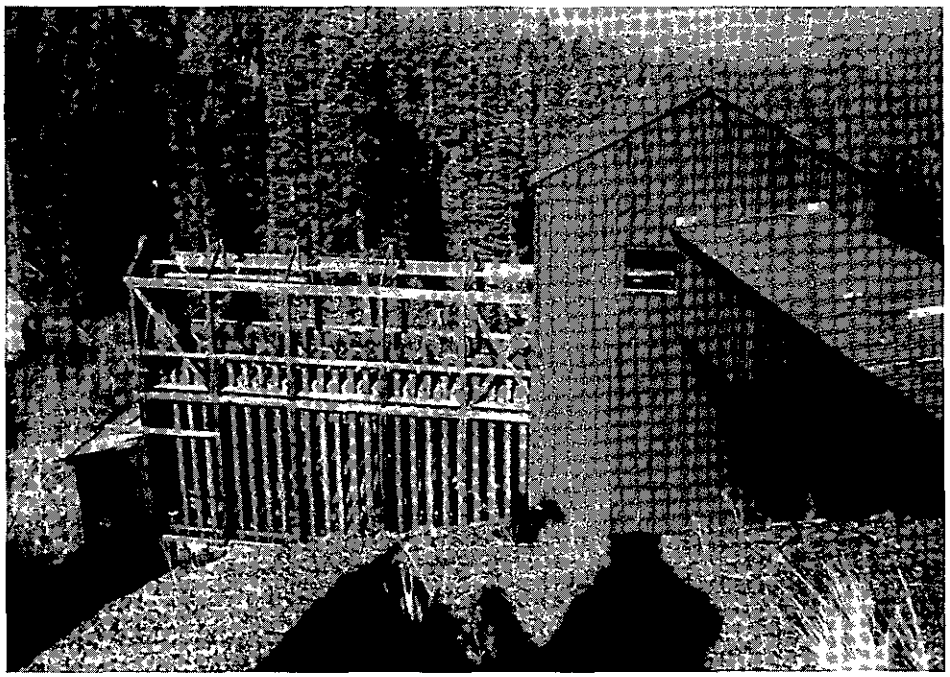
Assure that operating plans include reasonable and operationally feasible requirements needed for timely and effective coordination with other resources.

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. When possible, 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
Resource - Minerals and Energy

Practice
Oil And Gas Leasing

Standard and Guideline
Issue no leases.

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area

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

Applicable Management Area
MA-F5 Research Natural Areas

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

Applicable Management Area
MA-F6 Old Growth
MA-F7 Summit National Historic Trail
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F13 Developed Recreation
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F28 Facilities

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-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range
MA-F21 General Forest 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-F12 Eagle Roosting Areas (660 feet from roost trees)
MA-F15 Riparian (Outside of management area)

Standard and Guideline
Issue leases with a stipulation requiring drilling and storage facilities to be set back 100 feet from developed facilities and maintained trails.

Applicable Management Area
MA-F16 Bandit Springs Recreation Area
MA-F18 Hammer Creek Wildlife/Recreation 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-F7 Summit National Historic Trail
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail

Standard and Guideline
No special restrictions.

Applicable Management Area
MA-F20 General Forest

Practice

Locateable 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-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness Area (except existing valid claims)

Standard and Guideline

The following areas are currently withdrawn from mineral entry under the mining laws.

Applicable Management Area

MA-F5 Research Natural Areas (Ochoco Divide only)
MA-F13 Developed Recreation (Delintment Lake and Walton Lake Campgrounds only)
MA-F25 Highway 26 Visual Corridor (600 ft. right-of-way corridor only)
MA-F28 Facilities (Ochoco Ranger Station and Rager Ranger Stations only)

Standard and Guideline

Recommend withdrawal from mineral entry.

Applicable Management Area

MA-F5 Research Natural Areas (Dry Mountain, Silver Creek and Stinger Creek)
MA-F28 Facilities (Allison Guard Station)

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-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range
MA-F21 General Forest 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-F3 Mill Creek Wilderness (existing claims)
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F6 Old Growth
MA-F7 Summit National Historic Trail
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F22 General Forest
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

Practice
Common Variety Minerals

Standard and Guideline
Do not develop material sources.

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F5 Research Natural Areas
MA-F6 Old Growth
MA-F7 Summit National Historic Trail
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F13 Developed Recreation
MA-F15 Riparian

MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

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

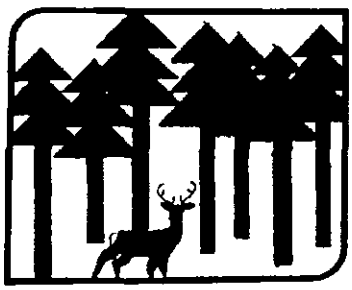
Applicable Management Area
MA-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range
*MA-F21 General Forest Winter Range

* Removal will be permissible with Line Officer approval on a case-by-case basis.

Standard and Guideline
Material sources development allowed.

Applicable Management Area
MA-F22 General Forest

Old Growth



Forest-Wide Standards and Guidelines

All old growth stands meeting the definition stated in the Regional Guide, 1984, will be periodically inventoried and monitored (see Monitoring Plan, Chapter 5, Implementation of the Forest Plan).

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 Prescription #4 (MA-F4) - Old Growth in Section 2 and management area

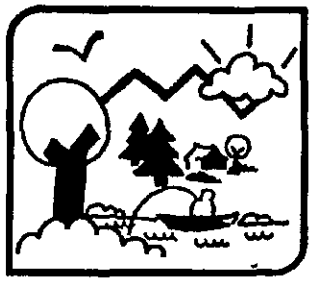
standards and guidelines for Wildlife and Fish.,

Other old growth, 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-Wide Standards and Guidelines

General

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

Developed Sites

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

See the management area prescription for MA-F13 Developed Recreation, Section 2.

Dispersed Recreation

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

See the management area prescriptions for MA-F14 Dispersed Recreation, Section 2.

Off-Road Vehicles (ORV's)

ORV use varies by management area. See management area standards and guides for Transportation.

ORV use on scablands will be limited to over snow vehicles (also see Forest-wide Standards and Guidelines for Soils and Transportation System).

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

Resource - Recreation

Practice
Wilderness Recreation Spectrum (WRS)

Standard and Guideline
Primitive and Semiprimitive.

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area

Practice
Recreation Opportunity Spectrum

Standard and Guideline
Semiprimitive Nonmotorized.

Applicable Management Area
MA-F5 Research Natural Areas
MA-F6 Old Growth
MA-F24 North Fork Crooked River Scenic Corridor

Standard and Guideline
Semiprimitive Nonmotorized, except snowmobiles operating on an adequate snow base between December 1 and May 1.

Applicable Management Area
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area

Standard and Guideline
Roaded Natural.

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F15 Riparian Areas
MA-F16 Bandit Springs Recreation Area
*MA-F17 Stein's Pillar Recreation Area
*MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F23 North Fork Crooked River Recreation Corridor
MA-F27 Round Mountain National Recreation Trail

* These areas will exhibit some semiprimitive characteristics, but will not meet ROS criterion for a Semiprimitive, Nonmotorized classification.

Standard and Guideline
Roaded Natural, Roaded Modified or Rural.

Applicable Management Area
MA-F12 Eagle Roosting Areas
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F20 Winter Range
MA-F21 General Forest Winter Range
MA-F22 General Forest
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F28 Facilities

Practice
Developed Recreation

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

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F5 Research Natural Areas
MA-F6 Old Growth

Standard and Guideline

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

Activities within floodplains must meet water quality standards and goals.

Applicable Management Area

MA-F15 Riparian Areas

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-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F24 North Fork Crooked River Recreation Corridor

Standard and Guideline

Develop facilities to compliment recreational opportunities and protect resource values, in a manner consistent with management area emphasis and desired future condition. Developed fee campgrounds will not be provided in these areas during this planning period.

Pursue opportunities for interpreting natural resources, history, geology, scenic views, and management practices.

Design or modify improvements to blend with the natural landscape, using native, rustic materials.

Applicable Management Area

MA-F7 Summit National Historic Trail
MA-F14 Dispersed Recreation
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F23 NFCR Recreation Corridor
MA-F24 NFCR Scenic Corridor
MA-F27 Round Mountain National Recreation Trail

Standard and Guideline

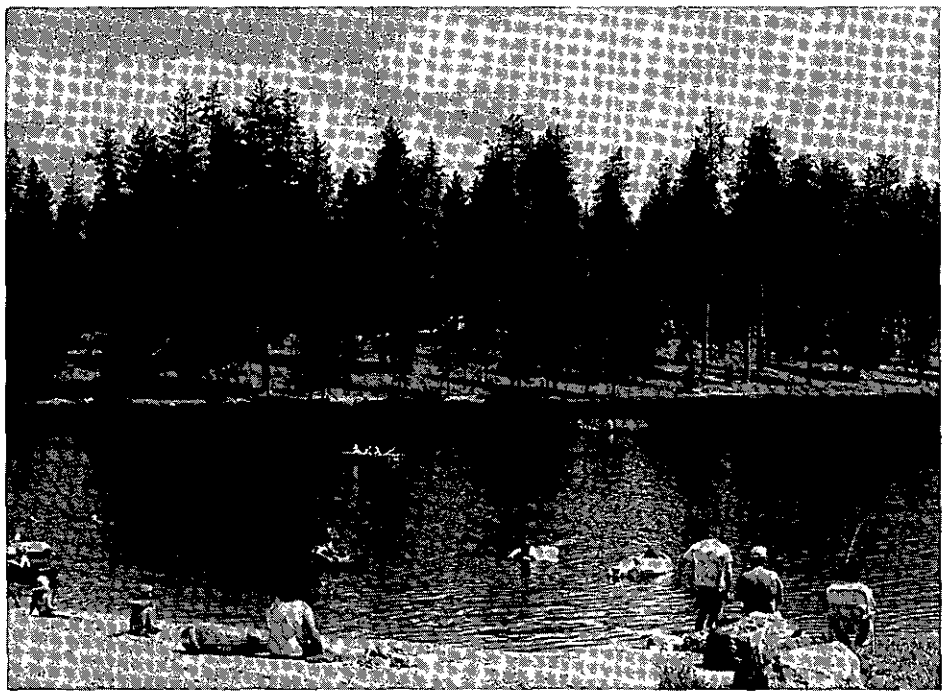
Use the State Rest Area as a snowpark during the winter months. Develop

additional snowparks to facilitate parking at the sled hill for snowmobiling at the old guard station. Coordinate with the State Highway Department concerning future plans for this area.

Applicable Management Area
MA-F16 Bandit Springs Recreation Area
MA-F25 Highway 26 Visual Corridor

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-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range



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

Applicable Management Area
MA-F13 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-F5 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-F6 Old Growth

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

Applicable Management Area
MA-F16 Riparian Areas

Standard and Guideline
Protect the naturalness of the immediate area encompassing the dispersed campsites.

Applicable Management Area
MA-F14 Dispersed Recreation

Standard and Guideline
Promote driving for pleasure and mountain biking.

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F19 Deep Creek Recreation Area
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors

Standard and Guideline
Develop a variety of all-terrain vehicle (ATV) routes for a variety of terrain and experience levels.

Applicable Management Area
MA-F22 General Forest

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

Applicable Management Area
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F16 Bandit Springs Recreation Area
MA-F27 Round Mountain National Recreation Trail

Standard and Guideline

Camp Sites

Discourage development of "permanent" dispersed campsites or facilities. 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).

MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 NFCR Wilderness Study Area

Encounters

Primitive Area, encounters per day 80% of the time:

7 or less	MA-F1 Black Canyon Wilderness
7 or less	MA-F2 Bridge Creek Wilderness
6 or less	MA-F3 Mill Creek Wilderness
7 or less	MA-F4 NFCR Wilderness Study Area

Semiprimitive Area, encounters per day 80% of the time:

10 or less	MA-F2 Bridge Creek Wilderness
12 or less	MA-F3 Mill Creek Wilderness

Group Size

Maximum permissible group size:

12 people	MA-F1 Black Canyon Wilderness
10 people	MA-F2 Bridge Creek Wilderness
12 people	*MA-F3 Mill Creek Wilderness
12 people	MA-F4 NFCR Wilderness Study Area

* In Mill Creek Wilderness, "12" includes people and livestock in any combination.

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.

MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area

MA-F11 Lookout Mountain Recreation Area

Camp Sites
Various types of camp sites, some allowing interaction with other camp sites. Other sites remote from any others.

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.

MA-F24 NFCR Scenic Corridor

Standard and Guideline
Manage use to keep contacts between users low to moderate (15 encounters with groups per day). Utilize minimum on-site controls and restrictions necessary to protect resources and promote safe use of the area.

Applicable Management Area
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife Recreation Area

Standard and Guideline
Nonmotorized recreational opportunities will be emphasized. Limit motorized winter access to Forest Road 27 and trailheads from December 1 to March 30. Limit motorized access during other times of the year to designated existing roads.

Applicable Management Area
MA-F16 Bandit Springs Recreation Area

Standard and Guideline
Pursue necessary steps to officially designate the trail/motorway section of the Summit Trail as the East-West Intertie Trail and the New Oregon Recreation Trail. Vigorously promote the use of this cultural resource for recreation including: mountain biking, driving for pleasure, horseback riding, cross-country skiing, and backpacking.

Applicable Management Area
MA-F7 Summit National Historic Trail

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-F12 Eagle Roosting Areas
MA-F20 Winter Range
MA-F21 General Forest 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-F19 Deep Creek Recreation Area
MA-F23 NFCR Recreation Corridor
MA-F27 Round Mountain National Recreation Trail

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).

Applicable Management Area
MA-F14 Dispersed Recreation
MA-F22 General Forest

Standard and Guideline
Recommend the pack it out policy for garbage.

Promote leave no trace camping techniques.

Applicable Management Area
All Management Areas except
MA-F13 Developed Recreation

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-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 NFCR Wilderness Study Area

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

Applicable Management Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F24 NFCR Scenic Corridor

Practice
Signing

Standard and Guideline
Use minimum natural appearing signing identifying destinations and trail names where needed, but not mileages.

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 NFCR Wilderness Study Area

Standard and Guideline
Signing for recreational purposes should comply with management area emphasis and desired future condition.

Applicable Management Area
All remaining management areas

Practice
Trails

Standard and Guideline
Emphasize these areas with a nontrailed objective.

Applicable Management Area
MA-F2 Bridge Creek Wilderness

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-F1 Black Canyon Wilderness
*MA-F3 Mill Creek Wilderness
MA-F4 NFCR Wilderness Study Area
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F24 NFCR Scenic Corridor

* No new trails will be developed in Mill Creek Wilderness.

Standard and Guideline
Trails that allow year-round use of the area will be developed. This will facilitate use of the area by horseback riders, mountain bikers, and hikers and cross-country skiers.

Applicable Management Area
MA-F11 Lookout Mountain Recreation Area
MA-F16 Bandit Springs Recreation Area

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

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 NFCR Wilderness Study Area

Standard and Guideline
No motorized use allowed on trails.

Applicable Management Area
MA-F6 Old Growth
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F24 NFCR Scenic Corridor

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-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F27 Round Mountain National Recreation Trail

Standard and Guideline
No motorized use of trails or roads during the period of December 1 to March 30, except for the designated route on Forest Road 27.

Applicable Management Area
MA-F16 Bandit Springs Recreation Area

Standard and Guideline
No motorized use of trails, except snowmobiles operating on an adequate snow base. In some cases, snowmobile routes may be designated.

Applicable Management Area
MA-F11 Lookout Mountain Recreation Area

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

Applicable Management Area
MA-F12 Eagle Roosting Areas
MA-F20 Winter Range
MA-F21 General Forest Winter Range

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

Applicable Management Area
MA-F5 Research Natural Areas

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

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F15 Riparian Areas
MA-F19 Deep Creek Recreation Area
MA-F23 NFCR Recreation Corridor
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

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

Applicable Management Area
MA-F22 General Forest

Scenic Resources

Forest-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.

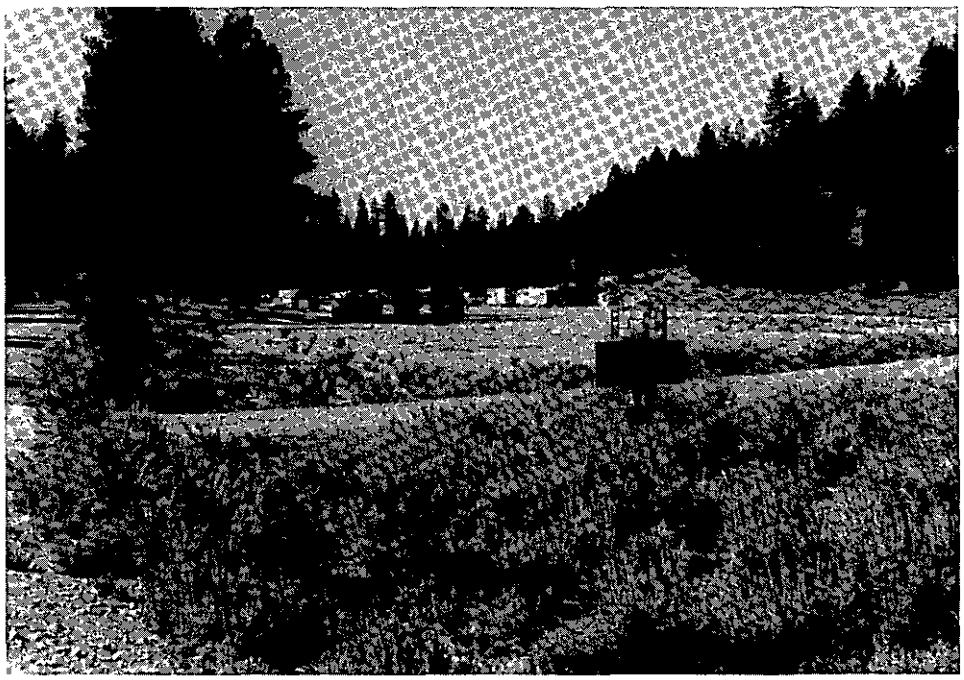
Where natural catastrophes such as large wildfires, insect epidemics, or windthrows occur, management activities may differ from stated visual quality objectives.

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

Leaving visually appealing seed-trees in regeneration units;

Modifying harvest boundaries to eliminate "sharp line" effects; and

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



Management Area Standards and Guidelines
Resources - Scenic Resources

Practice
Visual Quality Objective (VQO)

Standard and Guideline
Preservation.

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F5 Research Natural Areas
*MA-F7 Summit National Historic Trail (Minor segments)

Standard and Guideline
Retention.

Applicable Management Area
MA-F6 Old Growth
*MA-F7 Summit National Historic Trail
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F13 Developed Recreation
**MA-F14 Dispersed Recreation
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F24 NFCR Scenic Corridor
MA-F25 Highway 26 Visual Corridor
*MA-F26 Visual Management Corridors (Retention Sections)
*MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

* These areas will be managed within a general border of 600 feet on each side of the edge of the road or trail Flexibility is encouraged to take advantage of natural topographic features and "special scenery" areas The management intent is not to manage the areas to the full background viewing area, but rather to provide a natural setting within the most visible foreground

** Within actual dispersed sites only

Standard and Guideline
The general VQO for the area is partial retention except along designated trails and roads where the VQO is retention.

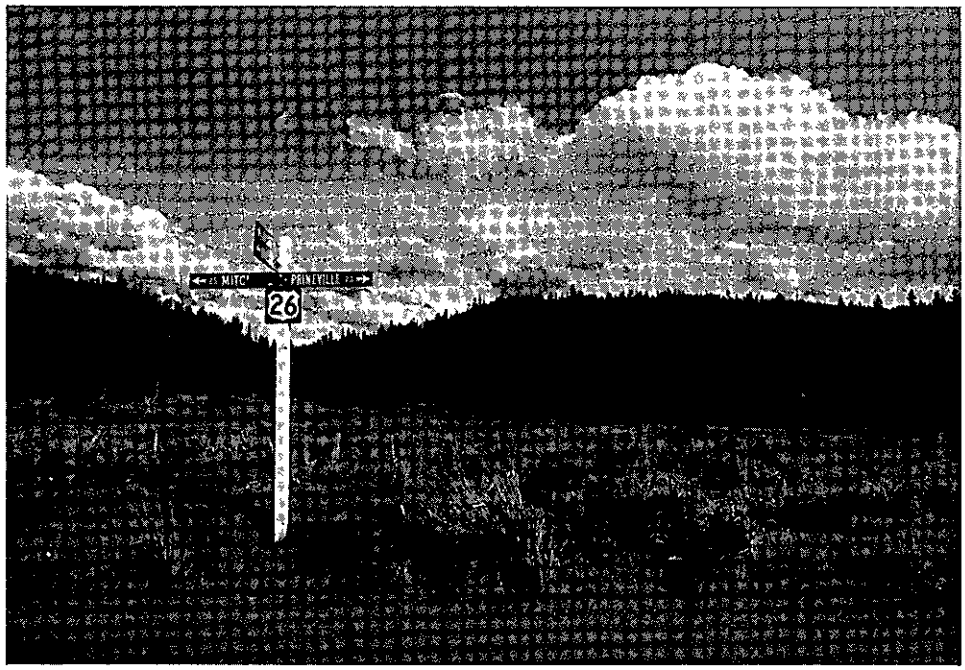
Applicable Management Area
MA-F18 Hammer Creek Wildlife/Recreation Area

Standard and Guideline
Partial Retention.

Applicable Management Area
*MA-F7 Summit National Historic Trail
MA-F23 NFCR Recreation Corridor
*MA-F26 Visual Management Corridors (Partial Retention Segments)

Standard and Guideline
Retention as viewed from Highway 26, maximum modification when viewed from other perspectives.

Applicable Management Area



MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area

Standard and Guideline
Modification.

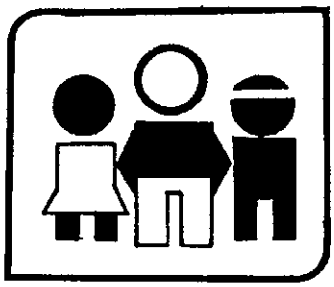
Applicable Management Area
MA-F12 Eagle Roosting Areas
MA-F15 Riparian Areas

Standard and Guideline
Maximum Modification.

Applicable Management Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range
MA-F22 General Forest

* These areas will be managed within a general border of 600 feet on each side of the edge of the road or trail Flexibility is encouraged to take advantage of natural topographic features and "special scenery" areas The management intent is not to manage the areas to the full background viewing area, but rather to provide a natural setting within the most visible foreground

Social and Economic



Forest-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.

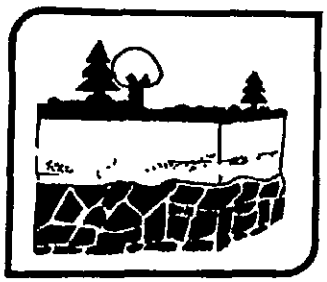
Inform the general public, including minorities and the underprivileged, of benefits they are eligible to receive from Forest programs. Use techniques and the media best suited to increase awareness and participation.

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-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 applicable 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 percent 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 following classes:

Soil Resource Inventory Erosion Hazard Class	***Minimum % Effective Ground Cover***	
	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.

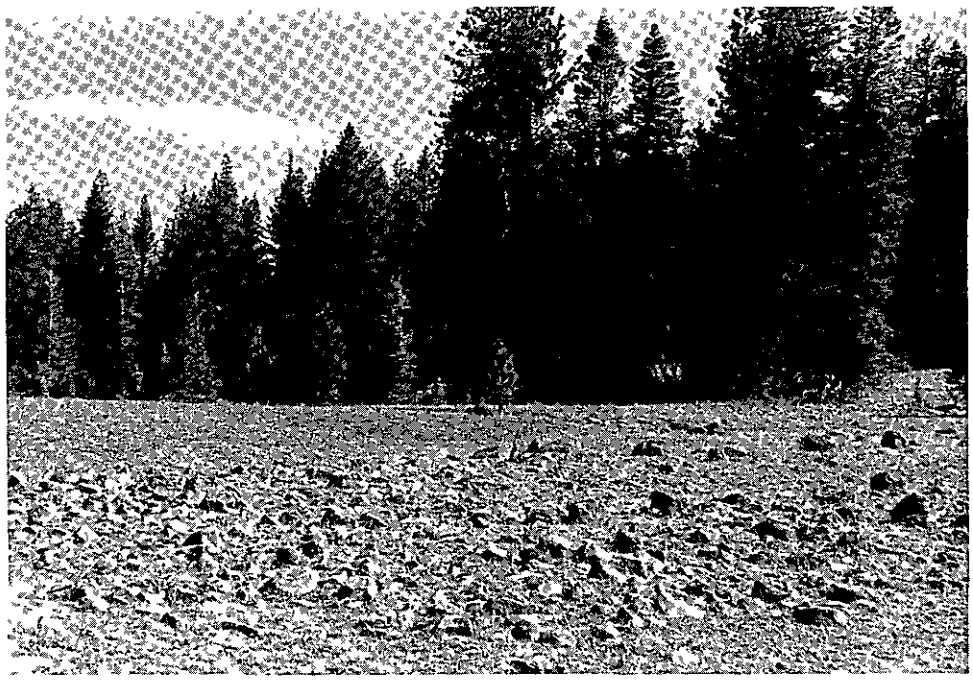
An activity area is the total area for which a ground-impacting activity is planned, for example, a unit for a timber sale, slash disposal project, or grazing allotment. The area would also include transportation systems within and directly adjacent to the project.

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 applicable sections.

Management Area Standards and Guidelines

Resource - Soil

Practice
Soil Conditions

Standard and Guidelines

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.

Applicable Management Area

MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 NFCR Wilderness Study Area

Standard and Guidelines

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-F5 Research Natural Areas

Standard and Guidelines

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

Applicable Management Area

MA-F6 Old Growth

Practice
Soil Conditions

Standard and Guidelines
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-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area

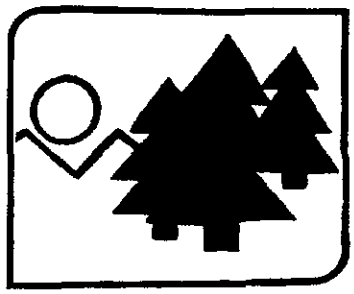
Standard and Guidelines
No more than 10 percent of an activity area can be compacted or displaced to a degree which degrades vegetative productivity.

Applicable Management Area
MA-F15 Riparian Areas

Standard and Guidelines
Comply with Forest-wide Standards and Guidelines only.

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F12 Eagle Roosting Areas
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F23 NFCR Recreation Corridor
MA-F24 NFCR Scenic Corridor
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors (Retention Sections)
MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

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.

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

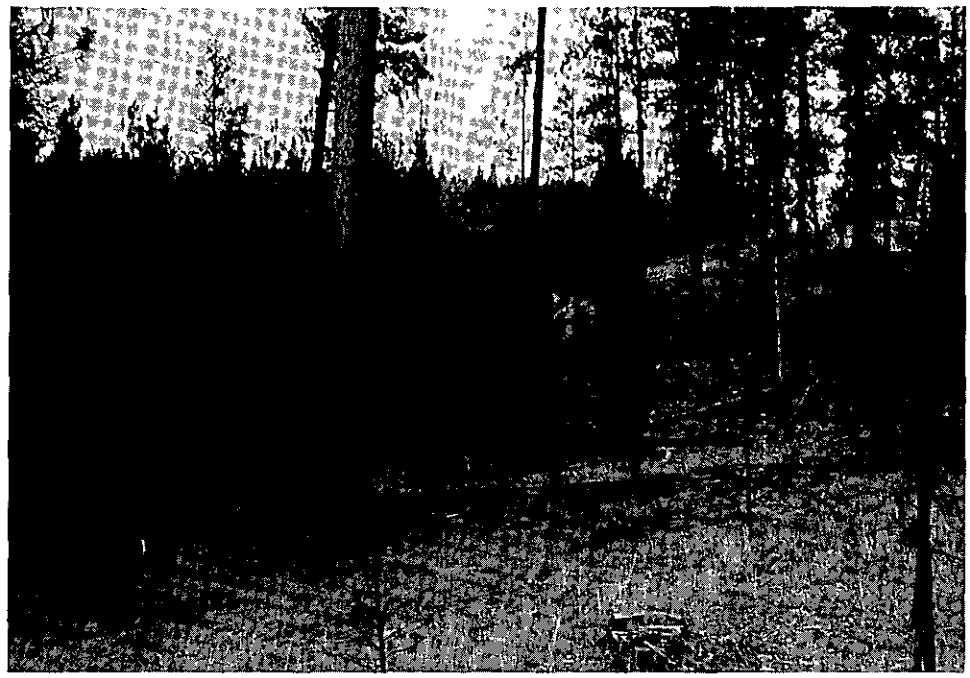
The application of uneven-aged management is characterized by stands which contain at least two well defined age classes. Even-aged aggregations of trees within these uneven-aged stands should be of a size such that regeneration never loses the protection of the adjacent older age classes. Regulation 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 2, 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 below.

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 meeting costs and outputs projected in the Forest Plan.

STOCKING STANDARDS AT 4.5 FEET

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

[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

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 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 ten 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).

Watershed Sensitivity	EHA Threshold Harvest Level
High	25 percent
Moderate	30
Low	35

Forest Watersheds by Sensitivity Class

High

John Day River
Rock Creek
Trout Creek
Bridge Creek
Deep Creek
Wolf Creek
Nicoll/Sawmill Creek (s)
Badger Creek
Bear Creek

Moderate

Marks Creek
North Fork Crooked River
Emigrant Creek
McKay Creek
Howard/Porter Creek (s)
Ochoco Creek
Mill Creek
Silver Creek

Low

Middle Fork Crooked River
Dry/Stinger Creek (s)
Beaver Creek
Bear/Camp Creek (s)
Keeton Creek

If during project implementation, an alternative is selected that is predicted to exceed appropriate threshold values shown above, a Forest level interdisciplinary review will occur, with full public disclosure.

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.

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

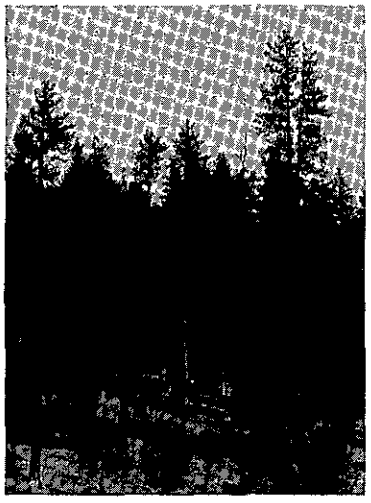
On timbered lands where site productivity is expected to be less than 20 cu.ft./acre/year, the regeneration method will be natural regeneration. This will be accomplished under the shelterwood method. Overstory will not be removed until regeneration is securely established.

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
Resource - Timber

Practice
Scheduled Harvest



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

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F5 Research Natural Areas
MA-F6 Old Growth
MA-F7 Summit National Historic Trail (Preservation Segment Only)

Standard and Guideline
No scheduled timber harvest. Salvage harvests may be allowed under catastrophic conditions only.

Applicable Management Area
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area A)
MA-F28 Facilities

MA-F11(B) Lookout Mountain Recreation Area
The following standards and guidelines apply to MA-F11(B), the lower portion of the Lookout Mountain Recreation Area. Emphasis is to provide a natural setting for high quality, semiprimitive recreational activities, while maintaining healthy forested conditions. Vegetative manipulation will occur to benefit wildlife and recreational opportunities. The Pacific Northwest Experiment Station may assist the Forest in development of strategies to meet management area objectives. No timber harvest is scheduled, but area-related planning activities, including public involvement and environmental analysis will be initiated during the first decade in preparation for nonscheduled harvest possibilities.

Silvicultural Systems
Both uneven- and even-aged silviculture may be applied in specific stands in order to meet recreational and wildlife objectives, but regeneration cutting should not exceed five percent of the total mixed conifer acreage, or four percent of the ponderosa pine acreage per decade.

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

Encourage large, ponderosa pine and larch as primary species, but maintain 20-30 percent other species for visual diversity.

Reforestation

Rely primarily on natural regeneration. Plant only where needed to meet recreation or wildlife objectives.

Prescriptions should encourage stocking by seral species (i.e. ponderosa pine and western larch). Managed stands should be 70 percent pine and larch, and 30 percent other species.

Precommercial Thinning

Thin stands at varied spacings to meet visual management objectives and to maintain health and vigor.

Commercial Thinning

May vary *from zero to three entries.*

Harvest

Cutting practices may be used that meet the following objectives.

	PP	MC
Unit Size (acres)		
Even-aged		
Two Story Stands	4-10	2-5
Regeneration Cuts [1/]	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) [2/]		
Uneven-aged	20	20
Diameter [3/]	30"	27"
Lineal Feet of Trail Frontage in an Open Condition per Mile [4/]	300	200

[1/]Utilize seed-tree cuts where acceptable western larch and ponderosa pine exist Strive to leave all existing western larch and ponderosa pine saplings

[2/]Actual harvest entry cycle will be prescribed in a site specific silvicultural prescription

[3/]The indicated diameter is an average end point diameter at rotation age for even-aged stands For uneven-aged stands, the indicated size is a target diameter.

[4/]Refers to regeneration openings Does not apply to intermediate treatments such as commercial thinnings, or single tree selection

Landing locations will be used as parking areas, trailheads or other recreational facilities.

Give preferential treatment to land and vegetation for a 300 foot radius surrounding elk wallows and calving areas.

MA-F17 Stein's Pillar, MA-F19 Deep Creek, MA-F24 NFCR Scenic Corridor.

The following standards and guidelines allow limited scheduled harvest. Harvest treatments will meet the objectives of these management areas. The visual quality objective is retention. These areas also have unique qualities requiring additional consideration when planning timber harvest activities.

Silvicultural Systems

Emphasize uneven-aged systems to meet the objectives for the area. Even-aged systems may be used on a limited basis when needed to meet the area objectives. 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 following objectives.

	PP	MC
Unit Size (acres) [1/]	20-50	2-5
Rotation Age	300	250
Target diameter [2/]	30"	20-30"

[1/] Pine types will be individual tree selection while mixed conifer types will be group selection

[2/] The diameter shown is average for group selection and the target diameter for individual tree selection

Entry Cycle

An average entry cycle of 40 years is prescribed for stands in this management area. Actual harvest entry cycle may vary as prescribed in site specific silvicultural prescriptions.

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.

Restrictions on Harvest

For Stein's Pillar only, harvest activities should take place during the period from December 1 though May 1.

MA-F13 Developed Recreation

Developed Site Area

Harvest Scheduling

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

Reforestation

Rely primarily 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, 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 following objectives.

	PP	MC
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 size 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-F7 (Retention) Summit National Historic Trail, MA-F14 Dispersed Recreation, MA-F16 Bandit Springs, MA-F25 Highway 26 Visual Corridor, MA-F26 (Retention) Visual Management Corridors, MA-F27 Round Mountain National Recreation Trail

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 and enhancing the scenic qualities in these areas.

Silviculturist will model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the following objectives:

	PP	MC
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 Trail Frontage in an Open Condition per Mile [3/]		
MAF-7 and MAF-27	300	200
MAF-25 and MAF-26	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 size is a target diameter

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

Restrictions on Harvesting

For Bandit Springs only, harvest activities are allowed from April 1 through December 1. Restrict harvest activities during times of high recreational use.

MA-F12 Eagle Roosting Areas

Silvicultural Systems

Harvest ponderosa pine on an uneven-aged management system. Timber stands will be treated over time to produce the optimum number and size trees (36 to 40 inches at DBH) while avoiding a high risk of insect attack or disease. There are no limitations on thinning trees below 20 inches at DBH and thinning to maintain the health and growth of roost trees and future roost trees is desirable.

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

Restrictions on Harvesting

Harvesting will only be allowed between May 1 and December 1. Actual and designated roost trees will not be designated for harvest nor will adjacent trees where falling might cause the loss of roost trees. Snags will be left where safely possible to do so.

A site-specific management Plan will be written for each roosting area which will be designed to maintain existing roost trees and develop suitable future roost trees. Stand conditions will be modeled and results incorporated into a certified silvicultural prescription. This Plan will require consultation and final review by the U.S. Fish and Wildlife Service.

Precommercial Thinning

Consider desired size for future roost trees when thinning.

Commercial Thinning

Consider desired size of future roost trees when thinning.

MA-F15 Riparian Areas

Silvicultural System

Utilize both uneven-aged and even-aged systems where ecologically suitable for meeting riparian objectives. Emphasize stand health and long-term shade production.

Both even- and uneven-aged management systems will follow Forest-wide standards and guidelines.

Reforestation

Avoid mechanical site preparation, aerial herbicide application and fertilization.

Silviculturist will determine reforestation and intermediate treatment needs, based on meeting the following objectives:

	PP	MC
Unit Size (acres) (range)		
Even-aged		
Two Story Stands	10-20	5-10
Regeneration Cuts	2-5	2-5
Uneven-aged		
Group Selection	0-2	0-2
Single Tree Selection	No Limit	No Limit
Rotation Age (years)		
Even-aged	200	200
Entry Cycle (years) [1/]		
Uneven-aged	40	40
Diameter [2/]	20"	20"
Large Woody Material [3/]		

[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 size is a target diameter

[3/]Provide suitable amounts of large woody material within the riparian area to provide streambank stability and habitat

MA-F7 (Partial Retention) Summit National Historic Trail, MA-F23 NFCR Recreation Corridor, MA-F26 (Partial Retention) Visual Management Corridors.

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 outcrops.

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 following objectives.

	PP	MC
Unit Size(acres)(range)		
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 size is a target diameter.

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

MA-F18 Hammer Creek Wildlife/Recreation Area

Silvicultural Systems

Both even- and uneven-aged systems will be used in appropriate stands to meet the objectives for the area. Silvicultural treatments will be prescribed to maintain or improve habitat diversity and aesthetic qualities of the area.

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

Silviculturist will model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the following objectives:

	PP	MC
Rotation Age (years) Even-aged	200	150
Entry Cycle (years) [1/] Uneven-aged	20	20
Diameter [2/]	27"	22"
Lineal Feet of Trail Frontage in an Open Condition per Mile [3/]	300	200

Unit size will vary according to habitat requirements and silvicultural treatment. Created openings should be designed to optimize big game forage/cover ratios.

[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 size is a target diameter

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

MA-F20 Winter Range

Silvicultural Systems

Both even and uneven-aged management systems may be used. However, emphasis should be on using even-aged management to provide stand conditions for cover.

Reforestation

Practices may vary from natural regeneration to planting at normal or increased stocking. Utilize natural regeneration on lower productivity sites and where natural regeneration is likely to be successful.

Precommercial Thinning

In ponderosa pine-wheatgrass (CP-G1-11), ponderosa pine-fescue (CP-G1-11), ponderosa pine-bitterbrush-Ross sedge (CP-S2-21) plant communities, thin to obtain cover prior to commercial thinning or final removal. Additional thinning may be required if stand condition deteriorates to the point that there is substantial increasing mortality because of bark beetles. Precommercial thin plantations at earliest stage possible to produce a thick crowned tree for cover enhancement.

In all plant communities with higher productivity levels than those listed above, 50 percent of all stands on a watershed basis (within the Winter Range) should be thinned to 150-250 trees per acre until the first commercial thinning entry. The remaining 50 percent will either not be thinned or be thinned to 300-400 trees per acre. It is desirable that thinned and unthinned stands are 30 to 60 acres in size and evenly distributed.

Commercial Thinning

In ponderosa pine-wheatgrass, ponderosa pine-fescue, ponderosa pine-bitterbrush-Ross sedge, thin to develop a mix of size classes toward uneven-aged management, when not in conflict with cover objectives.

On higher sites, in stands which have been left unthinned, thinning may be delayed based on big game habitat requirements and stand health. Thinning should emphasize developing a mix of species, stand health, and 25-40 percent crown closure immediately after thinning.

Sanitation-Salvage Harvesting

While meeting snag levels, an active program of sanitation harvesting will be done to protect stand condition while meeting cover objectives.

Silviculturist will model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the following objectives:

	PP	MC
Rotation Age (years)		
Even-aged	125	90
Entry Cycle (years) [1/]		
Uneven-aged	20	20
Diameter [2/]	16"	15"

Unit size will vary according to habitat requirements and silvicultural treatment. Created openings should be designed to optimize big game forage/cover ratios.

[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

MA-F9 Rock Creek/Cottonwood Creek Unroaded-Helicopter Area

Silvicultural Systems

Both even- and uneven-aged management systems may be used in appropriate stands to meet the objectives for the area. Uneven-aged systems may be applied to stands on slopes greater than 30 percent. Silvicultural treatments will be designed to improve stand conditions while protecting the anadromous fishery, soil stability, and big game habitat.

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

Reforestation

When site preparation is necessary, burning will generally be used. Natural regeneration may be practiced if it can result in successful seedling establishment. Otherwise regeneration units will be planted.

Silviculturist will model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the following objectives:

	PP	MC
Rotation Age (years) (range)		
Even-aged	130-200	90-120
Entry Cycle (years) [1/]		
Uneven-aged	20	20
Diameter [2/]		
Even-aged	18"	16"
Uneven-aged	20"	

Unit size will vary according to habitat requirements and silvicultural treatment. Created openings should be designed to optimize big game forage/cover ratios.

[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 size is a target diameter

Logging Systems

Only helicopter yarding will be permitted. Locate landings outside the management area boundary.

MA-F21 General Forest Winter Range

Silvicultural Systems

Both even- and uneven-aged silvicultural systems may be used. However, uneven-aged management is the preferred system on low pine sites and will comply with Forest-wide standards and guidelines.

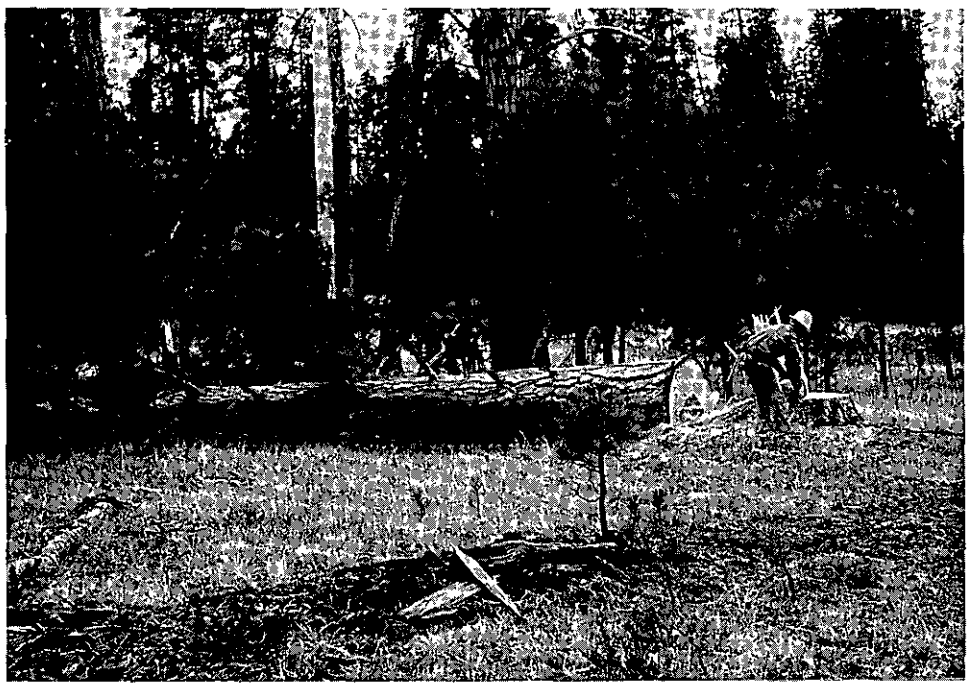
Cultural Treatments

Precommercial thin plantations at the earliest stage possible to produce a thick crowned tree for cover enhancement.

Thinnings, in ponderosa pine stands, will be to stocking levels that minimize the risk of bark beetle infestation. But, avoid thinning large continuous areas that may create stand conditions devoid of age and size diversity.

Pruning may also be done in ponderosa pine stands when determined to be economically efficient; preference is to wait until commercial thinnings, when future production of a merchantable log (17 feet or greater) can be reasonably assured.

Silviculturist will model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the following objectives.



	PP	MC
Rotation Age (years)		
Even-aged	130	90
Entry Cycle (years) [1/]		
Uneven-aged	20	20
Diameter [2/]		
Even-aged	18"	16"
Uneven-aged	20"	

[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 size is a target diameter.

MA-F22 General Forest

Silvicultural Systems

Most mixed conifer stands and stands (all species) on slopes greater than 30 percent should be managed using even-aged systems. Ponderosa pine stands, on slopes less than 30 percent and with suitable age class distributions, should be managed using uneven-aged systems, when free of relevant insects and diseases.

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

Silviculturist should model stand conditions in order to determine reforestation and intermediate treatment needs, based on meeting the following objectives.

	PP	MC
Rotation Age (years)		
Even-aged	130	90
Entry Cycle (years) [1/]		
Uneven-aged	20	20
Diameter [2/]		
Even-aged	18"	16"
Uneven-aged	20"	

[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 size is a target diameter

Reforestation

Select the most productive and accessible sites for increased stocking. Utilize natural regeneration on lower productivity sites and where natural regeneration is likely to be successful.

Cultural Treatments

Precommercial and commercial thinnings will receive high priority in development of stand management activities, in order to meet objectives for stand health (especially resistance to bark beetles), economic efficiency, and production of high quality wood. But, avoid thinning large continuous areas that may create stand conditions devoid of age and size diversity. Silviculturist will develop stocking levels in thinning prescriptions to meet these objectives, based on specific site conditions. Timing of future commercial entries should be considered when prescribing these levels, so that additional intermediate thinnings (especially precommercial) are not unnecessarily required to maintain stand health. Pruning may also be done in ponderosa pine stands when determined to be economically efficient, preference is to wait until commercial thinnings when, future production of a merchantable log (17 feet or greater) can be reasonably assured.

Transportation System

Forest-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 yearlong 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 turnarounds will be allowed on scablands except under landings.

Commerical Hauling

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

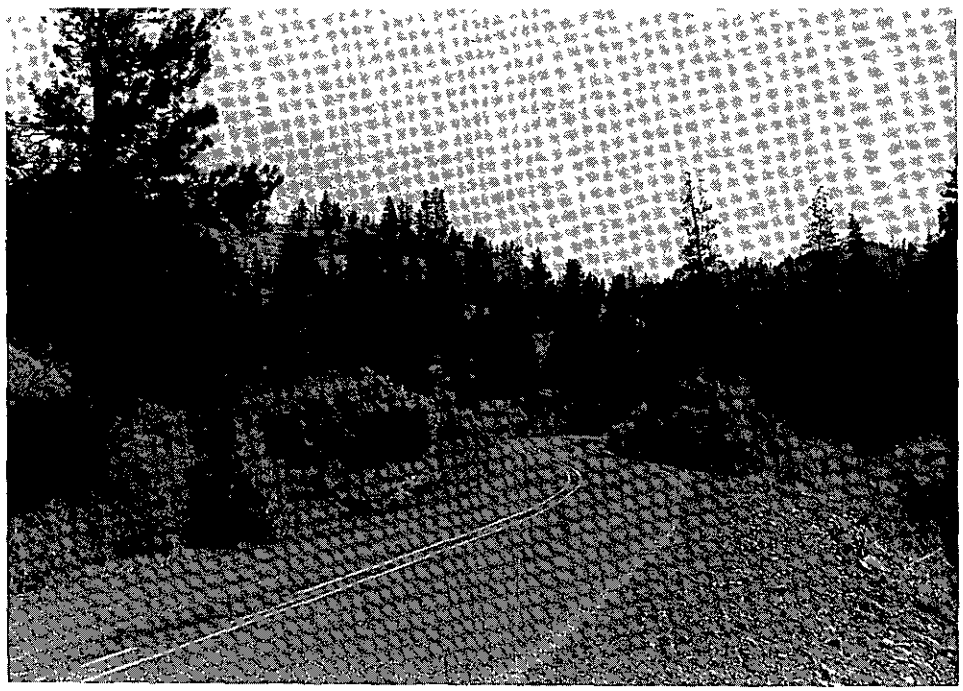
Generally, primary commercial haul routes are reconstructed, operated and maintained to permit low clearance (passenger car) traffic. However, some commercial haul routes may be maintained for high clearance vehicles, Maintenance Level 2.

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 as follows:

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
Resource - Transportation System

Practice
Construction and Reconstruction

Standard and Guideline
None allowed.

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area A)

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

Applicable Management Area
MA-F5 Research Natural Areas

Standard and Guideline
Construction and reconstruction activities restricted from December 1 to May 1.

Applicable Management Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area B)
MA-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

Standard and Guideline
Avoid construction of new roads, except where analysis results in no other reasonable alternatives

Applicable Management Area
MA-F6 Old Growth

Standard and Guideline
Where possible, road locations will be guided by recreation needs. Existing open roads leading to dispersed campsites and mining claims will remain open for these uses. New roads will be constructed to minimum standards with limited use of rock, and cuts and fills, and closed to motorized use except snowmobiles.

Applicable Management Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area B)

Standard and Guideline
Limit total road crossings to not more than one crossing in two miles.

Applicable Management Area
MA-F27 Round Mountain National Recreation Trail

Standard and Guideline
Construction and reconstruction are allowed to access Forest resources, according to management area emphasis. Subject to Forest-Wide Standards and Guidelines, Section 2, this Chapter.

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F12 Eagle Roosting Areas
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range
MA-F22 General Forest
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F28 Facilities

Practice
Operations and Maintenance

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

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F8 Rock Creek/CottonwoodCreek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area A only)

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-F5 Research Natural Areas

Standard and Guideline
Maintenance activities, including tree felling, prohibited from December 1 to May 1. Maintain all open roads for public safety.

Applicable Management Area
MA-F12 Eagle Roosting Areas

Standard and Guideline
Maintenance activities, including tree felling, restricted to open roads from December 1 to May 1.

Applicable Management Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area B)
MA-F18 Hammer Creek Wildlife Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

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

Applicable Management Area
MA-F6 Old Growth
*MA-F7 Summit National Historic Trail
MA-F11 Lookout Mountain Recreation Area (Prescription Area B)
MA-F12 Eagle Roosting Areas
MA-F13 Developed Recreation

MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F22 General Forest
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

*Blaze trees will be cut off above blazes.

Practice
Traffic Management

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

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area A Only)

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

Applicable Management Area
MA-F5 Research Natural Areas

Standard and Guideline
Except for constant service through routes and short, existing, 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-F11 Lookout Mountain Recreation Area (Prescription Area B)
MA-F15 Riparian
MA-F16 Bandit Springs
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor

Standard and Guideline
Except for constant service through routes, use will be restricted to administrative use and use by permit only during December 1 to May 1.

Applicable Management Area
MA-F12 Eagle Roosting Areas

Standard and Guideline
Except for constant service through routes, use will be restricted during the period of December 1 to May 1. Access routes will be limited to one mile per section during that period, and three miles per section on the average, the remainder of the year.

Applicable Management Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

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

Applicable Management Area
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F16 Bandit Springs Recreation Area
MA-F28 Facilities

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-F6 Old Growth
MA-F27 Round Mountain National Recreation Trail

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

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F22 General Forest
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors

Practice
Off-Road Use

Standard and Guideline
No motorized use allowed.

Applicable Management Area
MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F5 Research Natural Areas
MA-F6 Old Growth
MA-F13 Developed Recreation
MA-F27 Round Mountain National Recreation Trail

Standard and Guideline
Motorized use restricted to designated routes and prohibited from December 1 to May 1.

Applicable Management Area
MA-F12 Eagle Roosting Areas

Standard and Guideline
Motorized use restricted to over-snow use only, and from December 1 to May 1.

Applicable Management Area
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area

Standard and Guideline
Over-snow motorized use restricted to designated routes from December 1 to March 30.

Applicable Management Area
MA-F16 Bandit Springs Recreation Area

Standard and Guideline
Motorized use restricted to designated routes. Over-snow use prohibited from December 1 to May 1.

Applicable Management Area
MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range

MA-F21 General Forest Winter Range

Standard and Guideline
Motorized use encouraged on designated routes.

Applicable Management Area
MA-F14 Dispersed Recreation
MA-F22 General Forest

Standard and Guideline
Motorized use prohibited except for over-snow use on designated routes.

Applicable Management Area
MA-F17 Stein's Pillar Recreation Area

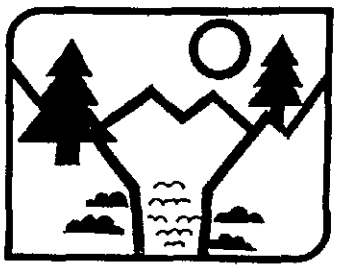
Standard and Guideline
Motorized use restricted to designated routes.

Applicable Management Area
MA-F15 Riparian
MA-F23 NFCR Recreation Corridor
MA-F24 NFCR Scenic Corridor
MA-F28 Facilities

Standard and Guideline
Motorized use restricted to designated routes except snowmobiles over snow.

Applicable Management Area
MA-F7 Summit National Historic Trail
MA-F19 Deep Creek Recreation Area
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors

Water



Forest-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.

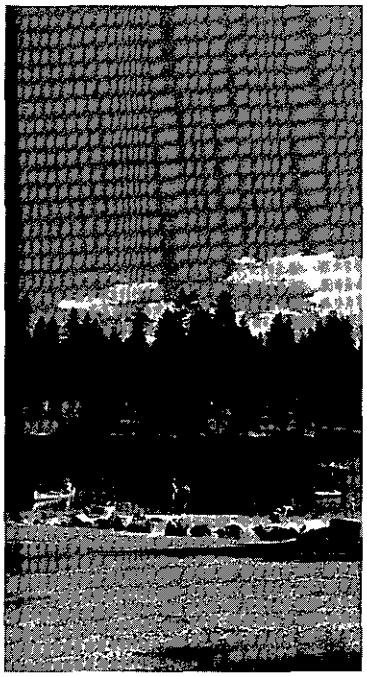
Implement and enforce BMP's.

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.



Use the existing, agreed upon, process to implement the State Water Quality Management Plan on lands administered by the USFS as described in Memorandums 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

Crooked River, John Day River and Tributaries

Existing temperatures at or above 68° F. will not be increased. 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.

Turbidity

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

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.

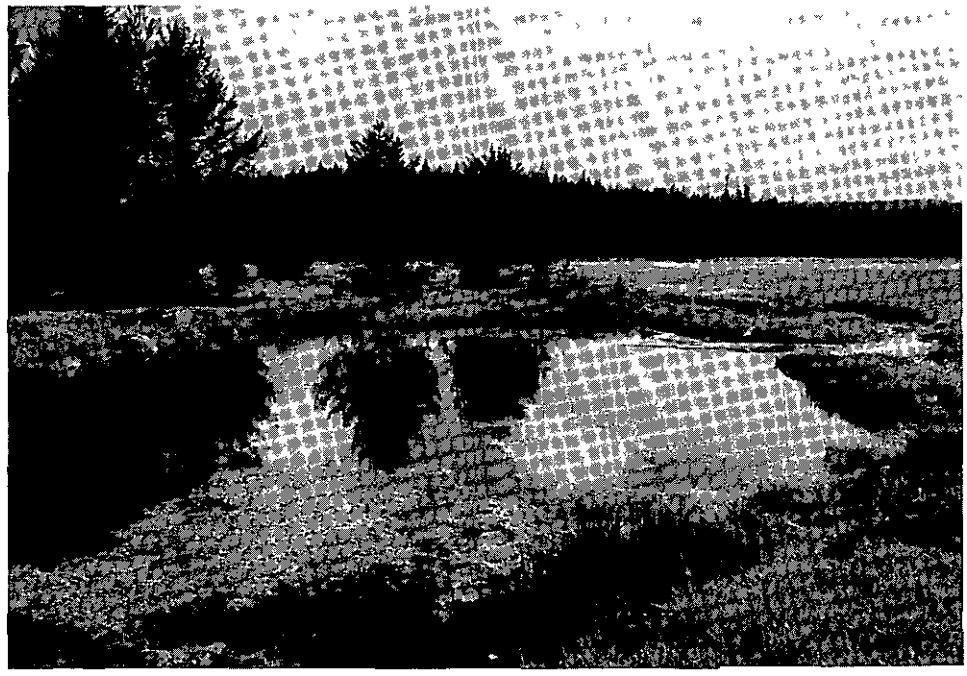
Floodplains, and Wetlands (including springs and wet meadows).

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.

See Management Area F15 Riparian (Section 2, this chapter) for emphasis and desired future condition of riparian as a management area prescription (not including springs and wet meadows), and management area standards and guidelines for desired resource areas, such as Fire, Timber, Transportation System, and Water.



Management Area Standards and Guidelines

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-F5 Research Natural Areas

Standard and Guideline

Use of mechanized equipment for water improvement projects will be approved by the Regional Forester on a case-by-case basis. Power equipment such as chainsaws can be used with Forest Supervisor approval on a case-by-case basis.

Applicable Management Area

MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Area

Standard and Guideline

Construction of structural improvements can be done with approval of the Chief of the Forest Service.

Applicable Management Area

MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area

Standard and Guideline

Use of mechanized equipment for maintaining existing improvements will be approved by the Regional Forester. Power equipment such as chainsaws can be used with Forest Supervisor approval on a case-by-case basis.

Applicable Management Area

MA-F2 Bridge Creek Wilderness

Standard and Guideline

Construction and maintenance for water improvement projects restricted from December 1 to May 1.

Applicable Management Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area B)
MA-F12 Eagle Roosting Areas
MA-F18 Hammer Creek Wildlife Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

Standard and Guideline
Construction and maintenance for water improvement projects allowed, subject to Forest-wide Standards and Guidelines.

Applicable Management Area
MA-F6 Old Growth
MA-F7 Summit National Historic Trail
MA-F8 Rock Creek/Cottonwood Creek Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area (Prescription Area A)
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F22 General Forest
MA-F25 Highway 26Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

Practice
Temperature

Standard and Guideline
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.

Applicable Management Area
MA-F15 Riparian

Practice
Turbidity

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

Applicable Management Area
MA-F15 Riparian

Practice
Project Activities

Standard and Guideline
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 cases of unresoluble conflicts.

Provide suitable amounts of large woody material based on specific characteristics of riparian areas.

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.

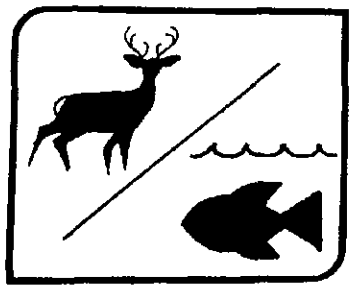
Maintain upper streambanks in a stable condition along at least 80 percent of the length of a stream.

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.

Kovalachik's Riparian Plant Community guide will be used for determining site potential until more specific data is available.

Applicable Management Area
MA-F15 Riparian

Wildlife and Fish



Forest-Wide Standards and Guidelines

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-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 Plan 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 (preferred) 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 percent 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 through 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 Bald Eagle Management Prescription (Management Area 12-Eagle Roosting Areas), Section 2, this chapter.

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 horizon. 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 this document (see objectives for Wildlife and Fish, Section 1, this chapter) 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 Section 1, Goals, Objectives and Desired Future Condition, 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 (see Management Objectives for Wildlife and Fish, Section 1, this chapter).

Rainbow Trout, Brook Trout, Steelhead

Provide habitat by managing as per riparian prescriptions (Management Area F15-Riparian, Management Area Prescriptions, Section 2, this chapter).

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.

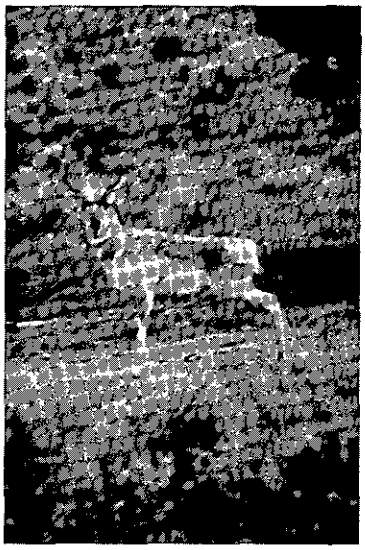
Identified safeguards will be clearly spelled out in the environmental analysis and project plan and project personnel will be fully responsible for being aware of and implementing them. Supervision of the activity must assure that actions which jeopardize the listed species do not occur.

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.

An updated list of Threatened, Endangered and Sensitive species (1989) is shown in Appendix C.



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

Resource - Wildlife and Fish

Practice
Habitat Management

Standard and Guideline

General

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-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area

Standard and Guideline

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

Applicable Management Area

MA-F5 Research Natural Areas

Standard and Guideline

Project activities for habitat management are restricted from December 1 to May 1. If exceptions are necessary, they will require informal or formal consultation with the U.S. Fish and Wildlife Sevice.

Applicable Management Area

MA-F12 Eagle Roosting Areas

Standard and Guideline
Project activities for habitat management are restricted to open roads and adjacent areas from December 1 to May 1.

Applicable Management Area
MA-F18 Hammer Creek Wildlife Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

Standard and Guideline
Pileated Woodpecker Habitat

(As Management Indicator)

For every 12,000 to 13,000 acres, provide one habitat area of 600 acres per mating pair. Each habitat area consists of a reproductive area and a feeding area. Both should be within a 1,000 acre unit.

Reproductive areas should be maintained in contiguous 300 acre blocks where possible. If not possible, habitat may be arranged in blocks no less than 50 acres and no more than 1/4 mile apart. Maintain a minimum average of two hard snags per acre, greater than or equal to 12 inches DBH. Forty five of these 600 snags should be greater than or equal to 20 inches DBH.

Feeding areas should also be maintained in 300 acre blocks and adjacent to reproductive areas, where possible. Feeding areas should be no further than one half mile from reproductive areas. Maintain a minimum average of two hard snags per acre, greater than or equal to 10 inches DBH for feeding (approximately 90 percent snag level).

Vegetative management (except prescribed livestock use) will not be allowed, until further research is available on the needs of the dependent species.

Applicable Management Area
MA-F6 Old Growth

Standard and Guideline
Connective Habitat

Suitable connective habitat between old growth stands for pileated woodpeckers, will be provided to some degree by riparian areas, and other restricted management areas on the Forest. Specific management for this habitat has been provided for through approximately 41 miles of priority riparian corridors on the Forest. In these areas, the "protection zone" has been increased from 100 feet to 200 feet wide, to provide security for travelling woodpeckers. Riparian management emphasis and desired future condition will apply to connective habitat.

Applicable Management Area
MA-F15 Riparian

with additional protection in the following stream courses:

Trout Creek
Bear Creek
Drake Creek
Pine Creek
Allen Creek
Indian Creek
West Fork Bridge Creek
Porter Creek
Howard Creek
Fox Creek (Pisgah)
Cottonwood Creek
Baldy, Little Windy and Windy Creeks
Nicoll Creek

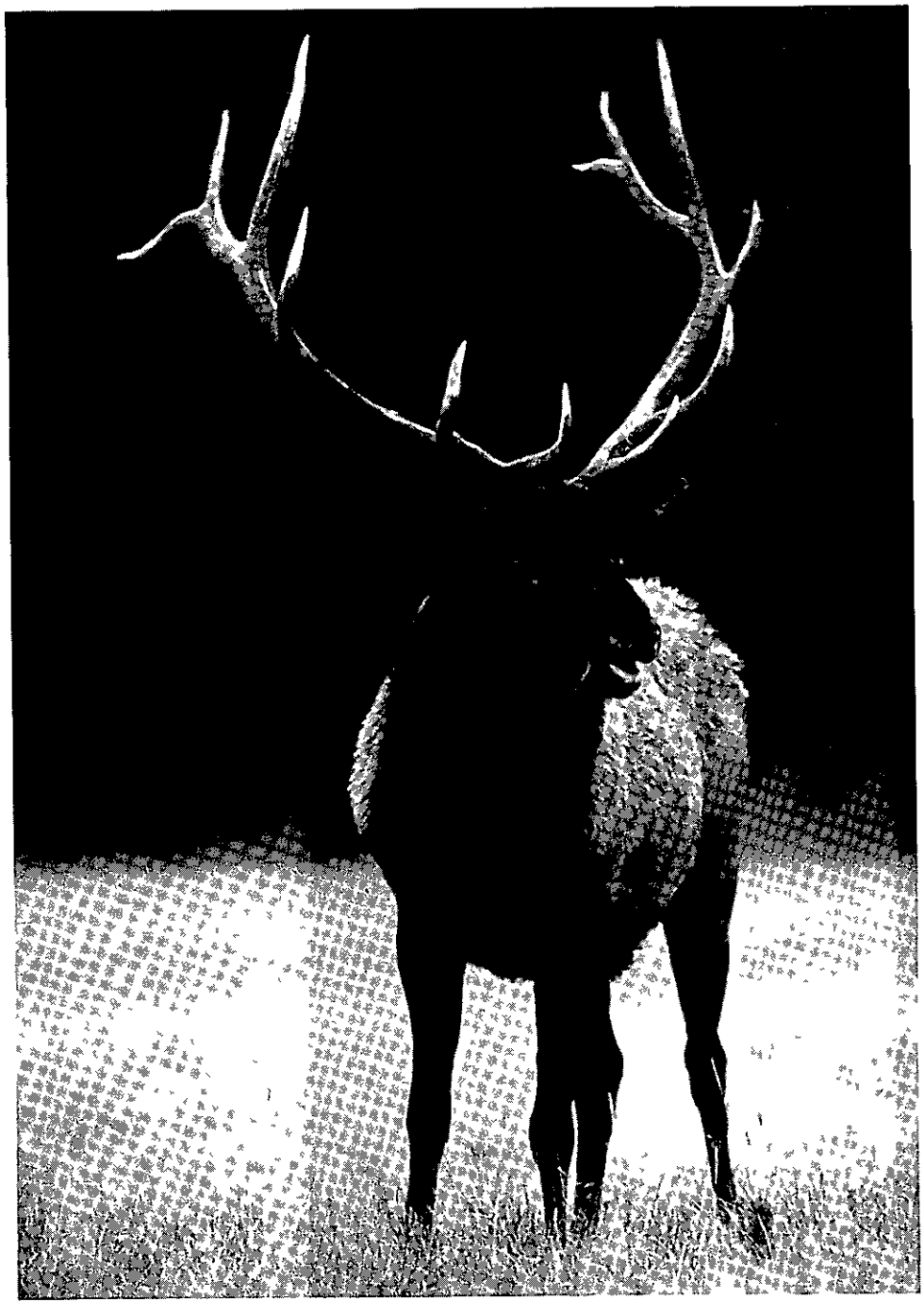
Standard and Guideline
Provide habitat for wintering bald eagles, which at a minimum includes at least one 36 to 40 inch DBH tree for roosting. Consult with U.S. Fish and Wildlife Service when conflicts between project activities and habitat needs cannot be resolved, or uncertainty exists. A certified Silviculturist will model tree stand conditions to meet large tree objectives, and prepare a prescription for implementation, subject to U.S. Fish and Wildlife Service review and approval.

Applicable Management Area
MA-F12 Eagle Roosting Areas

Standard and Guideline
Big Game Habitat

Manage to provide high quality habitat for elk and deer.

Management objectives are based on achieving habitat effectiveness over time. Quantity and quality of cover, and open road density are the main factors influencing the Habitat Effectiveness Index (HEI), and should be designed in concert to achieve the desired HEI shown. Habitat manipulation (including timber sale projects) should be designed to achieve both the short term and long term values for HEI shown below. Preference is to plan for long term values, as current habitat is usually limited by existing cover.



	Decade				
	1	2	3	4	5
Habitat Effectiveness Index[1/]	5	6	8	8	32

[1/] See Forest-wide Standards and Guidelines for explanation of HEI. Procedures for calculating HEI are available at the Ochoco National Forest Supervisors Office

Cover types may include mountain mahogany and conifer species, as well as that provided by other management areas within the project area, i.e. old growth, riparian, etc.

Preference for cover is mixed conifer.

Minimum crown closure for cover is 40 percent. Up to 50 percent of the total pine acres may remain in a moderate to high susceptibility to bark beetle attack in order to meet cover needs.

It is recognized that MA-F18 (Hammer Creek) has a somewhat higher HEI due to existing conditions, including cover, therefore the HEI objective may be higher than those shown in Table 4-36.

Table 4-36 shows a detailed breakdown of the HEI components for MA-F18 and MA-F20. It should be noted that the values displayed are "weighted averages." It is expected that individual projects will be above and below these values, but that the overall objective for the management areas will be met.

When a project planning area has an inherent low potential for production of cover, size of desired cover patches should vary, based on the ratio of cover within the area as follows:

Percent of Area in Cover	Cover Patch Size
40% and over	30-60 acres
30% to 40%	20-30 acres
20% to 30%	10-20 acres
Up to 20%	10 acres

TABLE 4-36
HABITAT EFFECTIVENESS INDEX (HEI)
MA-F18 AND MA-F20

	DECADE				
	1	2	3	4	5
HEI					
Ponderosa Pine	4	4	7	7	32
Mixed Conifer	18	38	18	14	42
Percent of Area in Cover By Species 1/					
Ponderosa Pine	7	7	18	19	26
Mixed Conifer	23	26	23	23	35
Cover Quality (Average % Crown Closure)					
Ponderosa Pine	44	44	41	41	44
Mixed Conifer	54	53	53	48	50
Open Road Density 2/ (Miles/Sq Mile)	3(1)	3(1)	3(1)	3(1)	3(1)

1/ Following is an example of how this percent should be used

PROJECT AREA

Total Acres	10,000
Total Forested Acres	5,000
Pine Acres	70%
MC Acres	30%

EXAMPLE Acres of Cover
Pine 7% (from Table) x [70% x 10,000] = 7% x 7,000 acres
MC 23% (from Table) x [30% x 10,000] = 23% x 3,000 acres

2/ *One mile of open road per section is a management objective from December 1 to May 1, three miles per section the remainder of* the year. These are the averages based on management area-wide conditions and may be adjusted up or down to meet HEI goals and objectives

Applicable Management Area

MA-F18 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range

Standard and Guideline

Manage to provide habitat for big game, while meeting the primary emphasis for the specific management area (see Management Area Prescriptions, Section 2).

Management objectives are based on achieving habitat effectiveness over time. Quantity and quality of cover, and open road density are the main factors influencing the habitat effectiveness index (HEI), and should be designed in concert to achieve the desired HEI shown. Habitat manipulation (including timber sale projects) should be designed to achieve both the short term and long term values for HEI shown below. Preference is to plan for long term values, as current habitat is usually limited by existing cover.

	Decade				
	1	2	3	4	5
Habitat Effectiveness Index [1/]	5	6	8	7	21

[1/] See Forest-wide Standards and Guidelines for explanation of HEI Procedures for calculating HEI are available at the Ochoco National Forest Supervisors Office.

Cover types may include mountain mahogany and conifer species, as well as that provided by other management areas within the project area, i.e. old growth, riparian, etc.

Preference for cover is mixed conifer.

Minimum cover is defined as that having 40 percent crown closure on greater than 40 foot tall trees. Pine stands will generally remain in low susceptibility to bark beetle attack.

In the early decades, habitat effectiveness is limited by the lack of cover in existing stands. Strive for higher HEI where biologically feasible, within the bounds of the management area emphasis.

Table 4-37 shows a detailed breakdown of the HEI components for MA-F21. It should be noted that the values displayed are "weighted averages." It is expected that individual projects will be above and below these values, but that the overall objective for the management areas will be met.

TABLE 4-37
HABITAT EFFECTIVENESS INDEX (HEI)
MA-F21

	DECADE				
	1	2	3	4	5
HEI					
Ponderosa Pine	4	4	7	7	32
Mixed Conifer	18	38	18	14	42
Percent of Area in Cover By Species 1/					
Ponderosa Pine	7	7	18	19	26
Mixed Conifer	23	26	23	23	35
Cover Quality (Average % Crown Closure)					
Ponderosa Pine	44	44	41	41	44
Mixed Conifer	54	53	53	48	50
Open Road Density 2/ (Miles/Sq Mile)	3(1)	3(1)	3(1)	3(1)	3(1)

1/ Following is an example of how this percent should be used

PROJECT AREA

Total Acres	10,000
Total Forested Acres	5,000
Pine Acres	70%
MC Acres	30%

EXAMPLE: Acres of Cover
Pine· 7% (from Table) x [70% x 10,000] = 7% x 7,000 acres
MC 23% (from Table) x [30% x 10,000] = 23% x 3,000 acres

2/ One mile of open road per section is a management objective from December 1 to May 1, three miles per section the remainder of the year These are the averages based on management area-wide conditions and may be adjusted up or down to meet HEI goals and objectives

When a project planning area has an inherent low potential for production of cover, size of desired cover patches should vary, based on ratio of cover within the area as follows:

Percent of Area in Cover	Cover Patch Size
40% and over	30-60 acres
30% to 40%	20-30 acres
20% to 30%	10-20 acres
Up to 20%	10 acres

Applicable Management Area

MA-F21 General Forest Winter Range

Standard and Guideline

Manage to provide habitat for big game, while meeting the primary emphasis for the specific management area (see Management Area Prescriptions, Section 2).

Habitat manipulation (including timber sale projects) should be designed to achieve both the short term and long term values for habitat effectiveness (HE) shown below. Quality and quantity of cover, and open road density should be designed in concert to achieve the desired habitat effectiveness index (HEI) shown. Preference is to plan for long term values (5th decade). Short term HE may be reduced in order to meet management area emphasis if long term HEI values are achieved.

	Decade				
	1	2	3	4	5
Habitat Effectiveness Index [1/]	32	28	28	24	21

[1/] See Forest-wide Standards and Guidelines for explanation of HEI Procedures for calculating HEI are available at the Ochoco National Forest Supervisors Office.

Cover types may include mountain mahogany and conifer species, as well as that provided by other management areas, i.e. old growth, riparian, etc.

Preference for cover is mixed conifer.

Minimum cover is defined as that having 40 percent crown closure on greater than 40 foot tall trees. Pine stands will remain in low susceptibility to bark beetle attack.

Table 4-38 shows a detailed breakdown of the HEI components for MA-F22. It should be noted that the values displayed are "weighted averages" It is expected that individual projects will be above and below these values, but that the overall objective for the management areas will be met.

TABLE 4-38
HABITAT EFFECTIVENESS INDEX (HEI)
MA-F22

	DECADE				
	1	2	3	4	5
HEI					
Ponderosa Pine	4	4	7	7	7
Mixed Conifer	63	56	52	46	35
Percent of Area in Cover By Species 1/					
Ponderosa Pine	9	9	11	12	13
Mixed Conifer	39	43	34	33	26
Cover Quality (Average % Crown Closure)					
Ponderosa Pine	51	51	41	41	51
Mixed Conifer	70	62	61	54	52
Open Road Density (Miles/Sq Mile)	3	3	3	3	3

1/ Following is an example of how this percent should be used

PROJECT AREA

Total Acres	10,000
Total Forested Acres	5,000
Pine Acres	70%
MC Acres	30%

EXAMPLE. Acres of Cover

Pine· 9% (from Table) x [70% x 10,000] = 9% x 7,000 acres

MC· 39% (from Table) x [30% x 10,000] = 39% x 3,000 acres

Size of cover patches will be cased on Forest-wide standards and guidelines for "Timber," and management objectives for the management area.

Applicable Management Area
MA-F22 General Forest

Standard and Guideline
Manage to provide habitat for big game, while meeting the primary emphasis for the specific management area. There is no cover objective or minimum cover requirement for these areas. Cover will be incidentally provided through implementation of management prescriptions. Road objectives are based on management area emphasis and are stated under Management Area Standards and Guidelines-Transportation System. Also see Management Area Prescriptions, Section 2, for management area emphasis.

Applicable Management Area
MA-F6 Old Growth
MA-F7 Summit National Historic Trail
MA-F8 Rock Creek/Cottonwood Area
MA-F9 Rock Creek/Cottonwood Creek Unroaded Helicopter Area
MA-F10 Silver Creek Area
MA-F11 Lookout Mountain Recreation Area
MA-F12 Eagle Roosting Areas
MA-F13 Developed Recreation
MA-F14 Dispersed Recreation
MA-F15 Riparian
MA-F16 Bandit Springs Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F19 Deep Creek Recreation Area
MA-F23 North Fork Crooked River Recreation Corridor
MA-F24 North Fork Crooked River Scenic Corridor
MA-F25 Highway 26 Visual Corridor
MA-F26 Visual Management Corridors
MA-F27 Round Mountain National Recreation Trail
MA-F28 Facilities

Standard and Guideline
Give preferential treatment to land and vegetation for a 300 foot radius surrounding elk wallows and calving areas.

Applicable Management Area
MA-F11 Lookout Mountain Recreation Area

Standard and Guideline

Grass seeding is recommended on acres disturbed by timber harvesting or other activities which are not treated with normal erosion seeding. Exceptions will occur when grass seeding would seriously interfere with reforestation efforts or other management objectives. Recommended is two pounds per acre of orchard grass. Fall green-up after the regularly scheduled grazing season will be reserved for big game.

Applicable Management Area

MA-F11 Lookout Mountain Recreation Area
MA-F17 Stein's Pillar Recreation Area
MA-F12 Hammer Creek Wildlife/Recreation Area
MA-F20 Winter Range
MA-F21 General Forest Winter Range

Standard and Guideline

Cavity Nester Habitat

Strive to provide snag habitat at the levels shown, 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 (MA-F's 13, 14 & 28). See Table 4-39 for applicable management areas.

Snags may be provided through either identifiable snag patches, or evenly distributed. Snag patches (clumping) is the preferred method in most cases. See Forest-wide Standards and Guidelines for Wildlife and Fish, Section 3 of this chapter for direction on selection of best method.

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 needs stated above, which is the more important habitat need.

Table 4-40 shows 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 4-39
SNAG LEVEL BY MANAGEMENT AREA

Management Area	Snag Level (%)
MA-F1 Black Canyon Wilderness	100
MA-F2 Bridge Creek Wilderness	100
MA-F3 Mill Creek Wilderness	100
MA-F4 North Fork Crooked River Wilderness Study Area	100
MA-F5 Research Natural Areas	100
MA-F6 Old Growth	100
MA-F7 Summit National Historic Trail	80
MA-F8 Rock Creek/Cottonwood Creek	100
MA-F9 Rock Creek/Cottonwood Creek Unroaded-Helicopter	40
MA-F10 Silver Creek Area	100
MA-F11 Lookout Mountain Recreation	100
MA-F12 Eagle Roosting Areas	80
MA-F13 Developed Recreation	0
MA-F14 Dispersed Recreation	0
MA-F15 Riparian	100
MA-F16 Bandit Springs Recreation	100
MA-F17 Stein's Pillar Recreation	100
MA-F18 Hammer Creek Wildlife/Recreation	100
MA-F19 Deep Creek Recreation	100
MA-F20 Winter Range	60
MA-F21 General Forest Winter Range *	40
MA-F22 General Forest *	40
MA-F23 North Fork Crooked River Recreation Corridor	80
MA-F24 North Fork Crooked River Scenic Corridor	100
MA-F25 Highway 26 Visual Corridor	100
MA-F26 Visual Management Corridors	80
MA-F27 Round Mountain National Recreation Trail	100
MA-F28 Facilities	0

* These levels are hard target objectives Others are anticipated and predicted results of implementation of the primary prescription.

TABLE 4-40
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)	% Y T Reduction	Size of snag patch at 1 per 10 acres (Acres)	% Y T 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 4-41 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 4-41
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	1 1	14

1/ Assumes 100 years before large snags will be produced

2/ Assumes 120 years before large snags will be produced

Clump and Individual Tree Methods

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.

Practice

Species Management

Standard and Guideline

Native animal species will be maintained. Allow no intentional introduction of non-native wildlife species.

Applicable Management Area

MA-F1 Black Canyon Wilderness
MA-F2 Bridge Creek Wilderness
MA-F3 Mill Creek Wilderness
MA-F4 North Fork Crooked River Wilderness Study Area
MA-F5 Research Natural Areas

TABLE 4-42
CROSS-REFERENCE TABLE

	MANAGEMENT AREA													
Resource Area	MA-F1	MA-F2	MA-F3	MA-F4	MA-F5	MA-F6	MA-F7	MA-F8	MA-F9	MA-F10	MA-F11	MA-F12	MA-F13	MA-F14
Cultural Resources	125-126	125-126	125-126	125-126	125-126	125	125	125	126	126	125	125-126	125	125 125
Facilities	127	127	127-128	127	127			128	128	128	128		128	128
Fire	131, 136-138	131, 136-138	131, 136-138	131, 136-138	132, 136-138	132, 136-138	133-138	133-138	134-135, 138	133-138	133, 135-139	134-135, 138-139	133-135, 139	133-135, 139
Forage	142-146	142-146	142-146	142-146	142-143, 147	142-147	143-146	142, 144-147	142, 144, 146	142, 144, 146-147	142-147	142-147	142-146	142-146
Forest Health	152	152	152	152	152	152	152	152	152	152	152-153	153	153	153
Forest Residues	154	154	154-155	154	155	155-156	156-158	155	156-158	155	155	156-159	156-158	156-158
Fuelwood	160	160	160	160	160	160	161	160	160-161	160	160	161	160	160
Lands	163-168	163-168	163-168	163-168	163-168	163-168	164-169	164-168	164, 167-169	163-168	164-168	164-169	164-169	164-169
Minerals & Energy	172-174	172-174	172-175	172, 175	172-175	172, 175	172-175	172, 175	172, 175	172, 175	172, 175	173-174	172-175	175
Recreation	178-179, 184-188	178-179, 184, 187-188	178-179, 184, 187-188	178-179, 184-188	178-179, 182, 190	178-179, 182, 189	179-182, 185, 190	178-180, 183-184, 188-189	178-180, 184, 188-189	178-180, 184, 187-189	178-180, 183-188	179-181, 186, 189	179-181, 186, 190	179-180, 182, 186, 190
Scenic Resources	192	192	192	192	192	192	192-193	192	194	192	192	194	192	192
Soil	198	198	198	198	198	198	199	199	199	199	199	199	199	199
Timber	210	210	210	210	210	210	210-217	210	220	210	210-212	215-216	213-214	214-215
Transportation System	228-234	228-234	228-234	228-234	228-234	228-234	229-230, 233-235	228-234	228-234	228-234	228-234	228-234	229-234	229-232, 235
Water	238-239	238-239	238-239	238-239	238-239	240	240	240	240	240	240	240	240	240
Wildlife & Fish	250, 262-264	250, 262-264	250, 262-264	250, 262-264	250, 262-264	251, 262-263	260-263	260-263	260-263	260-263	260-263	250-252, 261-263	260-263	260-263

	MANAGEMENT AREA													
Resource Area	MA-F15	MA-F16	MA-F17	MA-F18	MA-F19	MA-F20	MA-F21	MA-F22	MA-F23	MA-F24	MA-F25	MA-F26	MA-F27	MA-F28
Cultural Resources	125	125	126	126	126	126	126	126	126	126	126	126	126	126
Facilities	127													
Fire	133-138	133-139	133-139	133-139	133-139	134-139	134-139	134-139	133-139	133-139	133-139	133-139	133-139	133-135, 139
Forage	142-146	142-146	144-146	143-147	142-146	142-147	142-147	142-147	143-146	143-146	143-146	143-146	143-146	143-146
Forest Health	153	153	153	153	153	153	153	153	153	153	152	152	152	153
Forest Residues	156, 158	155	155	156-158	155	156-158	156-158	156-159	155	155	156-158	156-158	156-158	156-158
Fuelwood	160	161	160	160	161	161	161	161	160	160	161	161	160	160
Lands	164-169	164-169	164-165, 169	164-169	164-169	164-169	164-169	164-169	164-169	164-169	164-169	164-169	164-169	164-169
Minerals & Energy	173-175	173-176	172, 175-176	173-176	172, 175-176	173-176	173-176	175-176	172, 175-176	172, 175-176	173-176	173-176	173-176	172-176
Recreation	179-180, 190	179-189	179-189	179-189	179-182, 186, 190	179-181, 186, 189	179-181	186, 189	179, 183, 186, 190	179-180, 186, 190	178-189	179-182, 190	179, 182, 190	179-183, 186-190 179, 190
Scenic Resources	194	192	192	193	192	194	194	194	193	192	192	192-193	192	192
Soil	199	199	199		199				199	199	199	199	199	199
Timber	216	214-215	212-213	218	212	218-219	221-222	222-223	217	212	214-215	214-217	214-215, 229	210
Transportation System	229-232, 235	229-232, 234	229-232, 235	228-234	229-232, 235	228-234	228-232, 235	229-235	229-232, 235	229-232, 235	229-233, 235	229-233, 235	229-234	229-232, 235
Water	240	240	240	240	240	240	240	240			240	240	240	240
Wildlife & Fish	252, 260-263	260-263	260-263	251-252, 256, 262-263	260-263	251-252, 256, 261-263	251, 256-262	258-263	260-263	260-263	260-263	260-263	260-263	260-263

NOTE The Forest-wide standards and guidelines for Air Quality, Biological Diversity, Old Growth, and Social and Economic resources apply to all management areas as appropriate with no management area standards and guidelines This table will assist the reader in locating the applicable standards and guidelines for each management area by referencing the applicable pages (only the page number suffix is listed, all are preceded by a 4-)

Chapter 5

Implementation of the Forest Plan

Chapter 5

Implementation

Introduction

This chapter explains how management of the Ochoco National Forest will move from the current direction and situation into Alternative I. Implementation can be influenced by previous management activities and objectives, project analysis, budget, monitoring and evaluation, and when necessary, the required amendment process.

Implementation will require a transition from an existing management program with a "pre-allocated" budget and accomplishment targets to a new management program, represented by Alternative I, with budget, goals, and objectives based on identified issues and concerns. The Plan establishes the management direction for the Ochoco National Forest for the next 10 to 15 years. In doing so, it conforms to existing laws, regulations, and policies, including those found in the Forest Service Manual and Handbooks, and the Regional Guide.

Project Scheduling

An initial schedule of proposed projects is contained in the appendices of this document. These activities represent possible projects and time frames from which annual work programs (dependent on approved funding) are developed. The listing of projects and schedules for a ten-year period are maintained by unit managers. Listings will routinely change as projects are implemented or are removed from the lists for other reasons, and as new projects take their place. Projects are implemented in response to public demand, planned outputs and the annual budgeting process.

Budget Proposals

Multiyear budget proposals that identify funding needed to implement the scheduled outputs will be developed Upon approval of a final budget for the Forest, the annual program of work is finalized and carried out. The annual program is an incremental implementation of the management direction in this Plan. Outputs and activities in individual years may vary from those shown in the Management Objectives (Chapter 4, Section 1) and schedules (Appendix A), depending on actual budget, but will progress toward the desired future condition.

The rate of progress is dependent to a large extent upon funding to support activities needed to achieve plan objectives. Table 5-1 compares the projected funding level that will be required to implement Alternative I to funding levels received by the Ochoco National Forest from 1985 to 1989.

Environmental Analysis

Projects and activities are subject to analysis under the National Environmental Policy Act (NEPA) process before they can be implemented. Depending on expected environmental consequences, a categorical exclusion, environmental assessment, or environmental impact statement may be prepared. All documents, including categorical exclusions, will be available for public review.

Monitoring and Evaluation

Monitoring is the means of measuring and evaluating the effectiveness of the Forest Plan implementation. Monitoring provides quantitative and qualitative information on the progress and results. It is a

TABLE 5-1
HISTORY OF OCHOCO NATIONAL FOREST BUDGET 1985-1989
COMPARED TO ESTIMATED PLAN BUDGET (IN $1,000)

	YEAR					
RESOURCE	85	86	87	88	89	Estimated Plan Budget 1/
Fire	955	829	923	864	966	1000
Timber	1578	1251	1391	1664	1448	2400
Range	202	181	173	288	201	511
Minerals	57	54	63	64	33	108
Recreation 2/	228	212	223	304	540	900
Wildlife/Fish	91	115	195	188	192	451
Soil/Water	111	93	95	155	249	306
Maintenance of Facilities	63	62	57	116	95	180
Real Estate Management	38	27	22	31	41	130
Landline Location	143	194	178	120	112	274
Appropriated REF	422	61	109	25	25	35
Appropriated TSI	0	106	41	68	36	65
Genetic Tree Improvement	216	319	254	238	331	414
Human Resource	40	40	40	40	40	272
Construction-Recreation	1	5	4	31	12	496
Construction-FA&O	191	327	4	2	2	800
Road Maintenance	622	493	510	685	611	683
Trail Maintenance	8	6	9	25	25	40
Road Construction	1075	1179	876	1026	1010	3511
Trail Construction	3	3	3	21	21	450
RBF	40	27	49	43	35	40
G A	875	863	845	965	1000	1200
Timber Purchase Road Credits	600	1094	1188	1187	500	1200
KV Reforestation	510	476	1150	1092	834	1400
KV TSI	722	523	844	1137	829	900
Other 3/				102	219	215
Recreation				0	25	30
Range				74	124	152
Wildlife/Fish				107	175	103
Watershed				86	100	74
Co-op Road Maintenance	298	346	264	478	483	366
Quarters Maintenance	35	51	56	60	73	90
Salvage Sale	58	149	134	159	255	158
Brush Disposal	573	691	983	912	858	1000
Totals	9857	9996	10898	12255	11281	19759

1/ Implementation will begin in Fiscal Year 1990 The Program Budget for Fiscal Year 1992 scheduled for completion in late 1989 will be the first to reflect the final plan Budget levels requested during the draft planning period will be amended to support our final document

2/ Includes Recreation, Cultural Resources, Visual Management, and Wilderness

3/ Other is a composite of Recreation, Wildlife, Water, etc
Accounting system did not identify detail until FY88

means to determine how well assumptions used in preparing the Plan reflect actual conditions, how well objectives of the Plan are being met, and the appropriateness of the management standards and guidelines. Monitoring may lead to changes in management practices, or provide a basis for minor adjustments, amendment, or possible revision of the Plan.

Monitoring is intended to help keep the Forest Plan dynamic and responsive to changes When a situation is identified as being outside the limits of acceptable variability, appropriate amendment, revision, or other changes may be made. Monitoring and evaluation have a distinctly different purpose and scope. Monitoring consists of gathering data, observations, and information. During evaluation, the data and information are analyzed and interpreted. This process provides information necessary to determine if planned conditions or results are being attained and are within the intent of the Plan, and if not, why.

It will provide information to help determine, for example:

whether laws, regulations, and policies are being followed, including those found in the Regional Guide, Plan standards and guidelines, and the Forest Service Manual and Handbooks;

whether the Forest Plan responsively addresses the issues, concerns, and opportunities in a publically acceptable manner;

whether management prescriptions are producing the predicted or desired environmental results,

if costs of implementing the Plan are within projected limits;

if projected outputs are being produced;

whether there are new issues and concerns not adequately addressed by the Plan.

There are a number of monitoring systems currently in place to comply with administrative and legal responsibilities. Examples include MAR, PAMARS, RAMIS, TSPIRS, STARS, NIRP, etc. Additional examples may be found in Forest Service Handbook 1309.14 Forms and Reports.

Forest Plan monitoring does not replace or substitute these systems, but rather complements them by addressing specific issues and concerns identified through the planning process and providing additional information for evaluating the effectiveness of the Plan.

Table 5-3 outlines monitoring actions, including a number of ongoing monitoring items that will help evaluate how implementation is progressing. Following the process matrix in Figure 5-1, evaluation of the monitoring data will lead to decisions of the following types:

1. Continue practice, no change necessary.
2. Refer the problem to the appropriate Forest officer for corrective action.
3. Modify the management practice through Plan amendments.
4. Modify land designations through Plan amendments.
5. Revise output schedules.
6. Revise unit output costs.
7. Revise the Plan

The first step in monitoring will be comparing the Plan to the annual budget received by the Forest. This will include a review of Forest capabilities to implement the prescriptions in the Plan, cost comparisons and output levels. Variances beyond a threshold of 10 percent will be presented to the Ochoco National Forest Management Team for decision. Resolution may be accomplished through allocation adjustments, requests for change to the Regional Office or other adjustments or amendments. Figure 5-2 shows schematically how the process proceeds.

Amendment and Revision Process

The Forest Plan incorporates legal mandates, professional judgement and the public's stated concerns into a future vision of the Forest. It charts a path for getting there by developing management goals and

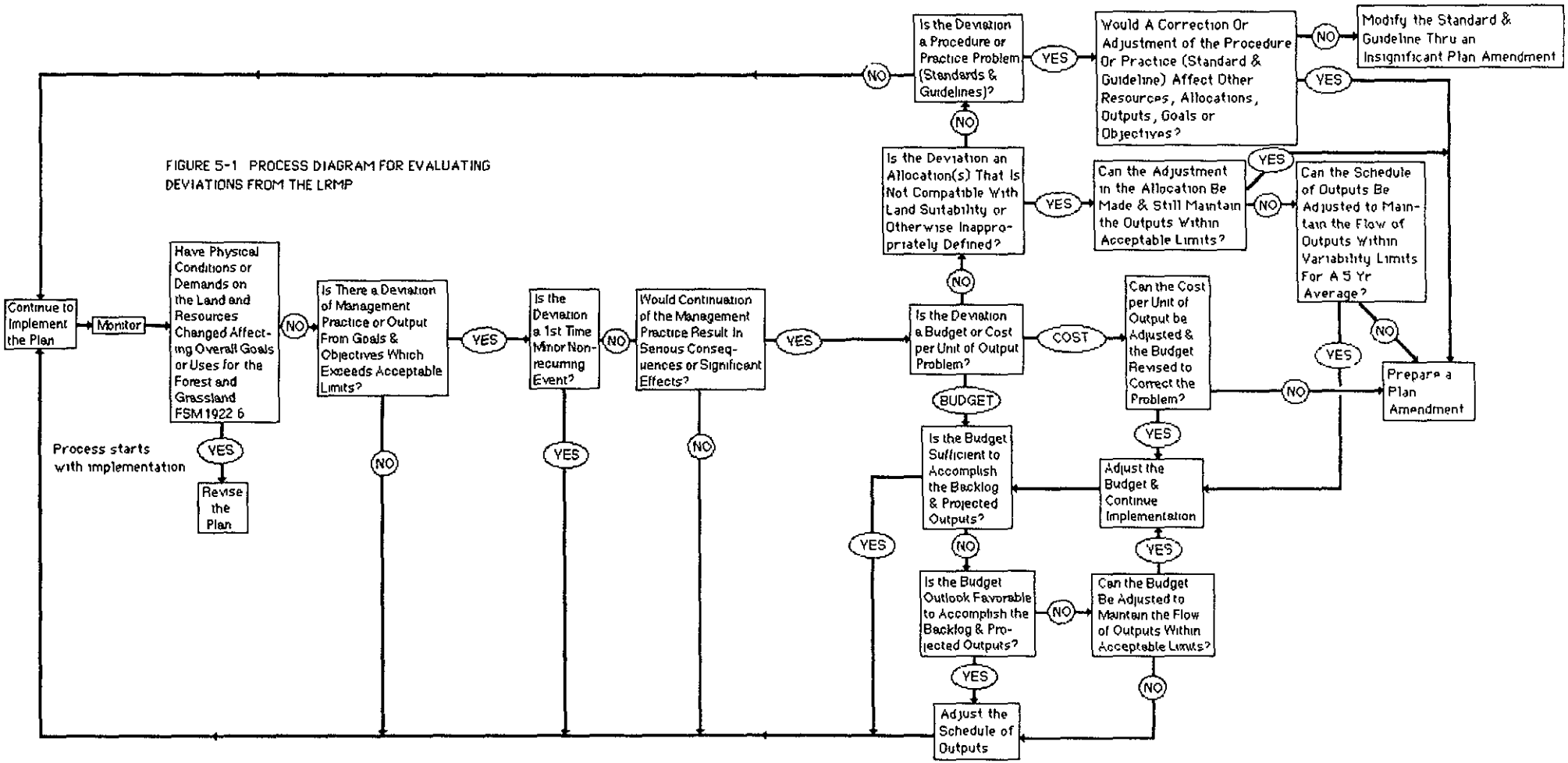
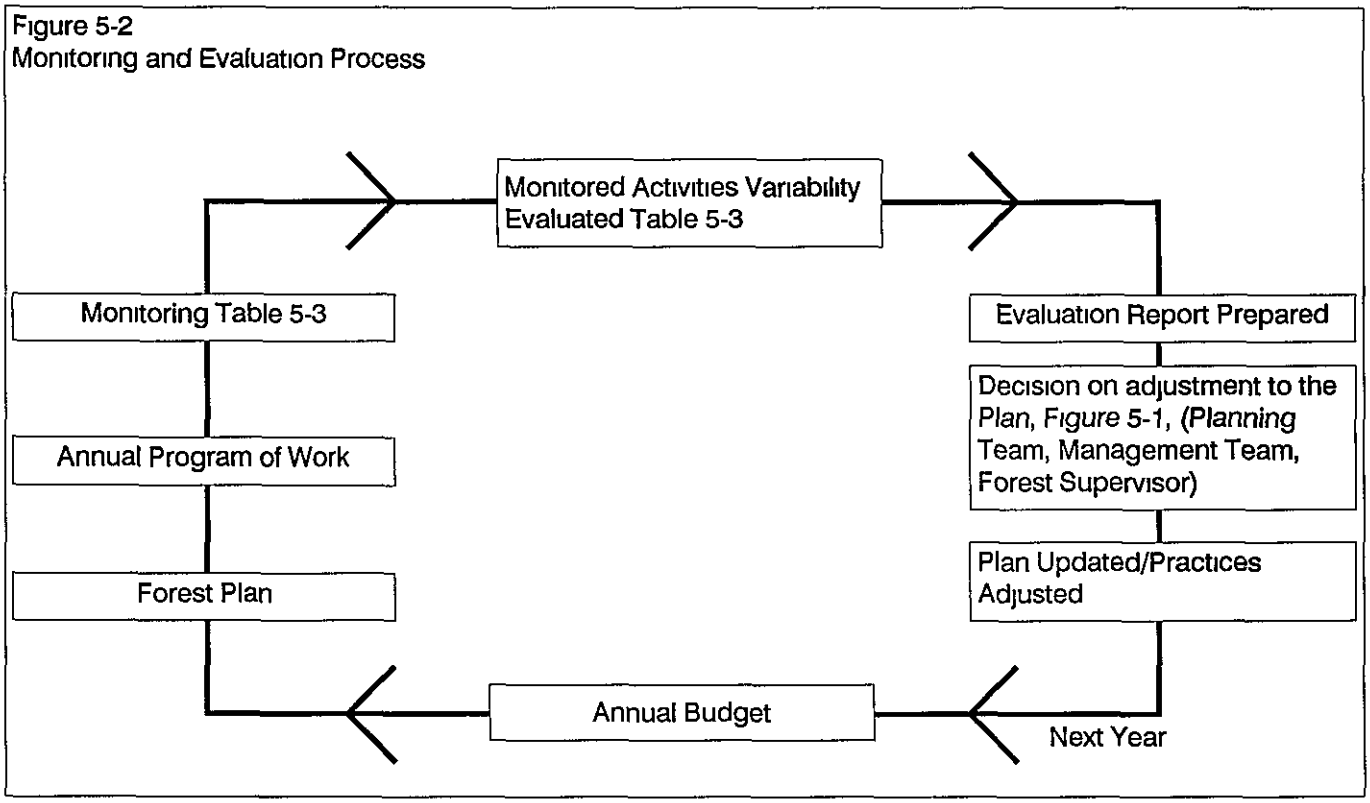


FIGURE 5-1 PROCESS DIAGRAM FOR EVALUATING DEVIATIONS FROM THE LRMP

Figure 5-2
Monitoring and Evaluation Process



objectives and translating them into management direction in the form of standards and guidelines for management areas on the Forest. National Forest planning is a dynamic process, and the products -- Forest Plans -- are similarly dynamic. Forest Plans can and should be modified if conditions warrant. As mangement goals are applied on the ground or as new information is learned about resources, the Plan's goals and objectives, or activities the goals generate, may no longer be appropriate. In such instances, activities may be tailored to fit the resource, or planning objectives as stated in the Plan may be ammended. Plans do not apply direction in site-specific management activities. It would be unrealistic and wrong to try to identify, analyze and schedule the myriad projects or activities that occur on a National Forest. Instead, this type of site-specific planning occurs at the project-level planning stage, such as allotment management planning.

This Forest Plan may be changed either by an amendment or a revision. Such changes may come about as a result of the monitoring process or project analysis (Figure 5-2). An amendment may become necessary as a result of different situations. They can include:

recommendations of the Interdisciplinary Team based on their review of monitoring results;

the determination that an existing or proposed permit, contract, cooperative agreement, or other instrument authorizing occupancy and use is not consistent with the Forest Plan, but should be approved, based on project level analysis,

changes in proposed implementation schedules needed to reflect differences between funding levels assumed in the plan and funds actually appropriated;

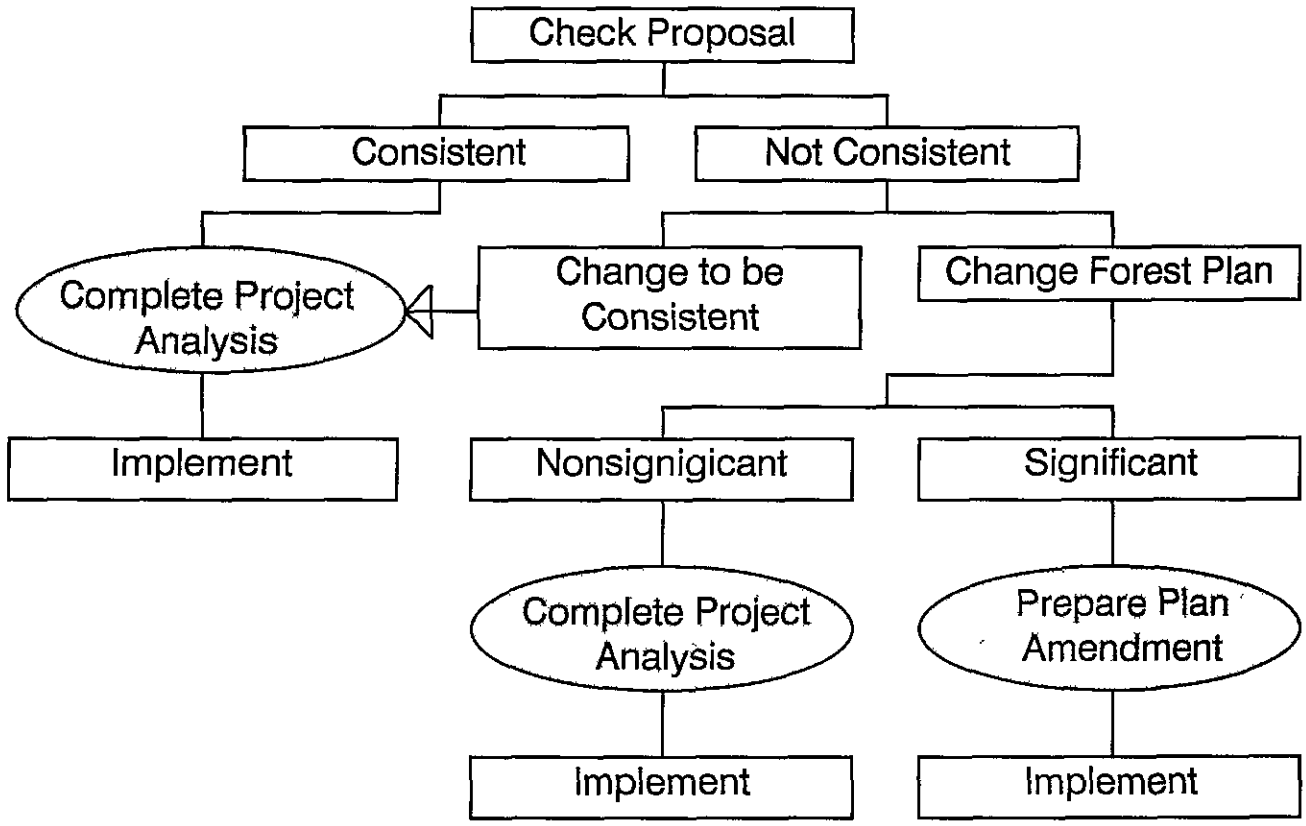
changes necessitated by resolution of administrative appeals,

changes to correct planning errors;

changes made necessary by altered physical, social, or economic conditions.

Based on an analysis of the objectives, guidelines, and other aspects of the Forest Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change to

Figure 5-3
Amendment Process and Dynamic Nature of the Plan



the Plan. If the change is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a plan. If the change is determined not to be significant, the Forest Supervisor may implement the amendment after appropriate public notice and compliance with NEPA (see Figure 5-3).

The Regional Forester will approve significant amendments, and the Forest Supervisor will approve "not significant" amendments. The determination of significance will be documented in a decision notice and would be appealable under 36 CFR 217.

With respect to revision, the NFMA requires revision of the Forest Plan at least every 15 years. However, it may be revised sooner if physical conditions or demands on the land and resources have changed sufficiently to affect overall goals or uses for the entire Forest. If a revision becomes necessary, the procedures described in 36 CFR 219.12 will be followed. The Chief, however, must approve the scheduling of such revision.

Consistency with Other Instruments

This Forest Plan serves as the single land management plan for the Ochoco National Forest. All other land and resource management plans are replaced by the direction in this Plan; a list of plans revised, superseded, or updated by this Plan are shown in Table 5-2.

All outstanding and future permits, contracts, cooperative agreements and other instruments for occupancy and use of lands will comply with direction in the Forest Plan as soon as practicable, subject to the valid existing rights of the parties involved. This will occur generally within three years of the date of implementation of this Plan.

Recreation

All leases and Memoranda of Understanding between the Ochoco N.F. and the State of Oregon, Bureau of Reclamation, or other agencies, will be consistent with Forest Plan direction at the first reissuance of said leases and Memoranda following plan implementation.

Wildlife and Fish

Within two years after implementation, habitat survey schedules and habitat improvement project schedules will be prepared for a five-year period.

Range

Existing Allotment Management Plans and Grazing Permits will be in compliance with Forest Plan direction on the first update or reissuance following Plan implementation.

In implementing the Forest Plan, any necessary adjustments between existing permitted livestock numbers and plan direction will be made by evaluating management direction for allotments, and determining if a change in management intensity for the allotment is necessary. Factors influencing this decision will include: permit status, condition of improvements, funds available, priority needs on other allotments, and ability to meet standards and guidelines in this Plan.

Timber

The schedule of timber sale offerings in Appendix A10-2 of the Plan will be updated at least annually. Timber sales offered, and stand management contracts issued, after implementation of the Forest Plan will comply with direction contained in the Plan. Changes to existing contracts, including timber sales and other stand management projects, may be considered on a case-by-case basis where overriding resource considerations are present. Otherwise, all existing contracts will be administered in accordance with original provisions.

Timber implementation plans, such as the Forest Tree Improvement Plan, Seed Orchard Management Plan, and Tree Seed Inventory Plan, will be brought into compliance with the direction contained in the Forest Plan within two years of Plan implementation.

Lands

All development and management plans for facilities will be consistent with Forest Plan direction as soon as practicable, subject to valid existing rights of outstanding permits, contracts, and cooperative agreements.

Minerals

New mineral leases, permits, contracts, and operating plans will be evaluated for consistency with the Forest Plan as they are received or proposed. Existing permits and operating plans will be reviewed for consistency with Forest Plan standards and guidelines. Modifications of these permits will be required only when authorized by law or regulation. Operating plans may be modified on a case-by-case basis if over-riding resource considerations are present.

Since the Forest Service has no authority to modify stipulations attached to existing mineral leases, modification will be recommended to the proper agency when found necessary.

TABLE 5-2
REVISED OR SUPERSEDED PLANNING DOCUMENTS

PLAN/AGREEMENT TITLE	SUPERSEDED	UPDATE/REVISE 1/	Prepare
1979 Timber Resource Plan	X		
1978 Silvies Malheur Unit Plan	X		
1979 Ochoco Crooked River Unit Plan	X		
1980 Crooked River National Grassland Unit Plan	X		
1978 South Fork Planning Unit Land Management Plan	X		
1982 Round Mountain Electronics Site Management Plan		X	
Transportation Plan		X	
Fire Management Plan(s)		X	
Residue Management Plan		X	
Special Use Permits		X	
Memoranda of Understanding		X	
Coop Agreements		X	
Allotment Management Plans		X	
Tree Improvement Plan		X	
Land Adjustment		X	
Recreation Development Plans		X	
Summit Trail Management Plan	X		
Statewide Comprehensive Wildlife Plan		X	
1977 Off-Road Vehicle Plan	X		
Facilities Management Plans		X	
Site Development Plans		X	
Seed Orchard Management Plan		X	
Tree Seed Inventory Plan		X	
Timber Sale Harvest Schedules		X	
Gray Butte Electronic Site Plan		X	
Dry Mountain Electronic Site Plans		X	
Highway 26 Corridor Plan		X	
Wild and Scenic River Plans			X
Wilderness Plans		X	
Wild Horse Management Plan		X	
Forest and District Multiple Use Plans		X	
Cove-Palisades Cooperative Agreement		X	
Bald Eagle Recovery Plan		X	
Capital Improvements Plan		X	
Hazardous Materials Plan		X	
Recreation Development Site Plans (Haystack, et al)		X	X
1983 Law Enforcement Plan		X	

TABLE 5-3

MONITORING ACTIONS

MONITORING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
MONITORING DIRECTLY RELATED TO ISSUES AND CONCERNS									
RESOURCES									
FACILITIES, ROADS Transportation System Management.	Open road density Operation, construction, and reconstruction of arterial, collector, and local roads as related to objectives established in the Forest Plan road standards	Miles of open road per square mile by traffic service and maintenance levels	Departure from Forest Plan estimates.	H/H	Compare road mileage with Management Area Objectives	Forest Engineer and District Ranger	Annually, with 5 year report	GIS 1/, Annual Accomplishment Report, Project files	$5,000
FISHERIES Habitat capability and productivity, species and size composition (Steelhead)	Determine if anadromous habitat meets management objectives for John Day River tributaries and Trout Creek	1) sedimentation (% imbededness), 2) temperature (F), 3) channel morphology (cross sectional area), 4) riparian community composition, 5) large woody material (number of pieces), 6) smolt numbers	Loss in habitat capability, objectives not being met.	H/M	1) Bucket or ocular (hoop) 2/, 2) hydrothermograph, 3) cross section and pool riffle ratio 3/, 4) line transects, 5) riparian plant community survey (photo points) and 6) electrofishing or trapping	District Ranger, Fisheries Biologist & wildlife biologist	1) June thru Sept., 2) winter & summer daily, 3) every 3 yrs on selected streams, 4) every 3 years on selected streams, 5) 5% of streams annually and 6) every 3 yrs on selected streams	GIS 2600 Files	$7,000
RANGE AUM s output	Comparison of produced vs planned outputs	Animal Unit Months	10% below targeted Animal Unit Months for the Forest.	H/H	Annual Use Report	Range Staff	Annually for first 3 years, every 3 years thereafter	Report file	$500
Utilization of forage	Determine if forage utilization levels in (1) riparian areas and (2) upland areas are consistent with applicable standards and guidelines	Percent utilization in grazing allotments	10% over recommended use per allotment.	M/H	Sample key areas on at least 20% of the allotments annually Each allotment should be sampled at least once every four years with the highest priority placed on known or suspected problem areas 4/	District Ranger, Range Staff	Annually	District GIS files	$5,000

MONITORING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
Conditions of Range resources	Determine if vegetative condition and trend is being maintained or improved to meet Forest Plan and allotment management plan objectives Determine if areas are in a satisfactory condition	Condition evaluation in grazing allotment.	Allotment condition and trend not fair or better condition with upward trends.	M/M	Range condition and trend transects, photo transects	District Ranger	10% of the allotments annually	District 2200 files	$15,000
RECREATION Semiprimitive	Comparisons of actual use with social and managerial setting criteria for ROS Class 5/	Recreation visitor days and encounters per visitor day	When desired physical, social and managenal setting for each Recreation Opportunity Spectrum Class would not be achieved 15 *encounters/day over 20% off-season*	M/M	Visitor contacts, trail registration, observations of resource conditions at heavy use area.	District Ranger, Rec Staff	Annually	RIM data	$2,500
ORV Effects	ORV use effects on soil, water, vegetation, fish and wildlife, visuals, other visitors or cultural and historic resources	On-site conditions and public comments	If ORV use conflicts with management direction for a management area, such as unacceptable damage to soil, vegetation or visual quality, the area will be considered for closure or restriction of ORV use, and rehabilitation of area.	H/H	On-ground review of ORV use areas Review of public comments	District Ranger Collect on-ground information and propose changes to ORV Management Plan Recreation and Lands Staff Review District comments	Annually	Files	$2000/yr
Use	Compatibility of recreation use with ROS class and management area allocation	RVD as per RIM	Inappropriate use in congressionally designated areas, more than 5 complaints annually of inappropriate use	M/M	Joint review, by District and S O Rec. staff, of use levels by mgmt. area.	District Rec Staff	2 Districts per year Each District would be reviewed at least every 3 years	S O	$1500
TRAILS	Trail system	Miles of trail established or maintained	50% of planned system not built in first 5 year period Trails not being maintained to standard Trails lost to resource development.	H/H	Visitor contact, condition survey, review of trail system	Recreation Staff	5 years	Trail inventory	
RIPARIAN Watershed Risk	Watershed Risk	Index using EHA model 6/	5% above the EHA index	M/M	Index measure of subdrainage susceptibility to damaging flood events	Hydrologist & Distnct *staff*	annually at the project level	2520 TRI / GIS 7/	$2,000/every 5 yr

MONITORING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
MANAGEMENT ACTIVITIES	Riparian Management Area Activities.	Variable depending on standard	Activities depart from established standards more than 10% of the time or Indications that management goal of any area may be compromised	M/M	Activity/Area specific monitoring to gauge accomplishment of management area standards. Number and frequency of reviews in each category will be dependent on relative risk rating associated with activities and management area category a. Key Site b Special emphasis c General	Range & Watershed Staff	Annually 2 samples per District.	2520 2620 TRI / GIS	$5,000/yr
TIMBER Acres per Management Area of various silvicultural practices	Silvicultural practices are accomplished as planned for each Management Area.	Number of acres harvested by silvicultural system by Management Area. Number of acres harvested in roadless areas	Total acres treated by each practice is plus or minus 10% of planned objective When threshold is exceeded, ASQ should be adjusted based on new FORPLAN runs	H/H	Field exams SILVA, TSI, and Reforestation Attainment element in TRACS data base 8/	District Ranger and S O Staff	Annually	2400 planning files	$3,000
Timber Harvest by Type	Timber harvest outputs by applicable management area	MCF and MCF/Ac. MBF	+ 5% per decade for total vol sold & + 10% and/or + 2MCF by emphasis area.	H/H	Accomplishment report, action plans - TIA.	Forest Silviculture Staff	Annually	TRI, MARS, Accomplishment reports, Gate System	$4000
FUELWOOD	Fuelwood - Amount of fuelwood provided	Cords/MBF	Supply exceeded by demand	M/M	Field Observations Public Comment # of permits	Timber Staff	Annually	Annual Free Use Timber Report, Timber Cut & Sold Report	$1000 1, 2, 3, 5
SCENIC RESOURCES	Whether the condition of the visual resource is commensurate with standards required in the management prescription	Visual quality objective achievement.	Management conflict with VQO on more than 10% of the area.	M/M	Program and Activity Reviews, corridor plans, photo log of corridors	District Ranger, Landscape Arch	Annually, the rate of three districts per year	File (2380)	$5000/yr
WATERSHED Stream Improvement	Improvement in stream conditions (morphology)	Miles	Average stream condition less than excellent; not showing improvement, or stream condition declining	M/M	Survey of stream morphology using established survey points on selected streams	District, Soil & Water Biologist	5 years	District, S O	$3000
Vegetation Improvement	Improvement in riparian vegetation	Miles	Riparian vegetation in condition that is declining, lacking in vigor, or otherwise no contributing to stream stability	M/M	Survey using established survey points on selected streams.	District, Soil & Water Biologist	5 years	District, S.O	$5000

MONITORING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
WILDERNESS Physical, social and management settings for wilderness opportunities (R.O.S.)	Changes in Limits of Acceptable Change for attributes of each WROS Class	WROS (Wilderness Recreation Opportunity Spectrum)	When minimum limits of acceptable change for each WROS Class are not being met or a downward trend is indicated	H/M	Sample field observations of heavy use areas and travel corridors.	District Ranger	Annually	District 2320 Files	$5,000
WILDLIFE Old Growth (pileated woodpecker)	Old Growth habitat.	Acres old growth & allocation	Less than 1 designated stand or habitat area per 12,000 acres	H/M	Review of old growth management acres	Wildlife Staff, District Ranger	Annually	GIS Files	$400
Deer and elk habitat and population trends	Determine if habitat is managed to meet big game management objectives	Habitat capability based on cover/forage relationships, trend of vegetation, open road densities	Project level HEI (% thermal cover, % crown cover, road density) 9/ varies no more than 10% from applicable management standard	M/M	Analysis of habitat using HEI model, with field verification Population trends using ODFW data. Densiometer	District Ranger Rep and Wildlife Staff	Project level analysis annually	File 2600 GIS	$10,000
Primary cavity excavators population trends and snag numbers, sizes, species and use	Determine if habitat for snag dependent species is being managed properly	1) Number of snags and live wildlife trees per acre, 2) primary cavity excavator use (numbers & species observed)	1) Not Sufficient standing and down, dead and defective trees to meet objectives 2)to be determined	M/M	Pre- and post project review of snag numbers and live wildlife trees/acre in 25% of harvest units	District Ranger Rep and Wildlife Staff	At least one presale and one postsale project/district/year, randomly selected	2600 GIS files	$8,000
WILD AND SCENIC RIVERS	Determine the effects of activities on Wild and Scenic River attributes on North Fork Crooked River	Lands adjacent to North Fork Crooked River	When resource condition or level of activities would lower Wild and Scenic River designation, or experience level Management *plan not complete within first half* of decade	H/M	Review Project Activity considering activity on adjacent lands	District Ranger and Recreation Staff	Annually	Supervisor's Office wild and scenic river files.	$5,000
SOCIO-ECONOMIC									
AMERICAN INDIAN INTERACTION	Responsiveness of Forest Management activities to the rights, interests and concerns of American Indians as reserved by Treaty and defined by the American Indian Religious Freedom Act.	Documentation of contacts	Potential conflict identified between Forest Management objectives, and American Indian rights to, and/or for, an area or resource	M/H	Coordination of project plans and Environmental Analysis, where appropriate, with affected tribal representation	Forest Supervisor, Native American Coordinator, District Ranger	Annually	Project Files	$1,000/year

MONITORING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
COMMUNITY LIFESTYLES	Responsiveness to local lifestyles, attitudes, beliefs or values	Various	Established trend toward Forest-Community conflict or identification of problems	M/H	Interviews with key publics and opinion leaders in communities, observation, etc (See FSH 1909 17) Public involvement.	Planning Staff, Line Staff Officers	Annually	Files, newspapers, anecdotal data	$500
EFFECT OF NF MANAGEMENT ON INDIVIDUALS AND OTHER GOVERNMENT AGENCIES	Identify emerging issues, concerns, opportunities Includes problems of interagency cooperation		Failure to have general acceptance of Forest management.	M/M	Collect public input through contacts, letters, verbal comments, interagency contacts, etc	Public Affairs	Annually	S O and Districts	$300
HUMAN AND COMMUNITY DEVELOPMENT	Whether Human and Community Development goals are met.	Enrollee years by program	-10% variation from goals	H/H	Maintain personnel record by Forest Dervice programs (YCC, CETA, Senior Citizens, Volunteers, other)	Admin Officer, Planning Staff	Annually	Personnel Records Forest Attainment Reports	$200
COMMUNITY ECONOMIC PARAMETERS	Population, income, employment, industrial needs	Varies	Developing problems in local economy	M/M	Retrieve data from IMPLAN at FCCC	Budget and Accounting Analyst	5 years	State Employment Office, Personnel	$1000
ECONOMICS Economic effects of Plan implementation	To compare projected estimated economic effects with actual	Dollars	25% variation from estimated	H/H	Compare expenditures, contracts, salaries, actual payments to counties and returns to the Treasury with Forest Plan projections	Budget & Accounting Analyst	Annually	TSPIRS, Supervisor s Office	$1,000
MONITORING NEEDED TO EVALUATE PLAN EFFECTIVENESS OR MEET LOCAL/ADMINISTRATIVE RESPONSIBILITIES									
ADMINISTRATIVE									
LAND OWNERSHIP	Lands being acquired or disposed as opportunities arise consistent with plan direction	Acres	Review and ownership plan not complete	M/M	Review, update ownership plan	Lands Staff, District Ranger	Annually	5400 files	$200
CIVIL RIGHTS & EQUAL EMPLOYMENT OPPORTUNITIES	Workforce diversity	Number minorities and women employed, retained	-5% deviation from goals	H/H	Personnel Records Review	Admin Officer	Annually	Personnel Files	$200

MONITORING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
ECONOMICS Comparison of actual and planned implementation costs	To compare projected expenditures and value with actual expenditures	Dollars spent	2% deviation from total Financial Work Plan as compared to Forest Plan projections	H/H	Extract actual costs and compare with plan estimates	Budget & Finance	Annually	PAMARS	$1,000
NEPA Project compliance with National Environmental Policy Act, including cumulative effects analysis	All project level decisions	Management activities	Meet NEPA Regulations and FSM direction on environmental documentation, meet standards and guidelines	M/H	EA review by office and field staff of 1-2 projects per District per year	District Ranger and Planning Staff	Each project	1950 files	$25,000
PLANNING MODELS Modeling assumptions (primarily FORPLAN)	Comparison of the projected outputs and effects modeled in the Forest Plan with the actual outputs and effects	Selected parameters	Plus or minus 20% in each area, subsequent analysis to determine if pattern exists	H/H	Review outputs per area FORPLAN projection	Land Management Planning	One analysis per district per year	S O	$8,000
STANDARDS AND GUIDELINES	Adherence to standards and guidelines not covered by separate monitoring *item, goals and objectives* met by standards and guidelines	All standards and guidelines	Unacceptable deviation from stated goals and objectives	M/H	Review of selected activities	District Ranger and S O Staff	Annually	Files	$5,000
RESOURCES									
AIR QUALITY	Total suspended particulate (TSP) production	Tons of TSP	Any increases of annual tons of TSP over last 5 yr average	L/L	Project burns planning, further research, annual treatment reports	Fire Staff & Water/ Soil Staff	Annually	Accomplishment Reports	$500
CULTURAL RESOURCES	Protection of significant *cultural resources during* project implementation (where specified)	Properties	Any disturbance to, or alteration of, the property	H/M	Review Environmental Analyses and project work plans, sytematic field inspection during project activities inspection of selected projects to determine effectiveness of *mitigation actions*	Forest Archeologist, District Ranger	Annually	Project plan files, District and S O cultural resource files	$10,000
USE/ OCCUPANCY Permits, Leases, Claims	Effects on resources by management emphasis areas of mining claims and mineral permits	Operating plans requirement & stipulations	Any noncompliance	M/M	Review of operating plans & on site inspections	District Ranger	Annually	2810, 2850 files	$1000

MONITORING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
SPECIAL USES	Special uses	Operation plans, requirements & stipulations	Noncompliance	M/M	Review Special Uses	District Ranger	Annually	Paper Files	$500
OIL & GAS	Oil, Gas, & Geothermal leases	Number of leases	Inadequate surface resource protection	M/M	Review Leases	Forest Supervisor	Annually	2820 Files	$500
FIRE Fire Effects	Ecological effect of under burning	Ecological effects	Prescription not being met on 20% or more of areas	M/M	Research PNW	Research PNW	Annually	PNW Report	$500
Fire Protection	FMEI - Cost of pre-supression & suppression plus net value change effect of wildfire	$/1000 acres protected (FMEI)	+ 25% increase in FMEI in any year or > 10% increase in FMEI of 5 yr average	M/H	FEP costs FFFcosts NVC assoc with acres burned by Fire Intensity Level (Form 5100-29)	Fire Staff	Annual comparing to last 10 year acreage	FCCC Fire History Files - Budget Records - Nat l Fire Mgmt. Planning System - FCCC	$500
FISHERIES Habitat capability and productivity, species and size composition (rainbow and brook trout)	Determine if habitat meets management objectives	1) sedimentation (% imbededness), 2) temperature (F), 3) channel morphology (cross sectional area), 4) ripan an community composition, 5) large woody material (number of pieces), 6) smolt numbers	Loss in habitat capability, objectives not being met.	H/M	1) Bucket or ocular (hoop) 2/, 2) hydrothermograph, 3) cross section and pool riffle ratio 3/, 4) line transects, 5) riparian plant community survey (photo points) and 6) electrofishing or trapping	District Ranger, Fisheries Biologist & wildlife biologist	1) June thru Sept., 2) winter & summer daily, 3) every 3 yrs on selected streams, 4) every 3 years on selected streams, 5) 5% of streams annually and 6) every 3 yrs on selected streams	GIS 2600 Files	$7,000
RECREATION User experience and physical setting in dispersed and developed use sites and areas	Site conditions and user satisfaction assure that a broad spectrum of ROS settings and recreational opportunities are provided	Developed and dispersed sites and areas	>20% physical, social, and managerial setting for each ROS Class not achieved Developed site not providing barrier free facilities, not maintained, not meeting public expectations, facilities deteriorating	M/M	Condition surveys, user satisfaction surveys ROS/ RIM vehicle counts, visitor use counts, visitor con tacts	District Ranger, Rec Staff	Annually	R.I M Data and File 2300	$15,000
INFORMATION	Information available to inform public of areas suitable for proposed use	ROG 8/	ROG not available at District or information in guide outdated	H/M	Review of ROG's	Rec Staff, District Ranger	Minimum every 2 years	Districts	$1,500
SOIL	Growth losses caused by accumulative compaction	Cubic foot/yr	>10% decline in tree growth	H/M	25% of earth disturbing projects sampled	Soil Staff/ Silviculture, District Ranger Rep	Annually	2550	$10,000/yr

MONITORING ITEM	ACTIONS/ EFFECTS *MONITORED*	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION *RELIABILITY*	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
Changes in soil productivity	To determine if soil management and conservation practices are being implemented and to assess their effectiveness	1) % compaction, 2) % soil disturbance, 3) % soil puddling	Minimum of 80% of an activity area will be left in a non-detrimental impacted state following a soil disturbing activity	M/M	25% of earth disturbing projects sampled 1)line transects using shovel probe transecting, 2) nuclear guage testing, 3) *relative percentages of* undisturbed, displaced, mixed and deposited soil will be recorded also along the transect	Soil/ Watershed Staff, District Ranger *Reps*	Annually	GIS, 2550 files	$25,000
TIMBER Restocking of lands	To determine if NFMA requirements and plan assumptions for cutover lands are being met.	Harvest unit, number, type, and distribution of regeneration	The elapsed time from site availability to stocking exceeds [CFR 219 27(c)(3)] Plantation success drops below 90%.	H/H	Reforestation stocking surveys Post sale reviews of accomplishment reports	District Ranger, Timber Staff, Forest Silviculturist	Annually	GIS timber reports	$8,000
	Population levels of insects & disease following management activities	Acres infected	As recommended by Regional Office specialists	M/M	Annual insect & disease survey (by R 6 Forest Pest Mgmt specialists) Compare with past surveys to detect trends	Timber Staff Officer	Annually	Survey Report	$500/yr
	Land Suitability	Acres	+ or - 5000 acres	H/H	Stand Exams Aerial Photos Field Observation	Forest Silviculturist	Annually	DBMS R2MAP	$2000
	Harvest Unit Size	Acres	Departure from Regional Guide direction	H/H	EA Project Review	District Ranger, *Ranger* District Staff	Annually	1950 NEPA project files	
	Intensified Forest Management	Acres	1) >10% of acres needing precommercial thinning at age 15, but not treated, 2) >10% acres prescribed for release but not treated within 3 years, >10% of acres needing prunning but not treated within 3 years	H/H	District Silviculturist, Forest Silviculturist	Annually	TRI/GIS		

MONITOR-ING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESH-OLD	DATA PRECI-SION RELI-ABILITY	SUGGESTED METHODS	WHO WILL MONI-TOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
WILD HORS-ES	Herd number	number of animals	10% above upper herd limit.	M/M	Aerial and ground census	District	3 years	District 2200 files	$1000
THREAT-ENED, EN-DANGERED AND SENSI-TIVE ANIMALS AND PLANTS	Bald eagle roost sites	Acres of suit-able habitat.	No loss of habitat under individual roost site plans due to manage-ment activities	H/M	Five year activity schedule evaluations, habitat re-view, EA project review	District Ranger, Range and Wildlife Staff and District Biologist	Update activity schedule evaluations at least every 5 years Annual review of habitat and project EA's	GIS, File 2670	$2,500

MONITORING PLAN NOTES

This monitoring plan is intended to be a dynamic plan subject to revision as the Forest and Grassland Plans are Implemented The process to update and, or amend the plans is iterated in figure 5-2, p ___

Definitions of monitoring plan elements

Monitoring Item - Primary resource or activity to be monitored
Action or Effect to be Monitored - A specific statement of what will be checked
Units of Measure - A quantifiable amount related to the action or effect.
Variability Threshold - Levels which, if exceeded, may trigger the need for re-evaluation of the Forest Plan
Data Precision/ - How exact or accurate the measurement, rated high, moderate or low (H, M, L)
Reliability - Expected probability that information acquired through sampling will reflect actual conditions Rated high, moderate or low (H, M, L)
Suggested Methods - Statement of how monitoring will be accomplished
Who Will Monitor - Identifies Program Manager in charge of implementation of monitoring, data collection, analysis, evaluation, and report preparations
Monitoring Frequency - The scheduling of sampling for the item to be monitored stated in years or parts of years
Data Location - Indicates where the collected monitoring data, analysis and evaluation reports for the item monitored are accumulated
Estimated Annual Cost - This cost includes existing and planned monitoring items
Action Indicated - Codes related to types of procedures implemented when variability thresholds are exceeded

FOOTNOTES

1/ GIS Graphic Information System The monitoring plan recognizes that when GIS is implemented on the Forest and Grassland, it will provide the base data upon which monitoring will rely In the interim, the existing data bases will be used

2/ Bucket or ocular sampling using techniques outlined by Munther and Lilburn (Aquatic Environment and Fisheries Habitat, 1986 Monitoring Report. 1987 Bitteroot, Deerlodge, and Lolo NF)

3/ Cross section and pool rifle ratio- Use standard Inventory procedures outlined by Hankin and Reeve s stream survey process (Estimating Total Fish Abundance and Total Habitat Area in Small Streams Based On Visual Estimation Methods, Hankin, D G & Gordon H Reeves, Canadian Journal of Fish & Aquatic Science, Vol 45, 1988)

4/ Utilization levels will be incorporated into allotment management plans

5/ Recreation Opportunity Spectrum

6/ EHA model Equivalent harvest acres model tarcks harvest by watershed and provides a risk assessment of unacceptable hydrologic activity resultant of management practices such as timber harvest and road development.

7/ Timber resource inventory

8/ TRACS

9/Habitat effectiveness index- The HEI model, using cover, forage relationships, vegetation trends and road density, measures habitat capability for big game at a point in time The HEI provides trend information over time to determine whether habitat capability objectives are being met.

Appendix A

Schedules

APPENDIX A1-1

CULTURAL RESOURCE OUTPUTS AND C I P SCHEDULES

OCHOCO NATIONAL FOREST
FY 90-99

FOREST AGGREGATES FOR ALL CRM OUTPUTS

PROJECT / ACTIVITY	FY	FUND	MEASURE	UNIT	COST (M$)
Survey (Project Inventory)	90	NFCR	Acres	49M	104
Lookout Mtn Data Recovery	90	NFCR	Project	1	26
Summit Trail Management Plan	90	NFRN	Project	1	3
Inventory Plan	90	NFCR	Project	1	5
Allison G S Enhancement	90	CWKV	Project	1	10
Divide Cabin Interpretation	90	CWKV	Project	1	3
Survey	91	NFCR	Acres	54M	111
CRM Data Base Installation/GIS	92	NFCR	Project	1	10
Lookout Mtn Interp Feasibility	91	NFCR	Project	1	3
Summit Trail Interpretive Feas	91	NFRN	Project	1	11
Delintment Lake Data Recovery	91	NFRN	Project	1	20
Thematic Study, Historic Mining	91	NFCR	Project	1	5
Survey	92	NFCR	Acres	53M	109
Delintment Lake Data Recovery	91	NFRN	Project	1	20
Lookout Mtn. Intrepretive Design	92	NFRN	Project	1	5
Summit Trail Interpretive Design	92	NFRN	Project	1	21
Thematic Nomination Mining Dist	92	NFCR	Project	1	5
Survey	93	NFCR	Acres	48M	99
Lookout Mtn Interpretive Site	93	NFCR	Project	1	31
Summit Trail Interp Implem Ph 1	93	NFRN	Project	1	75
Historic Mining Interp Feasib	93	NFCR	Project	1	3
Survey	94	NFCR	Acres	51M	105
Summit Trail Interp Implem Ph 2	94	NFRN	Project	1	75
Historic Mining Interp. Design	94	NFRN	Project	1	12
Thematic Study Rockshelters	94	NFCR	Project	1	25
Survey	95	NFCR	Acres	49M	101
Historic Mining Interp Implement	95	NFRN	Project	1	40
Thematic Nomination Rockshelters	95	NFCR	Project	1	12
Rockshelter Interpretation Feas	95	NFCR	Project	1	3
Survey	96	NFCR	Acres	48M	99
Rockshelter Interpretation Design	96	NFRN	Project	1	15
ARPA/Protection Monitoring Survey	96	NFCR	Project	1	10
Lamonta Bldg Group Interp Feas	96	NFCR	Project	1	3
Survey	97	NFCR	Acres	46M	95
Rockshelter Interp Implement	97	NFRN	Project	1	45
ARPA/Protection Plan	97	NFCR	Project	1	10
Lamonta Bldg Group Interp Design	97	NFRN	Project	1	8

PROJECT / ACTIVITY	FY	FUND	MEASURE	UNIT	COST (M$)
Survey	98	NFCR	Acres	44M	91
ARPA/Protection Outreach	98	NFCR	Project	1	5
Lamonta Bldg Group Implementation	98	NFRN	Project	1	25
Cultural Resource Overview	98	NFCR	Project	1	35
Survey	99	NFCR	Acres	44M	91
Contemp Native Amer Use Study	99	NFCR	Project	1	20
CRM Data Base Update	99	NFCR	Project	1	10
Inventory Plan Update	99	NFCR	Project	1	10

• Surveys are performed for all proposed ground-disturbing projects, such as timber sales, road construction and reconstruction, range, wildlife and recreation improvements as well as energy transmission corridors

APPENDIX A1-2

SCHEDULE OF CULTURAL RESOURCE INVENTORY PROJECTS

Project	Year	Cost ($M/Yr) 1/	Survey Output (M Ac /Yr) 2/
D-1 Big Summit	90	26	12
	91	32	15
	92	26	12
	93	26	12
	94	28	13
	95	28	13
	96	28	13
	97	26	12
	98	26	12
	99	26	12
D-2 Paulina	90	11	5
	91	15	7
	92	17	8
	93	17	8
	94	17	8
	95	13	6
	96	13	6
	97	11	5
	98	11	5
	99	11	5
D-3 Prineville	90	29	14
	91	16	8
	92	18	9
	93	16	8
	94	16	8
	95	16	8
	96	16	8
	97	16	8
	98	14	7
	99	14	7
D-4 Snow Mountain	90	38	18
	91	48	24
	92	48	24
	93	40	20
	94	44	22
	95	44	22
	96	42	21
	97	42	21
	98	40	20
	99	40	20

These totals represent Section 106 clearance of proposed timber sale activities as per Forest's "Interim Cultural Resource Inventory Design " Monies for protection, mitigation, and enhancement are not included

1/ Cost of inventory varies between an estimated $2 00 to $2 15 per acre cleared

2/ M acres represents project area cleared by field inventory, usually 3 times larger than actual sale area, as per Forest's "Interim Cultural Resource Inventory Design"

APPENDIX A2

SCHEDULE OF FACILITY CONSTRUCTION/RECONSTRUCTION

First Five Years

Project Name	Cost ($M)	Preconstruction Cost ($M)	Output
Snow Mountain/Burns Ranger District Offices	1400	100	1
Rager Ranger Station Quarters - Phase I	370	30	7
Ochoco Hazardous Storage Buildings	172	8	2

Second Five Years

Project Name	Cost ($M)	Preconstruction Cost ($M)	Output
Rager Ranger Station Service Buildings	220	15	2
Rager Ranger Station Quarters - Phase II	357	20	3
Lamonta Service Buildings	241	15	2
Ochoco Ranger Station Work Center Paving	32	1	1
Rager Ranger Station Quarters - Phase III	536	40	1

APPENDIX A3-1

SCHEDULE OF FUELS MANAGEMENT ACTIVITIES

First Five Years

Project Name	Cost ($M/Yr)	Outputs (M Ac /Yr)
Activity Fuels Hazard Reduction	955	142
Natural Fuels Hazard Reduction	329	49

Second Five Years

Project Name	Cost ($M/Yr)	Outputs (M Ac /Yr)
Activity Fuels Hazard Reduction	955	142
Natural Fuels Hazard Reduction	329	49

APPENDIX A3-2

FIRE MANAGEMENT SCHEDULE
OCHOCO NATIONAL FOREST

				Wildfire Suppression Strategy							Based on NFMAS Run	Annual Acres Use of Fire	
				Control		Contain		Confine					A=Activity N=Natural
Management Area (Land Allocation)	Primary Resource Allocation	M Acres Protected	Protection Level 1/	Flame Length	Max. Individual Fire Size Objective	Flame Length	Max. Fire Size Obj	Flame Length	Max. Fire Size Obj	Maximum Allowable Burn Acreage Objective - 10 yr	Expected Burn Acreage - 10 yr	Unplanned	Planned
22	General Forest	497	2	4+	2500	2-4	50	0-2	10	5000	2125		A 9300 N 4900
20, 21	Winter Range	171	8	4+	1000	2-4	100	0-2	100	2000	730		A-3200 N 1700
6	Old Growth	19	4	All	10					100	80		
7, 25-27	Visuals	51	4	4+	100	2 4	10	0 2	50	1000	220		A 1000 N 1500
12	Eagle Roosts	1	2	All	10					10	5		
1 4	Wilderness	37	4	4+	3000	2-4	1000	0 2	500	6000	160		N-1100
8, 10, 11A	Road less	22	4	4+	1500	2-4	500	0 2	250	3000	95		N 700
9	Rock Cr Cottonwood	3	3	4+	1000	2 4	100	0 2	10	1000	15		A-100 N 0
13, 14, 28	Developed Recreation	4	1	All	1					0	15		N-100
5	R N A.	5	4	4+	50	2-4	25	0 2	100	100	20		
15	Riparian	18	3	4+	100	2 4	50	0-2	100	700	75		A 300 N 200
11B, 16 19, 23, 24	Special Areas	17	4	4+	500	2-4	100	0 2	50	500	70		A 300 N 200
TOTAL		845									3610		A 14200 2/ N 10400 3/

* For Desired Residue Profile see Management Prescriptions

1/ 1 Life and Property, 2 - High Value Commodity of Investments (Social/Political), 3 - Commodity, 4 - Noncommodity

2/ Sale Activity Residues

3/ Hazard Reduction=4900, Habitat Management=5500

APPENDIX A4-1

SCHEDULE OF FORAGE IMPROVEMENTS

First Five Years

Project Name	Cost ($M/Yr)	Output/Year
STRUCTURAL IMPROVEMENTS Water Developments (Number)	33 5	14
Fence Construction (Miles)	71 4	35 7
Fence Removal (Miles)	3	3 0
NONSTRUCTURAL IMPROVEMENTS Juniper Removal (Acres)	6 0	80 0
Seeding (Acres)	6 0	80 0
Range Burning	141 4	4,072.0

** Second Five Years are the same as the First Five Years.

APPENDIX A4-2

RANGE VEGETATION ANALYSIS AND ALLOTMENT MANAGEMENT PLAN UPDATE SCHEDULE

District	Project	Year
BIG SUMMIT	Brush Creek	1990
	Crystal Creek	1990
	Marks Creek	1991
	Gray Prairie	1991
	Wildcat	1992
	Fox Canyon	1992
	Lost Horse	1993
	Pringle	1993
	Elkhorn	1994
	Lookout	1994
	Canyon Creek	1995
	Reservoir	1995
	North Fork	1996
	Pisgah	1996
	Snowshoe	1997
	Badger	1997
	Big Summit	1998
		(last update 1989)
	Burn	1999
		(last update 1989)
PAULINA	Sunflower	1990
	Roba	1991
	Happy	1992
	Little Summit	1993
	Derr	1994
	Deep Creek	1995
	Heisler	1996
	Rock Creek	1997
	Bearskull-Cottonwood	1998
	Dry Corner	1999
	Wolf Creek	2000
		(last update 1988)
	Wind Creek	2001
		(last update 1989)
PRINEVILLE	East Maury	1990
	Mill Creek	1991
	Bear Creek	1992
	Trout Creek	1993
	Shotgun	1994
	Baby Allotment	1995
	Double Cabin	1996
		(last update 1987)
	Klootchman	1997
		(last update 1988)
	West Maury	1998
		(last update 1989)

District	Project	Year
SNOW MOUNTAIN	Buck Mountain	1990
	Lower Nichol	1990
	Sawmill	1991
	Donnelly	1992
	Snow Mountain	1993
	Green Butte	1994
	Emigrant Creek	1995
	Silver Creek	1996
		(last update 1989)
	Allison	1997
		(last update 1989)

APPENDIX A5

LAND EXCHANGE OR TRANSFER

Project Name	Total Cost ($M)	Output (Acres)
Ochoco Lumber Company	35	7,832
Wonser	11	360
Other cases, 1st 5 years	34	800
Other cases, 2nd 5 years	34	800

RIGHTS-OF-WAY

Project Name	Total Cost ($M)	Output (Acres)
Cases for decade (5/year)	112	50

APPENDIX A6

SCHEDULE OF LAND LINE LOCATION ACTIVITIES

First Five Years

Project Name	Cost ($M/Yr)	Outputs (Ac./Yr)
Land Line Location	126	?

Second Five Years

Project Name	Cost ($M/Yr)	Outputs (Ac /Yr)
Primarily Maintenance	105	?

APPENDIX A7

SCHEDULE OF MINERALS PROPOSALS, LEASES, AND APPLICATIONS

Project Name	Cases for Decade	Total Cost ($M)	Output (Cases)
Locatable minerals	15/year	322	150
Common Variety minerals	10/year	70	100
Oil and Gas	175/year	700	1750

APPENDIX A8

SCHEDULE OF DEVELOPED RECREATION PROJECTS - LISTED BY PRIORITY

First Five Years

Project Name	Cost (M$)	Outputs (Additional Paot's)
Ochoco Forest Camp	200	220
Sugar Creek Campground	95	50
Ochoco Divide	135	50
9 Water Systems Upgrade	432	-
Delintment Lake Dam & Campground	355	100
Elkhorn Campground	60	20
Wiley Campground	60	40
Mud Springs Campground	77	30
Upgrade Remaining Water	108	-
Information & Wilderness Stations	140	-
Antelope Campground	176	100
Big Springs Campground	35	15
Barnhouse	72	20
Allen Creek Horse Camp	190	20
Wildcat Campground	230	0
Divide Cabin Interpretative	156	50
D-4 Auto Tour Interpretative	60	-

Second Five Years

Project Name	Cost (M$)	Outputs (Additional Paot's)
Deep Creek	116	0
Double Cabin	132	100
Dispersed Sites D-4	72	0
Whistler Relocate	120	10
High Horse Camp	120	50
Frazier	114	20
Hammer Horse Camp	108	30

APPENDIX A9

SCHEDULE OF TRAIL/TRAILHEAD PROJECTS - LISTED BY PRIORITY

SUMMER PROJECTS

First Five Years

Project Name	District	Cost (M$)	Miles
TRAILS/SNOWPARK			
Lookout Tie	Big Summit	60	8.1
Rock Creek Walk	Paulina	18	7 0
Walton Lake Loop	Big Summit	6	1 0
Black Canyon	Paulina	60	4 0
Highway 26 Snowpark	Big Summit	120	.2
Divide Cabin Interpretive Site	Prineville	42	2 0
Rim	Paulina	66	5 0
Back Creek/Apple Road	Paulina	76	6 8
Cougar/Bear Creek	Prineville	40	6 6
RECONSTRUCTION			
Stein's Pillar	Prineville	5	5
Allen Creek Horse Camp	Big Summit	157	14.0
OHV Routes	Prineville	300	30 0
Lookout Brush Creek	Big Summit	123	6 0
Sugar Creek Interpretive	Paulina	60	2.0
Keaton Relocate	Paulina	120	10 0
Keaton Tie	Paulina	36	2 0
Hammer Creek	Prineville	60	8 0
Payton Right-of-Way	Paulina	26	3 0
North Fork Crooked River	Big Summit	66	5 0
Dry Creek Horse	Prineville	90	3 0
Delintment Lake	Snow Mountain	50	5 0
East/West Intertie (New Oregon Trail)	Prineville, Big Summit	148	10 0
Snow Parks	Snow Mountain	72	4
Summit/Round Mountain	Big Summit	25	6 0
Hat/East Walk	Paulina	42	2.5
Youngs Butte	Paulina	25	2 0

Second Five Years

Project Name	District	Cost (M$)	Miles
TRAILS/SNOWPARK			
O'Neil Creek	Big Summit	71	5 0
Wind Creek	Paulina	85	5 0
Silver Creek	Snow Mountain	90	8 0
Steins Pillar Loop	Prineville	54	3.0
Silver Creek	Snow Mountain	130	18 0
Battle Ridge	Paulina	48	3 0
Ochoco Divide Interpretive	Big Summit	36	1 5
Old Summit/East-West Intertie	Paulina	83	8 0
Old Summit/East-West Intertie	Big Summit	72	15 0
Emigrant Falls	Snow Mountain	18	2.0
East Wolfe	Paulina	48	3 2
East-West Intertie (New Oregon Trail)	Prineville	120	20 0
OHV Routes	Prineville	180	15 0
OHV Routes	Big Summit	276	25 0
OHV Routes	Paulina	156	15 0
OHV Routes	Snow Mountain	108	10 0
Scissorsville Interp.	Big Summit	40	3 0
Wildflower Walk	Big Summit	22	2 0
Hwy 26 Bike Path	Big Summit	225	13 0
Allen/Walton Interp	Big Summit	65	6 5
Bandit Springs Interp	Big Summit	40	3 0

First Five Years

Project Name	District	Cost (M$)
TRAILHEAD CONSTRUCTION		
Potter Meadow	Paulina	7 0
Mud Springs	Paulina	4 0
Divide Cabin	Prineville	23 8
Boeing	Paulina	20 0
Payton	Paulina	20 0
Rock Creek	Paulina	4.0
Barnhouse	Paulina	4 0
Fry	Paulina	3 0
Wolf Mountain	Paulina	3 0
Allen Creek	Big Summit	26 0
Ochoco Divide	Big Summit	4.0
Whistler	Prineville	4 0
Rim/Back	Paulina	3 0
Cougar/Bear	Prineville	6 0
Lookout/Bush	Big Summit	3 0
Keaton	Paulina	4 0
Hammer (2)	Prineville	8 0
North Fork	Big Summit	22 0
Delintment Lake	Snow Mountain	4 0
Youngs	Paulina	4 0
Summit/Round	Big Summit	4 0
Chev Spring	Big Summit	55 0

Second Five Years

Project Name	District	Cost (M$) Miles
TRAILHEAD CONSTRUCTION		
O'Neil	Big Summit	4 0
Wind Creek	Paulina	4 0
Silver	Snow Mountain	4 0
Stein's Loop	Prineville	6 0
East Wolfe	Paulina	5 0
Miscellaneous OHV Trailheads	All	120 0
Battle Ridge	Paulina	4 0
Twin Pillars	Prineville	8 0

WINTER TRAILS

First Five Years

Project Name	District	Cost (M$)	Route Development Miles
CROSS-COUNTRY SKI			
East-West Intertie	Big Summit	13	11
Lookout Mtn Loop		8	8
Grant Meadows		8	8
Nature Creek		4	4
Canyon Creek		7	7
Ochoco Creek		16	13
Rager	Paulina	4	4
Phone Line		4	4
Tamarack		4	4
Dry Creek	Prineville	12	10
Miscellaneous	Snow Mountain	12	10

Second Five Years

Project Name	District	Cost (M$)	Route Development Miles
CROSS-COUNTRY SKI			
Carol Butte	Big Summit	2	2
Brush Creek		7	7
Crystal Creek		7	7
Snow Course	Paulina	11	9
Spanish Peak		5	5
Mauries	Prineville	18	20
Miscellaneous	Snow Mountain	12	15

First Five Years

Project Name	District	Cost (M$)	Route Development Miles
SNOWMOBILE			
Big Summit	Big Summit	19 2	33
West 42		2 0	3 5
Peterson Lava		2.0	3.5
East 42	Paulina	11	18
Little Summit Prairie		4	8
Watson Military		4.5	9
Summit		4	8
Dick's Bluff	Prineville	12	20
West 27		9	18
Miscellaneous	Snow Mountain	22	35

Second Five Years

Project Name	District	Cost (M$)	Route Development Miles
SNOWMOBILE			
Chev Spring	Big Summit	7 8	13
Old Summit		5	10
Brush Creek		2	4
Potter Meadow	Paulina	1 5	3
38 Road		2	4
3610 Route		3 5	7
12 Road		4	8
Bear		1 5	3
Maurles	Prineville	18	25
Miscellaneous	Snow Mountain	18	30

APPENDIX A10

TIMBER SALE ACTIVITY SCHEDULE

INTRODUCTION

This appendix displays how the timber outputs, as projected by the preferred alternative in the FEIS, are likely to be provided during the period from 1990 through 1994, and projected harvest by management area for the next two decades.

The following tables list the planned timber sales information and conditions current at the time of Forest Plan development If these conditions change, and as new information becomes available during implementation of the Forest Plan, the timber sale schedule may be modified.

The "small sales" (usually less than 2.0 million board feet) may change on very short notice to meet special product demands or to take advantage of salvage opportunities or for disease or insect prevention The small sales program is used to achieve a variety of special purposes such as the salvage of blow-down timber or to remove hazard trees from developed campgrounds A variety of silvicultural methods may be used depending upon the objective of the individual small sale.

Table A10-2 is derived from the Timber Sale Action Program for the Forest. Maps showing the sale areas are available for inspection at the Forest Supervisor's Office and indicated Ranger Districts.

APPENDIX A10-1

PLANNED ANNUAL TIMBER HARVEST BY MANAGEMENT AREA FOR FIRST TWO DECADES

MANAGEMENT AREA	First Decade		Second Decade
	MMCF	MMBF	MMCF
General Forest 9 - 21 & 22	17 0	103	16.7
Big Game Winter Range - 20	.5	3	1.2
Riparian - 15	2	1	.2
Visual, Recreation, and Eagle Roosting Areas 7, 11, 12, 13, 14, 16, 17, 18, 19, 23, 24, 25, 26, 27	1 3	8	.9
Total	19 0	115	19 0

APPENDIX A10-2

TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
BIG SUMMIT DISTRICT				**FISCAL YEAR 1990**				
Chuck-wagon	T14S,R20E, S2,3,4,5,9,10,11,16	22, 26, 27	267	424	8 0	0 6	0 1	1/, 20% Skyline, 80% Tractor
Lame	T15S,R21E, S1,12,13, T15S,R22E, S5,6,7,8,17,18,19,20	20, 21	370	30	4 0	0 0	0 0	1/, Tractor
Koch	T14S,R19E, S5, T13S,R19E, S21,22,27,28, 29,30,31,32 T13S,R18E, S36	21,25	416	11	2 7	0 4	0 1	1/, Tractor
Dry Porter	T13S,R22E, S26,27,28,32,33,34 T14S,R27E, S2,3,4,11	22	304	206	5 0	0 5	0 0	1/, Skyline and Tractor
Upper Al	T13S,R213, S16,17,21,22,23,26, 27,28,32,33,34,35	22, 26	300	400	10 7	0 0	0 0	1/, Skyline and Tractor
H & G	T12S,R19E, S36 T13S,R19E, S1,2,11,12,13 T13S,R20E, S6,7,8,17,18	22, 7, 25	404	111	4 2	1 5	0 1	1/, Skyline and Tractor
Halfway	T12S,R19E, S25,26,34,35,36	16	80	50	1 4	0 0	0 0	1/, Tractor
Rough	T15S,R21E, S27,28,33,34,35	21	400	0	4 0	0 0	1 0	1/, Skyline and Tractor
TOTAL			2541	1232	40 0	3 0	1 3	
BIG SUMMIT DISTRICT				**FISCAL YEAR 1991**				
Lutsey	T15S,R20E, S13,21,23,24,25,26, 27,34,35 T15S,R21E, S7,8,17,18,19,30	21, 22	391	619	5 0	0 7	0 5	1/, Skyline and Tractor
Thunder	T13,14S,R18E	20, 22, 25	800	0	6 0	0 0	2 5	1/, Skyline and Tractor
Merritt	T13,14S,R20E	22, 26, 27	541	0	8 0	2 6	1 5	1/, Tractor
Indian Butte	T13S,R20E, T13S,R21E	22, 26, 7	346	855	10 0	3 3	0 6	1/, Tractor
Arvid	T15S,R20E	21, 22	600	0	6 0	1 2	1 0	1/, Skyline and Tractor
Scotts	T13S,R21E	22, 7, 26	450	0	5 0	1 5	0 0	1/, Skyline and Tractor
TOTAL			3128	1474	40 0	9 3	6 1	

1/ Regeneration harvest in Douglas fir and white fir, and overstory removal and selection in ponderosa pine

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
BIG SUMMIT DISTRICT				**FISCAL YEAR 1992**				
Claypool	T13S,R19E	22	650	100	10 0	4.0	1 0	1/, Skyline and tractor
Deep	T14,152,R22E	20, 22, 23	400	200	5 0	1 5	0 0	1/, Skyline and Tractor
Hedgepath	T14S, R19,20E	22, 26	400	0	6 0	5 0	0 0	1/, Skyline and Tractor
Off Broad-way	T13S,R22E	22, 7	600	0	7 0	1 5	2 0	1/, Skyline and Tractor
Long Horse	T14,15S,R21E	21, 22, 23	600	800	12 0	1 0	1 5	1/, Tractor
TOTAL			2650	1100	40	13 0	4 5	
BIG SUMMIT DISRICT				**FISCAL YEAR 1993**				
Forks	T13S,R20E	22, 26	400	0	4 0	0 0	0 0	1/, Skyline and Tractor
Ross	T13S,R22E	7, 22, 26	700	500	10 0	1 5	3 3	1/, Skyline and Tractor
Sylvester	T13S,R18,19E	22	660	0	10 0	5 0	0 0	1/, Skyline and Tractor
Brush	T14,15S,R20,21E	22, 26	500	100	6 0	1 0	0 0	1/, Skyline and Tractor
Living-stone	T14,15S,R20,21E	22	300	100	4 0	0 0	0 0	1/, Skyline and Tractor
Carrol	T12,13S,R20E	7, 22, 25, 26	500	0	4 5	1 0	0 0	1/, Skyline and Tractor
TOTAL			3060	700	38 5	8 5	3 3	
BIG SUMMIT DISTRICT				**FISCAL YEAR 1994**				
Divide	T12S,R20E	22	150	0	2 0	0 0	0 0	1/, Skyline and Tractor
East Point	T13S,R21,22E	7, 22	800	0 0	12 0	4 0	0 0	1/, Skyline and Tractor
Car Keys	T14S,R22E	22, 26	200	200	4 0	0 0	8 5	1/, Tractor
Block 15	T12S,R21E	22	450	0	5 0	0 0	2 0	1/, Skyline and Tractor
Berkley	T14,15S,R21E	21, 22	350	100	3 0	0 0	0 0	1/, Tractor
Simpson	T13S,R20E	22	500	0 0	6 0	2 0	2 0	1/, Skyline and Tractor
Block 22	T15S,R21,22E	21, 22	500	200	5 0	0 0	0 0	1/, Tractor
TOTAL			3100	500	37	6 0	12 5	

1/ Regeneration harvest in Douglas-fir and white fir, and overstory removal and selection in ponderosa pine

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
PAULINA DISTRICT				**FISCAL YEAR 1990**				
Potter	T14S,R25E, S4-9,16 20,29,30 T14S,R24E, S1,12,13,14,23,24 T13S,R25E, S30-33	14, 15, 22, 26	800	50	12 0	2 5	7 5	Tractor, skyline, considera ble amount of HCC and HSH harvesting in mixed conifer stands
Rainier	T13S,R22E, S1,2,11-14 T13S,R23E, S6,7,18	7, 15, 22	500	60	10 0	9 6	0 0	Tractor, skyline, predominantly HCC and HSH harvesting in mixed conifer stands
Bottoms	T14S,R23E, S21,22,31 T14S,R24E, S17,20 T15S,R24E, S1,24	14, 20, 22, 26	171	15	1 6	0 0	0 0	Tractor harvest of encroaching conifers, most commonly ponderosa pine, to release aspen clones from conifer competition and provide KV dollars to enhance aspen resprouting and regeneration
TOTAL			1471	125	23 6	12 1	7 5	
PAULINA DISTRICT				**FISCAL YEAR 1991**				
Tower	T14S,R25E, S20,28-29,32-35 T15S,R25E, S2 5	7, 15, 22	450	200	6 0	2 0	11 5	Tractor and helicopter, approximately 1/3 HCC or HSH, 1/3 ponderosa pine uneven-aged management, 1/3 preparation cut in mixed conifer stands
A & M Spring	T13S,R25E, S36 T13S,R26E, S33 T14S,R26E, S4-9,17,18 T14S,R25E, S1,12,13	14, 15, 22, 26	550	300	7 0	1 3	4 1	Tractor and skyline overstory removal and selection management in ponderosa pine types on ridges HCC and HSH in mixed conifer types generally
Bearskull	T13S,R25E, S27,28,34,35 T14S,R25E, S1-4,9-15	14, 15, 22, 26	350	150	5 0	2 2	4 5	Tractor and skyline overstory removal and selection harvesting in pine types on ridges south and west facing slopes HCC and HSH in mixed conifer types
TOTAL			1350	650	18 0	5 5	20 1	

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
PAULINA DISTRICT			**FISCAL YEAR 1992**					
Hornet	T14S,R24E, S31,32 T15S,R24E, S4-9,15-22,27,28 T15S,R23E, S1,12,13,24	12*, 14, 15, 20, 22, 26	750	350	8 0	0 0	15 5	Tractor Sale contains predominantly pondersoa pine types which will be harvested under selection, overstory removal, and commercial thin
Noble	T15S,R24E, S9-11, 13-16,22,23-27 T15S,R25S, S18	12*, 13*, 14, 15, 20, 21, 22, 26	400	350	4 00	3 0	4 0	A few HCC and HSH possible Tractor and skyline Sale contains predominantly ponderosa pine types which will be harvested under selection
DCWR	T13S,R23E T14S,R23E T14S,R24E T14S,R22E T13S,R22E	14, 15, 22	500	0 0	4 0	0 0	0 0	All tractor harvesting Harvest shelterwood overstones of various sales in the deep creek watershed
TOTAL			1650	700	16 0	3 0	19 5	

12* Eagle Roosting Areas and 13* Developed Recreation Areas - We may or may not do any harvesting within these areas during this entry cycle, but they are within the sale area and will be considered

PAULINA DISTRICT			**FISCAL YEAR 1993**					
Delore	T17S,R26E, S2-6,8-11 T16S,R26E, S14,15,20-35	14, 15, 22	750	750	6 0	1 5	8 5	Probably just tractor logging in predominantly ponderosa pine stands Silvicultural methods would include selection, overstory removal, and commercial thinning
Younger	T13S,R23E, S8-11, 15,16,17,18,20,21, 28,29	7, 14, 15, 22, 26	235	50	4 0	1 5	2 0	Tractor harvesting of mixed conifer stands which will generally be harvested by HCC or HSH methods
Robin	T15S,R25E, S17-21,28 31 T15S,R24E, S24,25	14, 15, 21, 22, 26	350	400	3 0	0 0	1 0	Mostly tractor but possibly some skyline harvesting in ponderosa pine and ponderosa and Douglas fir stands Silvicultural meth ods include selection, overstory removal, and commercial thinning
TOTAL			1200	1200	13 0	3 0	11 5	

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
PAULINA DISTRICT			**FISCAL YEAR 1994**					
Keeton	T13S,R23E, S4-9,17 T13S,R22E, S1	7, 15, 22	935	50	14 0	10 5	2 0	Tractor and skyline harvest methods Mostly HCC and HSH silvicultural methods in mixed conifer
Double 8	T13S,R23E, S14,15, 21,22,23,26 29, 32-35	14, 15, 22, 26	250	70	4 0	0 5	4 5	Stands with a few overstory removal harvests at the southern boundary of the sale - probably all tractor harvesting Predominantly HCC and HSH in mixed conifer stands where firs predominate Possibly some selection and overstory removal harvesting where there are stands with sufficient larch and ponderosa pine
TOTAL			1185	120	18 0	11 0	6 5	

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
PRINEVILLE DISTRICT				**FISCAL YEAR 1990**				
Lightning Bust	T12S,R17E, S13-15, 22-24	22, 14, 15	548	35	80	11	33	Regeneration and final removal Skyline and Tractor
Underdog	T12S,R19E, S1-2, 9-16, 22, 24 T12S,R19E, S17-19	22, 21, 25, 16, 14, 15	1238	130	130	64	09	Regeneration, improvement, selection and final removal Skyline and Tractor
Shotgun	T17S,R20E, S28 33	22, 14 ,15	514	80	50	0	0	Final removal, selection Tractor
Dale	T18S,R19E, S2-4, 9-11, 14-16	22, 26, 21, 14, 15	1663		32	0	0	Final Removal Tractor
Colt	T12S,R17E, S25,26,27 T12S,R18E, S30	22, 7, 14, 15	500		8	0	0	Rehabilitation and regeneration Skyline and Tractor
TOTAL			4459	245	300	75	42	
PRINEVILLE DISTRICT				**FISCAL YEAR 1991**				
Runamuck	T17S,R19E, S24,25,36 T17S,R20E, S19,30,31 T18S,R19E, S2	22, 26, 21, 14, 15	340	353	70	0	1	Selection, final removal, and regeneration Skyline and Tractor
Cayuse	T12S,R18E, S28,33 T13S,R18E, S5,6,8	20, 26, 22, 14, 15	400	250	140	98	37	Selection, final removal, and regeneration Skyline and Tractor
Shingle	T18S,R19E, S5 8	26, 22, 14, 15	350	100	50	0	0	Selection and final removal Tractor
Bopeep	T17S,R18E, S34 T18S,R18E, S2,3,4,9,10,11,14,15	22, 21, 14, 15	600	110	40	25	6	Selection, final removal, and regeneration Skyline and Tractor
TOTAL			1690	813	300	123	47	

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
PRINEVILLE DISTRICT			**FISCAL YEAR 1992**					
Iron Bird	T13S,R16E, S25 T13S,R17E, S19,20,29,30,31	21, 22, 26, 14, 15	300	400	5 0	0	3	Selection, final removal, Improvement harvest. Helicopter
Rocky I	T13S,R18E, S16,20,21,22,27,28, 29,30	14, 15, 17, 20, 22, 26	400	500	14 0	5	3	Regeneration, final removal, and selection Skyline and Tractor
Trout	T12S,R18E, S1-5,8,9	14, 15, 21, 22	200	500	8 0	2	9 3	Selection, final removal Skyline and Tractor
Dutchman	T12S,R17E, S1 5,8-12 T12S,R18E, S6,7	14, 15, 21, 22	300		2,0	0	3	Commercial thinning Tractor
TOTAL			1200	1400	29 0	7	18 3	
PRINEVILLE DISTRICT			**FISCAL YEAR 1993**					
Laser	T12S,R17E, S16,17,19,20,21,28, 29,31-33 T13S,R17E, S5-7 T12S,R16E, S36	26, 21, 22, 14, 15	500	300	11 0	2	5	Regeneration, final removal, and selection Skyline and Tractor
Janzout	T12S,R17E, S25,33 36 T13S,R17E, S1,2,4,5 T12S,R18E, S31 T13S,R18E, S6	7, 14, 15, 21, 22, 26	600	300	11 0	5	7 0	Selection, regeneration, and final removal Skyline and Tractor
DJ	T14S,R17E, S6	21	100		5	1	1	Final removal Skyline and Tractor
Pup	T17S,R21E, S28-33 T17S,R20E, S25,36 T18S,R20E, S1	20, 22, 26, 14, 15	200	300	3 5	0	3	Selection, final removal, and regeneration Skyline and Tractor
TOTAL			1400	900	26 0	8	16 0	
PRINEVILLE DISTRICT			**FISCAL YEAR 1994**					
Goldilocks	T12S,R19E, S4-9,16,17,18 T12S,R18E, S1	14, 15, 21, 22	400	600	11 0	6	8 7	Selection, final removal, and regeneration Skyline and Tractor
Sylvester	T13S,R17E, S25,36 T13S,R18E, S30-32 T14S,R18E, S5,6	14, 15, 17, 20, 22, 26	300	500	9 0	4	2 5	Regeneration, final removal, and selection Skyline and Tractor
Mill	T12S,R18E, S27, 28, 33, 34 T13S,R18E, S4, 5, 8, 9, 16	14, 15, 20, 22, 26	200	400	5 0	3	4	Selection, final removal, and regeneration Skyline and Tractor
TOTAL			900	1500	25 0	13	15 2	

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
SNOW MOUNTAIN DISTRICT				**FISCAL YEAR 1990**				
Tip	T19S,R25E, S25,26,35,36 T19S,R26E, S19,20,21,22,29,30,3 T20S,R25E, S1,2	13, 22, 26	1030	00	100	18	00	Tractor Shelterwood in pine and mixed conifer
Rebull	T20S,R27E, S5,6,7 T19S,R27E, S32	22, 26	150	1500	66	00	02	Tractor Selection and overstory removal
Vol	T19S,R27E, S4,6,8,9,15,16, 21,27,28	22, 26,	1800	00	44	00	00	30% Skyline, 70% Tractor Overstory removal
Top	T19S,R26E, S11,12,13,14,15,23,24	22, 26	600	00	45	00	00	Tractor Overstory removal
Button	T19S,R27E, S19,28,29,30	22, 26	400	260	50	10	25	Tractor Selection and overstory removal
Shorty	T19S,R26E, S38,32 T20S,R26E, S4,5,8,9	22	1600	00	30	00	00	Tractor Overstory removal
TOTAL			5580	1760	335	28	27	
SNOW MOUNTAIN DISTRICT				**FISCAL YEAR 1991**				
Lumsden	T21S,R27E, S14,23,24,25,26, 27,28,33,34,35,36 T22S,R27E, S1,2 T21S,R28E, S21,22,23,26,31, 32,33,34,35 T22S,R28E, S2,3,4,5,6,7,8,9,10	22, 26	800	1600	90	00	20	Tractor Overstory removal and selection cutting in pine
Hollow	T21S,R27E, S11,12,13,14,23,24,25 T21S,R28E, S6,7	22, 26	00	1000	30	00	20	Tractor Selection cutting in pine
Last Buff	T20S,R28E, S32, T21S,R28E, S3,4,5,6,7,8,9,10, 14,15,16,17,21 T22S,R27E, S13 T22S,R28E, S17,18	20, 22, 26	300	1000	80	00	20	Tractor Overstory removal and seletion in pine
Green	T21S,R28E, S17,18,19,20,29,30	22, 26,	200	900	73	20	15	Tractor Overstory removal and seletion in pine
B 52	T21S,R24E, S35,36 T22S,R24E, S11,12 T21S,R25E, S31,32 T22S,R25E, S4,5,6,7	21	80	420	30	00	00	Tractor Selection and overstory removal in pine
Mud	T19S,R25E, S1,12,13,14,22, 23,24,26,27 T19S,R26E, S5,6,7,8,18,19	21, 22, 26	20	640	30	00	00	Tractor Selection and overstory removal
TOTAL			1400	5560	333	20	75	

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
SNOW MOUNTAIN DISTRICT				**FISCAL YEAR 1992**				
Dustbox	T19S,R26E, S25,26,34,35 T20S,R26E, S2,3,10,11	22, 26	300	370	4 0	0 75	0 75	Tractor Selection and overstory removal
Plumber	T20S,R26E, S13,15,16,21,22,23, 24,25,26,27,28,29, 32,33,34,35,36 T20S,R27E, S18,19,20,29,30,31	21, 22	200	600	3 0	1 0	1 5	20% Skyline, 80% Tractor Selection and overstory removal
Dairy	T20S,R25E, S32 T21S,R25E, S4,5,8,9,15,16,17,20, 21,22,28	22	35	400	2 0	0 0	0 0	Tractor Selection and overstory removal
Blacksnag	T19S,R25E, S27,33,34 T20S,R25E, S2,3,4,5,8,9,10,11,14, 15,16,17,21,22,23,27	21, 22, 26	200	700	6 0	0 5	0 75	Tractor Selection and overstory removal
Big Ridge	T22S,R27E S6,7 T22S,R26E, S1,2,11,12,13	20	150	850	5 0	3 0	0 75	Tractor Selection and overstory removal
Boundary	T18S,R26E,S25,31, 32,33,34,35 T19S,R26E, S1,2,3,4,5,6 T18S,R27E, S19,29,30,31,32 T19S,R27E, S6	21, 22, 26	500	700	6 0	0 5	4 0	Tractor Selection and overstory removal, and shelterwood
Elliot	T22S,R28E, S15,16,17,20,21,22, 23,25,26,27,28, 29,33,34,35 T23S,R28E, S1,2,3	20, 22	150	1300	5 0	0 0	0 0	Tractor Selection and overstory removal
TOTAL			1535	4920	31 0	5 75	7 75	

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
SNOW MOUNTAIN DISTRICT				**FISCAL YEAR 1993**				
Gus	T21S,R27E, S1,2,11,12,13,14,24 T21S,R28E, S6,7,18	22, 26	80	420	2 0	2 0	0 3	Tractor Selection and overstory removal
Sawdust	*T21S,R27E, S31,32,33,34 T22S,R27E S2,3,4,5,6,7,8,9,10, 11,13,14,15,16*	*20, 22*	*250*	*1000*	*5 0*	*0 0*	*0 0*	*Tractor Selection and* overstory removal
Doe	T20S,R25E, S17,18,19,20,21,27,28, 29,30,31,32,33,34,35 T21S,R25E, S2,3,4,5,6	21, 22	200	650	5 0	0 0	1 0	Tractor Selection and overstory removal
Beaver Rock	T20S,R27E, S14,15,16,21,22,23, 24,25,26,27,28,29,30, 31,32,33,34,35,36 T20S,R28E, S19,29,30,31,32 T21S,R273, S3,4,5,6	22, 26	250	550	5 0	0 3	2 0	20% Skyline, 80% Tractor Selection and overstory removal
Foss	T19S,R26E, S32,33 T20S,R26E, S5,6,7,8,18,19,30 T20S,R25E, S12,13,24	22	350	1000	8 0	1 0	0 5	15% Skyline, 85% Tractor Selection and overstory removal
Boomer	T19S,R27E, S10,11,12,13,14,15, 21,22,23,24,25,26, 27,28,33,34,35,36	22, 26	400	500	5 0	1 0	3 0	15% Skyline, 85% Tractor Selection and overstory removal
Perkins	T19S,R26E, S27,28,32,33,34 T20S,R26E, S3,4,5,6,7,8,9,16,17, 18,19,20,21,29,30 T21S,R26E, S3 T20S,R25E, S1,12,13,24,25	22	70	850	5 0	1 0	1 0	10% Skyline, 90% Tractor Selection and overstory removal
TOTAL			1600	4970	35 0	5 3	7 8	

TABLE A10-2 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF	MANAGE-MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUCT	PROBABLE HARVEST METHODS
SNOW MOUNTAIN DISTRICT				**FISCAL YEAR 1994**				
Valley	T19S,R26E, S32,33 T20S,R26E, S5,6,7,8,18,19,30 T20S,R25E, S12,13,24	22, 26	100	700	3 0	1 0	1 5	Tractor Selection and overstory removal
Emigrant Face	T19S,R28E, S31 T20S,R27E, S1,10,11,12, 13,14,15,24 T20S,R28E, S7,18	13, 22, 26	300	400	3 0	1 5	4 5	70% Helicopter, 30% Tractor Selection and overstory removal
Dog Hill	T22S,R28E, S1,2,3,10,11,12,13, 14,15,23,24,25 T22S,R29E, S7,17,18,19,29,30	22, 26	0 0	900	4 0	0 5	1 0	Tractor Selection cutting
Moco	T19S,R25E, S25,26,35,36 T20S,R25E, S1,2,12 T20S,R25E, S1,2,12 T20S,R26E, S6 T19S,R26E, S19,20,21,22,23,26, 27,28,29,30,31,32	13, 22, 26	200	1200	6 0	1 0	4 0	15% Skyline, 85% Tractor Selection and overstory removal
Burnt Cabin	T18S,R27E, S31,32,33 T19S,R26E, S1 T19S,R27E, S3,4,5,6,7,8,9,10,11, 15,16,21,22,27,28	22, 26	550	200	6 0	1 0	4 0	10% Skyline, 90% Tractor Selection and overstory removal
Claw	T20S,R27E, S14,15,21,22,23,24, 25,26,27,28,35,36 T20S,R28E, S29,30,31,32	22, 26	300	700	5 0	1 5	3 0	20% Skyline, 80% Tractor Selection and overstory removal
Roadside	T21S,R24E, S11,12,13,14,15,22,23, 24,25,26,27,34,35,36 T21S,R25E, S7,18,19,29,30,31,32 T22S,R24E S11	20, 22	90	800	4 0	0 0	2 0	Tractor Selection and overstory removal
Dead Bull	T21S,R27E, S25,26,27,33,34,35,36 T21S,R28E, S31 T22S,R28E, S6 T22S,R27E, S1,2,3	20, 22	0 0	1000	3 0	0 0	0 0	Tractor Selection cutting
TOTAL			1540	5900	34 0	6 5	20 0	

APPENDIX A10-3

SUMMARY SCHEDULE OF TIMBER SALES

First Five Years

Project Name	Cost (M$/Yr)	Outputs/Yr
Timber Sale Program	2,266	19 5 MMCF
Program Management	452	19 5 MMCF
Firewood Program	48	6 M Cords
I & DC	46	Fixed Rate
Tree Improvement	414	Fixed Rate
Reforestation	1,200	2,000 Ac
Stand Improvement	974	5,800 Ac

Second Five Years

Project Name	Cost (M$/Yr)	Outputs/Yr
Timber Sale Program	2,150	18 5 MMCF
Program Management	428	18 5 MMCF
Firewood Program	48	6 M Cords
I & DC	46	Fixed Rate
Tree Improvement	350	Fixed Rate
Reforestation	1,788	2,980 Ac
Stand Improvement	907	5,400 Ac

APPENDIX A11

SCHEDULE OF ROAD CONSTRUCTION/RECONSTRUCTION

First Five Years

District	Project Name	Number	Cost($M)	Preconstruction Cost ($M)	Output (Miles)
Snow Mountain	Delintment Lake	FDR41	144	12	4 0
Big Summit	Slumps	FDR22	180	15	0 7
Big Summit	Shoulders #1	FDR22/42	180	12	9 0
Paulina	Rager Access	FDR42/58	559	20	6 1
Big Summit	Shoulders #2	FDR22/42	504	18	14 0
Prineville	McKay Saddle	FDR27	180	15	0 3
Prineville	Little McKay	FDR27	900	40	5 2
Prineville	Surfacing #1	FDR33	180	12	6 3
Big Summit	Canyon Creek	FDR42	924	35	13 9
Paulina	Tie Through	FDR4260	180	15	5 0
Paulina	Paulina Butte	FDR42	960	35	9 4
Prineville	Benefield	FDR3350	120	10	0 2

Second Five Years

District	Project Name	Number	Cost ($M)	Preconstruction Cost ($M)	Output (Miles)
Prineville	North Slope	FDR2725/2730	168	12	15 0
Paulina	Six Corners	FDR4260/3810/12	139	9	11 5
Prineville	Surfacing #2	FDR33	132	8	5 0
Paulina	Turnpike	FDR5870/5840	96	8	8 0
Paulina	Black Mountain	FDR30/3010	210	12	15 1
Snow Mountain	Donnelly	FDR41	462	20	7 0
Snow Mountain	Button Flat	FDR4370/4155	360	15	4 3
Prineville	Rattlepop		240	20	6 5
Big Summit	Keaton		259	20	6 5
Snow Mountain	Emigrant	FDR43	540	20	8 5
Prineville	Loop	FDR33	264	10	2 2
Prineville	Rocky Butte	FDR3300-500	120	10	0.5

APPENDIX A12

SCHEDULE OF WATERSHED IMPROVEMENT PROJECTS - LISTED BY PRIORITY

First Decade

District	Watershed Name	Cost ($M)	Output (Miles)
Snow Mountain	Nicholl/Sawmill	192	20 5
Prineville	Bear Camp	64	11 9
Prineville	Trout Creek	Complete	
Paulina	John Day Tribs	16	1.8
Paulina	Rock Creek	12	5 4
Paulina	Badger Creek	3	1 5
Paulina	Keeton	-	-
Big Summit	Bridge Creek	3	1 5
Prineville	Bear Creek	21	.6
Paulina	Deep Creek	22	1 0
Paulina	Wolf Creek	Complete	
CRNG *	Deschutes R.	Complete	
Prineville	McKay Creek	64	1 9
Snow Mountain	Silver Creek	76	5 3
Prineville	Mill Creek	2	3
Big Summit	Howard/Porter	30	4 4
Big Summit	N F Crooked River	164	6 4
Snow Mountain	Emigrant Creek	208	11 2
CRNG *	Willow Creek	Complete	
Paulina	East Beaver Creek	98	4 9
Paulina	West Beaver Creek	10	2 2
Big Summit	Marks Creek	34	8 1
Big Summit	Ochoco Creek	40	5 7
Prineville	M F Crooked River	111	10 6
Big Summit	M F Crooked River	9	1 9
Snow Mountain	Dry/Stinger	-	-
Total		1,173 6	107 1

* CRNG - Crooked River National Grassland

APPENDIX A13

SCHEDULE OF WILDERNESS IMPROVEMENT ACTIVITIES
(Trail and trailhead projects are included in Appendix A8)

First Five Years

Project	Wilderness	Cost ($M)
Final Wilderness Plan	Black Canyon	120
Remove evidence of old fire camp	Black Canyon	15
Rehabilitate old firelines	Black Canyon, Bridge Creek	20
Rehabilitate old roads	Black Canyon, Bridge Creek	45
Wilderness Brochures	All	15
Install entrance signs and trailhead information boards	All	50
Remove caches and rehabilitat camp areas	All	50
Remove watertanks, nonfunctioning fences, tables, and other nonconforming structures	Mill Creek	35

Second Five Years

Project	Wilderness	Cost ($M)
Remove Owl Creek Cabin	Black Canyon	10
Remove unnecessary fences	All	50
Make trails more challenging and primitive	Mill Creek, Black Canyon	100
Develop fire implementation plans and projects	All	60

APPENDIX A14-1

SCHEDULE OF WILDLIFE IMPROVEMENT ACTIVITIES

First Five Years

Project Name	Cost ($M/Yr)	Outputs (Ac /Yr)
Prescribed Burning, Seeding, Planting, etc	100	500

Second Five Years

Same as First Five Years

APPENDIX A14-2

ENDANGERED, THREATENED, AND SENSITIVE SPECIES SURVEY

Activity	Acres (M/Yr)	No Allot /Yr	Cost (M$/Yr)
Survey			
Timber Sale Areas	17		23
Natural Fuels Reduction	5		7
Range Allotment Plan		5	5

APPENDIX A15

SCHEDULE OF FISH HABITAT IMPROVEMENT PROJECTS- LISTED BY PRIORITY

First Five Years

District	Project Name	Cost ($M)	Output (Miles)
Snow Mountain	Nicholl/Sawmill	41	12 3
Prineville	Bear Camp	53	10 2
Prineville	Trout Creek	Complete	
Paulina	John Day Tribs	55	10.0
Paulina	Rock Creek	18	5 4
Paulina	Badger Creek	22	3 0
Paulina	Keeton	-	-
Big Summit	Bridge Creek	-	-
Prineville	Bear Creek	113	8 4
Paulina	Deep Creek	130	22 2
Paulina	Wolf Creek	Complete	
CRNG *	Deschutes R	Complete	
Prineville	McKay Creek	94	14 6
Snow Mountain	Silver Creek	116	34 5
Prineville	Mill Creek	43	5 9
Big Summit	Howard/Porter	246	35 5
Big Summit	N F. Crooked River	11	1 0
Snow Mountain	Emigrant Creek	46	13 5
CRNG *	Willow Creek	Complete	
Paulina	East Beaver Creek	38	7.2
Paulina	West Beaver Creek	45	5.3
Big Summit	Marks Creek	71	7 1
Big Summit	Ochoco Creek	39	5 4
Prineville	M F Crooked River	68	14 0
Big Summit	M F Crooked River	29	5 5
Snow Mountain	Dry/Stinger	1	25
Total		1,279	221 3

* CRNG - Crooked River National Grassland

APPENDIX A16

VIEWSHED MANAGEMENT AND IMPLEMENTATION PLAN

(Schedule listed by completion priority in first decade)

Forest Roads 42/22 Loop (Potential Scenic Byway)
Forest Road 33 (Potential Scenic Byway)
Forest Road 41
Forest Road 58

Appendix B

Special Uses

Appendix C

Threatened, Endangered, and Sensitive Species

Appendix B

Special Uses

A variety of special uses are permitted on the Forest and Grassland, such as grazing, roads, electric and telephone lines, and water impoundments.

District	CATEGORIES									Total
	100	200	300	400	500	600	700	800	900	
D-1	2	4	0	2	0	0	0	5	3	16
D-2	0	0	0	0	0	0	0	3	3	6
D-3	0	6	0	0	0	2	1	4	7	20
D-4	1	1	0	0	0	0	1	1	2	6
D-5	1	6	0	21	0	1	16	85	16	146
Total	4	17	0	23	0	3	18	98	31	194

Category 100 = Recreation
200 = Agriculture
300 = Community
400 = Industry
500 = Public Information
600 = Research, Study, Training
700 = Transportation
800 = Utilities and Communications
900 = Water

The above numbers do not include 10 to 15 permits issued each year for short-term recreational events, or 30 to 40 permits issued each year for Forest Service contractors to camp on National Forest System land.

Appendix C

Threatened, Endangered, and Sensitive Species

		Federal	State	R-6	N.F.
Sensitive Birds					
Ferruginous Hawk	*Buteo regalis*	Cat. 2		OR	S
Swainson's Hawk	*Buteo swainsoni*	Cat 2	S	OR	D
N. Bald Eagle	*Haliaeetus leucocephalus*	T	T	*/OR	D
Western Sage Grouse	*Centrocerus urophasianus*	Cat. 2		*/OR	D
Greater Sandhill Crane	*Grus canadensis tabida*		S	*/OR	D
Western Snowy Plover	*Charadrius alexandrinus nivosus*	Cat. 2	T	*/OR	S
Long-billed Curlew	*Numenius americanus*	Cat. 2		*/OR	D
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*				
Sensitive Mammals					
Preble's Shrew	*Sorex preblei*	Cat. 2		OR	S
California Wolverine	*Gulo gulo luteus*	Cat. 2	T	*/OR	D
Sensitive Fish					
Redband Trout	*Salmo* spp	Taxonomic uncertainty			D
Malheur Mottled Sculpin	*Cottus bairdi* spp	Cat. 2		OR	D
Sensitive Plants					
Brandegee Onion	*Allium brandegei*		T	OR	S
Sierra Onion	*Allium companulatum*		T	OR	D
Swamp Onion	*Allium madidum*	3c	S	*	D
Prairie Sage	*Artemisia ludoviciana* spp *estesii*	Cat. 2	T	OR	S
John Day Milk-Vetch	*Astragalus diaphanus* var *diaphanus*	Cat 2	E	OR	S
John Day Milk-Vetch	*Astragalus diaphanus* var *diurnus*	Cat. 2	E	OR	S
Deschutes Milk-Vetch	*Astragalus tegetarioides*	Cat. 2	T	OR	S
Long Bearded Sego Lily	*Calochortus longebarbatus* var. *peckii*				D
Long Bearded Sego Lily	var. *longebarbatus*	Cat. 2	T	*/OR	S
Bristle-flowered Collomia	*Collomia macrocalyx*	Cat. 2	S	OR	D
not listed	*Lupinus cusickii*	Cat. 2	T	OR	S
Henderson Ricegrass	*Oryzopsis hendersonii*		T	*/OR	D
Scapose Silene	*Silene scaposa* var *scaposa*	Cat. 2	T	OR	S

Definitions

Federal 1985 Federal Register Notice of Review
- T = Threatened
- Category 2 = Needs additional information before proposing a federal listing
- Category 3c = Deleted species; taxon more abundant and widespread than previously thought.

State: Oregon State Status Regional Forester's
- E = Endangered
- T = Threatened
- S = Sensitive

R-6 Sensitive Species List
- OR = Sensitive in Oregon
- * = Potential candidate for Regional Forester's list

N F Ochoco National Forest
- D = Determined to be present
- S = Suspected to be present

Appendix D

Travel Plan

Appendix E

Spill Incident Response Plan

Appendix D

Travel Plan

Process

Various laws, regulations, and Executive Orders recognize on-road and off-road uses as legitimate activities on national grasslands and forests.

The Transportation Planning Handbook, FSH7709.55 contains procedural direction on access and travel management. The objective in the handbook states, "... identify and document recreational opportunities by integrating off-road travel management with on-road management, under the common framework of access management."

The direction under FSM 2355, which sets objectives for recreation, states, ". . . provide off-road vehicle recreation opportunities that are in concert with the environmental setting, minimize off-road vehicle effects on the land and resources, promote public safety, and control conflicts with other uses of the National Forest System lands."

The regulation 36 CFR 219.21(d), requires that we consider the impacts of proposed recreation activities on other uses and values and the impacts of other uses and activities associated with them on recreation opportunities, activities, and quality of experience. Off-road vehicle use is specifically addressed by 36 CFR 219.21(g):

> Off-road vehicle use shall be planned and implemented to protect land and other resources, promote public safety, and minimize conflicts with other uses of the National Forest System lands. Forest planning shall evaluate the potential effects of vehicle use off roads and, on the basis of the requirements of 36 CFR 295 of this chapter, classify areas and trails of National Forest System lands as to whether or not off-road vehicle use may be permitted.

Executive Order No. 11644, as amended by Executive Order 11989, directs that the designation of off-road vehicle areas shall be based upon minimizing damage to soils, watersheds, vegetation, and other resources, and minimizing conflicts with other uses. The travel map development, which consists of describing how users access the Ochoco National Forest and Crooked River National Grassland, is consistent with this direction. It includes all forms of travel, including on-road and off-road.

Traffic management (on-road) and off-road vehicle standard and guidelines for all management areas were determined through an integrated interdisciplinary team approach and are found in the prescriptions in Chapter 4 for the Forest and the Grassland Plans.

Implementation

The following is representive of the action items or activities which will be scheduled and completed through implementation of the Forest and Grassland Plans:

Enforcement

Orders will be issued by the Forest Supervisor in accordance with 36 CFR 261.50.A copy of the order imposing prohibitions will be placed in the offices of the Forest Supervisor and district rangers.

The closures and restrictions(controls) covered under Title 36 CFR 261, Subpart B are applicable and are supplemental to those in 36 CFR 261, Subpart A.

Traffic and Off-Road Management

Uniform travel management direction will be developed for road design standards, road maintenance plans, traffic control devices (to include signing), closure orders, and trail design standards.

Revise the Forest and the Grassland sign plans to bring them in line with the Plans.

From the appropriate management area direction

and standard and guidelines, apply appropriate entrance information that communicates to the Forest and Grassland visitor the current conditions and purpose intended by management.

Establish priorities by management areas to insure consistent and timely application of the travel access management decisions.

Establish travel management needs during each phase of the program development and budget (PD&B) process, identifying those needs and direction specific to the situation.

Explore the potential for using the Forest and Grassland development road system to provide off-road travel opportunities. Roads temporarily closed to vehicular traffic could be used to supplement off-road vehicle opportunities.

Education and Involvement

Endorse organization of various motorcycle clubs and off-road enthusiasts to help implement this plan. This coalition could help develop, monitor, and maintain existing and new trail systems, which could minimize Forest Service cost through the use of volunteer work and partnership projects.

Initiate a program to educate employees in the technical linkage between the Plans, transportation planning, resource objectives, and travel management.

Implement the monitoring program to keep management appraised of changing needs so that methods, techniques, facilities, and settings can be managed appropriately.

Revisions

The Forest and Grassland will move towards controlling off-road vehicle use in order to minimize impacts to resources and other user groups while not necessarily restricting off-road users. The use of closed road systems, and the designation of trails and destinations, will be encouraged for those management areas without existing off-road restrictions, such as General Forest and General Forage.

Additional off-road vehicle recreation opportunity proposals will be in accordance with management area direction and standards and guidelines. All projects and activities are subject to analysis under the National Environmental Policy Act (NEPA) process before they can be implemented.

The travel map will be updated annually or as necessary to reflect these changes as well other changing conditions or new information, such as changes to the traffic management of open on-road use under the Green Dot program. If these or other situations are identified as being outside the limits of acceptable variability, appropriate amendments or other changes may be made. The amendment process, as well as monitoring and evaluation, can be found in Chapter 5 of the Forest and Grassland Plans.

The successful implementation of new off-road vehicle trails, or other changes, will be dependent upon a policy that insures that these opportunities are met through an integrated, interdisciplinary, and public approach, and that they adhere to the requirements of the Forest and Grassland Plans.

Appendix E

Spill Incident Response Plan

The Forest Spill Incident Plan establishes reporting and response procedures to be followed in the event of an accidental spill of toxic, hazardous or otherwise dangerous materials, including petroleum products

Because of the serious health and water pollution potential of many of the materials used with our varied land management activities and transported across our land, spills will be given the same emergency priority as a forest fire.

The Plan relies on the expertise of the local, state and federal agencies, and private contractors for spill containment and cleanup The Forest Service's role in a spill incident is communication and coordination. The key Forest players in a spill response are Dispatch and the Forest spill coordinator. They may request others to assist them, depending on the nature of the spill.

Spill Response

Health and Safety

Of paramount importance is the health and safety of personnel at the spill site, and of downstream water users if supplies are contaminated

When approaching any spill site, the following precautions must be taken.

Approach from the up wind direction if possible,

Keep all unauthorized people away from the spill site,

Avoid inhaling fumes, smoke, vapors and dust even if no hazardous materials are involved, and

Do not assume that gases or vapors are harmless because of lack of smell.

Identify the spilled material from a distance as soon as possible. Until the material is identified, avoid all contact including breathing fumes.

Remember that the Spill Plan is written for professionals trained and equipped for emergency responses The people at the spill site are probably not such professionals, and should not be encouraged to exceed their abilities.

Priority should be given to notifying downstream water users, especially those with domestic, fish hatchery, and irrigation supplies.

Responsibility

The party responsible for the spill should be identified as soon as possible. This party is responsible for containment and cleanup of the spill and is liable for any damages that might occur. The party is also responsible for reporting spill incidents involving toxic, hazardous or otherwise dangerous materials to the appropriate state and federal agencies. The Forest Service will also notify local, state and federal agencies of such spills to ensure that the proper agencies are promptly notified.

Spill Containment

Upon evaluating a spill incident (identification of the material, health and safety problems, and quantity), action will be taken as soon as possible to contain the material at the immediate spill site. This

is especially important if there is a potential for contaminating nearby streams, lakes, or wetlands and downstream water supplies.

Exceptions to taking any immediate containment action would be when the spill material is extremely hazardous and is beyond the ability of the agency and local contractors to handle or it cannot be adequately identified.

Spill Cleanup

All spills involving toxic or hazardous materials or other substances which could contaminate nearby streams, lakes, wetlands or downstream water supplies will be cleaned up as soon as possible.

Spills involving toxic or hazardous materials should be evaluated for having the cleanup and disposal work performed by companies that specialize in this type of work.

Responsibilities of Forest Personnel

Reporting Person

Avoid contact with spilled material.

Call Dispatch for help

Identify yourself, tell how you can be contacted, location of spill, identity & quantity of spilled material

Isolate the spill area.

Wait for additional instructions.

Dispatch

Obtain information from Reporter to fill out Spill Incident Report (See Figure E-1).

Notify Forest Spill Coordinator or the Forest Alternate Spill Coordinator.

If no one can be reached in 1 & 2 above, call OARS and follow their instructions (see Notification List).

Forest Spill Coordinator

Notify and coordinate with the appropriate local, state and federal agencies for spill scene security, containment, and cleanup.

Assure the health and safety of Forest personnel and the Public.

Inform the Forest Supervisor, District Ranger and appropriate Forest staff of spill incident status.

Notify downstream water users of spills if there is a potential for contamination of domestic, or irrigation water supplies.

Prepare initial and final spill response reports for each incident.

Notify the Regional Office of spill.

Provide Forest leadership in Spill Response planning.

Table E-1
Spill Incident Notification List

Agency	Telephone No.	Remarks
Forest Hazardous Substances Coordinator		
Work	447-9513	Call immediately.
Home	447-1882	
Oregon Accident Response System (OARS)	1-800-452-0311	Call immediately.
National Response Center	1-800-424-8802	Call immediately.
Sheriffs - Emergency Management Coordinators		Call Immediately.
Crook	911, 447-4168	
Deschutes	911, 388-0107	
Gilliam	384-2851	
Grant	575-1131	
Harney	911, 573-6156	
Hood River	386-2098	
Jefferson	475-2201	
Klamath	883-7111	
Lake	947-3308	
Sherman	565-3622	
Wasco	(509) 575-4080	
Wheeler	763-4101	
Oregon State Police	911, 1-800-452-6824	
Oregon Dept. of Environmental Quality	388-6146	
Environmental Protection Agency	(206) 442-1263	Notify for spills of inland waters.
Oregon Department of Fish & Wildlife	(206) 696-6211	Notify for spills which could contaminate surface waters
FS RO Hazardous Spill Coordinator (B Pinto)	(503) 221-2931 (FTS) 423-2931	
BLM OSO Hazmat Coordinator	(503) 231-6977,2253	

Figure E-1
Hazardous Spill Report Form

Hazardous Substances
Initial Field Report

1. Type/Description of Incident: _____

_____

2. Date of Sighting: _____

   Time: _____

3. Location(Describe - road #, name etc): _____

   Township: _____

   Range: _____

   Section: _____

   Subsection: _____

4. Hazardous Material or Substance: _____

   Label(placard): _____

   Unknown: _____

   Name: _____

   Waste No. or I.D. No.: _____

   Manufacturer: _____

   Transporter: _____

5. Name and Address of Responsible Party: _____

_____

6. Site Secured: [Yes] [No] Describe: _____

_____

7. Environmental Conditions: _____

   Terrain: _____

   Weather: _____

   Water Resources: _____

   Soil: _____

   Vegetation: _____

Appendix F

Water Quality

Appendix G

Timber Resources

Appendix F

Water Quality

Memorandum of Understanding between the U.S. Department of Agriculture, Forest Service and the Oregon Department of Environmental Quality

December 1, 1978

This document can be found at the Ochoco National Forest Supervisor's Office, in Forest Service Manual 1561.5 - Water Department (Irrigation and Flood Control). Exhibit 1.

The Memorandum of Understanding between the Oregon Department of Environmental Quality (DEQ) and the U.S. Department of Agriculture, Forest Service (USFS), delineates the responsibilities and activities to be performed by each agency pursuant to the implementation of the Oregon Statewide Water Quality Management Plan on lands administered by the USFS.

The Statewide Water Quality Management Plan has been developed to meet the requirements of state law, federal law, the Federal Water Pollution Control Act, and the Clean Water Act.

The DEQ's overriding purpose is to control pollution. The Forest Service's job is to manage public national forest lands. Under the memorandum of understanding, USFS and DEQ mutually agree to specified provisions in order to prevent duplication of effort and provide the coordination necessary to meet the implementation requirements of the Clean Water Act.

Specified provisions cover a range of areas, including: agency roles; implementation, coordination, and administration of the memorandum; and designations of control.

APPENDIX G
TIMBER RESOURCES

TABLE G-1
LAND TENTATIVELY SUITABLE FOR TIMBER PRODUCTION

Criterion	Classification	Acres
FORESTED AND NONFORESTED LANDS		
Total Forest Land	Net National Forest System Acres	844,640
Nonforested	Nonforested Land	272,080
At least 10 percent occupied by forest trees or formerly having tree cover	Total Forested Land	572,560
UNSUITABLE FORESTED LANDS		
Legislatively or Administratively Withdrawn	Wilderness	26,520
	Research Natural Areas	1,730
Capable of producing crops of industrial wood	Nonindustrial	0
Irreversible damage likely to occur	Irreversible Damage	0
Restock in 5 years	Cannot be restocked in 5 years	11,130
Adequate response information available	Adequate response information not available	0
	Total Unsuitable	39,380
SUITABLE FORESTED LAND		
Suitable for timber production	Tentatively Suitable Land	1/ 533,180
Commercial Forest land under 1980 TM plan		545,098

1/ Reduction from the 1980 TM plan due primarily to land classified as not suited because of regeneration difficulty and the Oregon Wilderness Bill of 1984

TABLE G-2
DISTRIBUTION OF TENTATIVELY SUITABLE LAND

Distribution Adjustments	Acres
Total Tentatively Suitable Forest Land	533,177
Adjustments to specific allocations by cause	
Roadless	19,530
Old Growth	18,670
Proposed Research Natural Area	1,330
Subtotal (subtracted from Total)	39,530
Land Suitable for Timber Production	493,650

TABLE G-3
DISTRIBUTION OF FORESTED LAND

	Acres	Percent
Withdrawn	28,250	5
Cannot be restocked in 5 years	11,130	2
Area allocated to other uses 1/	39,530	7
Area suitable for timber production:		
Big Game Emphasis	27,400	5
Riparian	11,510	2
Recreation and other unique Management areas	42,530	7
General Forest	412,210	72
Subtotal	493,650	86
Total Forested Land	572,560	100

1/ This includes a portion of Lookout Mountain that has no scheduled timber harvesting, but may have some harvesting in future decades

TABLE G-4
TIMBER PRODUCTIVITY CLASSIFICATION
(M Acres)

	Suitable Lands	Unsuitable Lands		
Potential Growth (Cubic Feet/Acre/Yr)		Regen Difficulty	Other 1/	Total
Less than 20	12 7	8 6	1 9	10 5
20-49	317 9	1 5	20 3	21 8
50-84	113 7	1 0	32 0	33 0
85-119	37.8	0	10 4	10 4
120-164	11 5	0	3 2	3 2
TOTAL	493 6	11 1	67 8	78 9

Less than 20 cu ft. lands were mapped as low site pine
20-49 class is essentially the ponderosa pine type
50 and higher are mixed conifer types with acres in each class in proportion to plot productivity from Forest Inventory

1/ Other includes Research Natural Areas, Semiprimitive Nonmotorized, Wilderness, Old Growth, and lands dedicated to other uses such as administrative sites

TABLE G-5
FOREST GROWTH AND MORTALITY

Comparison With Previous Plan

	Previous Plan Acres		Forest Plan Acres		Percent Change
	BF	CF	BF	CF	CF
Mature - Ponderosa Pine					
Gross growth per acre	N/A	N/A	152	26 6	
Mortality per acre	N/A	N/A	17	3 0	
Net Growth per acre	N/A	N/A	135	23.6	
Salvageable dead per acre	N/A	N/A	607	125	
Two Story - Ponderosa Pine					
Gross growth per acre	N/A	N/A	123	23 3	
Mortality per acre	N/A	N/A	14	2 5	
Net Growth per acre	N/A	N/A	109	20 8	
Salvageable dead per acre	N/A	N/A	596	109	
Immature - Ponderosa Pine					
Gross growth per acre	N/A	N/A	156	23 3	
Mortality per acre	N/A	N/A	4	0 8	
Net Growth per acre	N/A	N/A	152	22 5	
Salvageable dead per acre	N/A	N/A	81	64	
Low Site - Pine					
Gross growth per acre	N/A	N/A	84	16 3	
Mortality per acre	N/A	N/A	5	0 9	
Net Growth per acre	N/A	N/A	79	15 4	
Salvageable dead per acre	N/A	N/A	197	40	
Mature - Mixed Conifer					
Gross growth per acre	N/A	N/A	255	43 8	
Mortality per acre	N/A	N/A	81	14 9	
Net Growth per acre	N/A	N/A	174	28 9	
Salvageable dead per acre	N/A	N/A	1383	324	
Two Story - Mixed Conifer					
Gross growth per acre	N/A	N/A	243	44 4	
Mortality per acre	N/A	N/A	52	9 2	
Net Growth per acre	N/A	N/A	191	35 2	
Salvageable dead per acre	N/A	N/A	1606	319	
Immature - Mixed Conifer					
Gross growth per acre	N/A	N/A	187	36 9	
Mortality per acre	N/A	N/A	5	1 4	
Net Growth per acre	N/A	N/A	182	35 5	
Salvageable dead per acre	N/A	N/A	489	87	
Average for Forest					
Gross growth per acre	169	32A	170	30 8	-4
Mortality per acre	42	7	32	5 8	-17
Net Growth per acre	127	25	138	25 0	0
Salvageable dead per acre	125	22	870	179	
TOTAL ANNUAL NET GROWTH	MMBF 73 1	MMCF 14 5	MMBF 79 71	MMCF 4 6	+1

BF - Board Feet, CF - Cubic Feet
MMBF - Million Board Feet, MMCF - Million Cubic Feet

TABLE G-6
TIMBER ACRES BY SIZE CLASS

Timber Size Class	Previous Plan 1/	Forest Plan Acres 2/	Percent Change (%)
Mature	482,995	201,914	-58
Two-Story	64,770	273,214	+322
Immature/poles	17,504	33,124	+89
Seed/Sapling	12,582	64,305	+411
TOTAL ACRES	577,851	572,557	-1

1/ Based on 1973 Inventory.
2/ Based on 1982 Inventory updated to end of FY 1984

NOTE: Much of the increase in two-story stands is due to a change in typing to reflect the ability to manage understories from multi-age stands.

TABLE G-7
TIMBER VOLUME BY SPECIES

Timber Species	MMBF	MMCF	MMBF 1/	MMCF 1/	Percent Change-MMCF
Ponderosa pine	5755	896	4426	733	-18
Douglas-fir	808	172	825	147	-15
White fir	800	168	1154	204	+21
Lodgepole pine	56	24	21	4	-83*
Western larch	177	36	168	29	-19
Subalpine fir	10	3	8	2	-33*
Engleman spruce	23	6	46	8	+33*
Hardwoods	3	1	1	0 3	-70*
TOTAL	7632	1306	6649	1127	-14

1/ Based on 1982 Inventory Summary Net volumes 9" min DBH and 6" top adjusted to 1984

* Difference may be due to sampling error as the sample for these species is very small and sampling error high

TABLE G-8
ALLOWABLE SALE QUANTITY AND TIMBER SALE PROGRAM QUANTITY
(Annual Average For First Decade)

Harvest Method	ASQ 1/ MMCF	Nonchargeable 2/ MMCF
Regeneration Harvest·		
Clearcut	3 1	
Shelterwood and seed tree		
Seed cut	4 1	
Overstory removal	5.9	
Selection	5 2	
Intermediate harvest		
Commercial thinning	.7	
Salvage/sanitation		8
Miscellaneous products		1 1
Totals	19 0	1 9

Allowable Sale Quantity 1/	19 0 MMCF	115 MMBF 3/
Timber Sale Program Quantity	20 9 MMCF	122 MMBF 3/
Long-Term Sustained Yield Capacity	19 0	

NOTE. Allowable Sale Quantity and the Long-Term Sustained Yield Capacity stay at 19 0 for all 15 decades of the planning horizon

1/ Only includes chargeable volume from suitable lands
2/ Only includes nonchargeable volumes from suitable and/or unsuitable lands
3/ Based on Scribner Log Scale

TABLE G-9
VEGETATIVE MANAGEMENT PRACTICES
(Average Annual in First Decade from Suitable Lands)

Practice	M Acres 1/
Regeneration harvest	
Clearcut	8 7
Shelterwood and seedtree	
Seed cut	21 1
Overstory removal	53 1
Selection	62 2
Intermediate harvest	
Commercial thinning	12 5
Salvage/sanitation	Unestimated
Timber stand improvement 2/	53 0
Reforestation 3/	29 8

1/ Estimated acres (thousands) based on FORPLAN and adjusted as per documentation on 2-3 89
2/ Estimated acres that will be treated
3/ Includes natural and artificial reforestation on areas with clearcutting, shelterwood cut, or seedtree cut. But no estimate was made for reforestation acres in selection cut