Optimum fuel loadings should be guided by the following photo series.

	PP	*LP*	*MC-MH*
Thinning	1-MC-3-PC 4-PP-1-TH	1-MC-3-PC 1-PP-1-TH	1-MC-3-PC 1-PP-1-TH
Partial Cut	4-TF-4-RC 2-LP-3-PC	2-LP-3-PC	2-MC-4-PC 2-TF-4-RC
Clear Cut	2-MC-4-RC 1-LP-3-PC	1-LP-3-CC 2-MC-4-RC	3-TF-4-RC

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. These fuel loadings will be revised when new data, methods or research indicate that a new profile would improve resource management programs.

Special Uses

M18-37 Special Use permits will be allowed if they are compatible with other uses in the area. Improvements must be located, designed and maintained to remain visually subordinate to the overall character of the landscape, as viewed from significant viewer locations

Forest Health

M18-38 The emphasis of monitoring and vegetative management will be preventing damage or diminished productivity because of pests. Immediate suppression action will be taken utilizing principles and techniques that reduce damage and losses and prevent future pest problems (Follow Forest-wide standards/guidelines for Forest Health.)

Metolius Conservation Area

The Metolius Basin is truly unique in the quality and diversity of its natural resource and spiritual values. The River's headwaters well from the ground in scenic springs, ensuring pristine water quality and excellent fisheries. Abundant rainfall and rich soils have combined to produce luxuriant forests of fir, cedar, larch and Ponderosa pine which have contributed greatly to the demand for forest products locally and regionally. Big, yellow-barked Ponderosa pine trees are a highlight of the Basin *The Metolius ecosystem provides habitat for a* wide variety of plant and animal species.

The upper basin of the Metolius River is an inspiring forest setting. For decades people have found the Metolius to be a special place where they are relieved from the stresses of everyday life amidst a unique natural beauty that exists in few other places. In many families, a tradition of recreation use and love of the Metolius has been handed down over several generations.

Outstanding natural scenery exists throughout the Basin and attracts visitors who seek a variety of recreation pursuits. Black Butte has been a landmark since the first settlers arrived and continues today as a scenic beacon to travelers and residents. The Metolius is outstanding in the abundance of its resources and depth of feeling with which they are held by all who visit this special place

Recognizing these special qualities of the Metolius, and wishing to preserve its outstanding values for future generations, the Metolius Conservation Area is established in this plan This 86,000 acre area encompasses Black Butte, the Metolius Basin between the wilderness boundary on the west and Green Ridge on the east, and the "Horn of *the Metolius*".

This part of the Deschutes National Forest is set apart and will be managed differently from other lands. The Metolius Conservation Area contains ten management areas, many of which are unique, each having a specific goal and theme which describes the direction for management in the foreseeable future. Detailed standards and guidelines written for each management area support the goal and theme. Any project or initiative undertaken in the Metolius Conservation Area must conform in design and application to the appropriate standards and guidelines.

It is of utmost importance that the Metolius "community" participate with the Forest Service in every aspect of plan implementation. Community participation involves intensive, continuous commu*nication on a local and regional level. A partnership* of mutual communication, teamwork, and respect, with joint expectations of successful results, is necessary to successfully implement the direction that has been established.

Standards and guidelines cannot be written to cover all possible interpretations or circumstances which may arise. Thus, a very important part of implementation will be to promote mutual understanding of the standards and guidelines where they are not clear. This clarifies and sets the stage for mutual support as the project proposal makes its way through the NEPA process and is implemented Community participation also encourages more active volunteerism by individuals and groups to propose, fund and participate in the implementation of projects

Management of the Metolius Conservation Area will require a unique blend of arts and sciences applied with creativity. Often, classic silviculture, landscape architecture, or recreation management is found lacking in addressing the sensitive resource and social issues found here. New techniques and applications must be developed which are specific to the Metolius. Forest Service managers and specialists must be creative and open to designing solutions which deviate from *the standard approach or process Forest Service* Research scientists should be enlisted to explore possibilities for a Research, Development and Application Program for the Metolius Conservation Area similar to that recently established in the Blue Mountains.

Another Conservation Area-wide initiative to be undertaken as soon as priorities permit is the

inventory of all dispersed camp sites and camping spots used regularly. Good inventory data will provide a much clearer picture of the total recreation use than is currently available, and will permit integration of this data into planning for total recreation needs.

Existing activities which support the philosophy of the Metolius Conservation Area will continue. The Water Resource Monitoring Plan for the Metolius Basin is a comprehensive water quality monitoring effort which encompasses most management areas in the Metolius Conservation Area. The monitoring methods are continuous long-term activities supplemented with site specific evaluations when needed. The Monitoring Plan's objectives are to evaluate the existing condition of water resources and to monitor the effects of management activities on water resources. Baseline data from this study will be an important foundation to use to evaluate changes in the Metolius Basin

The creation of the Metolius Conservation Area and adoption of the Management Area standards and guidelines signal a significant change in Forest Service posture. A smaller quantity of commercial wood products will be removed than has been past practice. Commensurate reductions in planting, site preparation, and slash burning will be noticeable as well. An increase in prescribed burning to simulate natural ecosystem function will be seen Forest observers will be left with the impression of natural forests, with large trees growing in a healthy conditions

There will be a slower pace of all resource development. Restrictions will be placed on land area available to geothermal leasing and use of off-highway vehicles. Scenery and visual quality will be perpetuated on Black Butte and other visually sensitive landscapes Recreation development will be carefully planned, with consideration of the recreation resource on a Basin-wide basis in addition to site-specific concerns. The overall effect will be to maintain the Metolius Conservation Area in a more natural-appearing condition for the future.

Management Area 19 Metolius Heritage Area

Goal

To perpetuate a unique ecosystem represented by large yellow-belly Ponderosa pine and spring-fed streams, one that is part of Oregon's heritage. Significant historical character is found in this area and should be perpetuated. This ecosystem is an integral part of the Metolius Basin as a whole, and should be managed with that consideration.

General Theme and Objectives

The goal of this Management Area is to perpetuate peaceful, park-like forests of Ponderosa pine and western larch Generations of families have come here in search of the peace and solitude afforded by the forest beauty, to watch wildlife, and to participate in recreation activities. This historical experience will be perpetuated.

The visitor will see mature and overmature forests having large trees, snags, and dead downed material Stands with two or more canopy levels will be seen, but will highlight the largest trees in the stands.

Recreational activities have generally been of a dispersed nature Opportunities for participation in a broad range of outdoor recreation activities will be available. Support facilities for dispersed recreation activities, such as developed campgrounds and day use areas, may be located here in order to sustain the overall integrity of the basin

This Management Area contains a total of 24 3 M acres 1 5 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219 14(a). During the analysis of alternatives using the criteria in 36 CFR 219.14(c), 24.3 M acres were identified as not appropriate for timber production for this Management Area. Review and reconsideration of these findings must be done in accordance with CFR 219.14(d).

Standards and Guidelines

Recreation

M19-1 Visitor use and activities will be managed to prevent degredation of the Heritage resource.

ROS Category

M19-2 The recreation setting and opportunities provided include the Recreation Opportunity Spectrum Categories of Roaded Natural, Semi-primitive Non-motorized, Semi-primitive Motorized, and Semi-primitive Motorized-Winter. (See Appendix 2 for an explanation of these categories).

Publicly Managed Recreation Opportunities

M19-3 Day use facilities such as picnic areas, parking facilities, and interpretive sites may be constructed to provide a wide spectrum of recreation use within the Management Area. These facilities will be designed consistent with the goals of protecting the resource. The type of day use facilities may also change over time to reflect the changing recreation need of the public.

M19-4 Additional developed campground capacity may be constructed. A major consideration in new development will be to relieve recreation use pressure on the adjacent Metolius Wild and Scenic River Management Area (MA 28). This campground development must be consistent with the goals of protecting the resource. Reconstruction of existing campgrounds will emphasize restoration of over-used areas.

M19-5 Facility complexes will be constructed and maintained to Development Levels 1 through 3 (see Appendix 3 for an explanation of the levels)

Trails

M19-6 New trails may be constructed in this Management Area and will emphasize walking, bicycle riding, and hiking opportunities. Bikeways which separate bikes from heavy motor vehicle traffic will be considered. Interpretive trails may be used to promote an understanding of the "big-tree" character of the area.

M19-7 The Metolius Windigo National Recreation Trail is located within this Management Area and is used primarily by horses. Additional horse trails may be constructed within this Management Area, and should be located in a manner which will minimize conflicts with hikers.

M19-8 Off-highway vehicles will not be permitted. Over-the-snow vehicles may be permitted when the depth of continuous snow cover is adequate to protect other resources from adverse impacts. Some roads or trails may be designated for nonmotorized winter activities such as cross country skiing.

Dispersed Recreation

M19-9 The use of traditional informal campsites, hunter camps, or areas where concentrated recreation use occurs will be promoted as recreational opportunities, consistent with other resource management objectives.

Timber

M19-10 There will be no programed harvest in this Management Area.

M19-11 Silvicultural treatments necessary to promote stand health in order to sustain a large-tree Ponderosa pine forest are permitted.

M19-12 Thinning and selected tree removal may be undertaken to promote stand health and vigor, so that replacement trees are available to perpetuate the Ponderosa pine forest. The intent of these activities is to perpetuate a "big-tree" environment. Vegetative management activities may be undertaken to meet specific visual and recreational objectives

M19-13 Salvage harvest of dead or nearly dead trees is permitted after satisfying 100% of wildlife snag needs In addition, trees or snags determined to be a safety hazard in developed recreation areas and along roads and trails may be topped or removed.

M19-14 Diversity in species is desirable. Species such as vine maple, aspen, and occasional stands of fir, cedar, and lodgepole pine are desirable for

added visual interest and biodiversity. Shrubs and groundcover species are also a desirable visual component.

M19-15 Timber removal is permitted where it is necessary for the construction of approved recreational facilities including roads and trails.

M19-16 A site within this Management Area has been selected as an Un-even Aged Management Study Plot as part of a study involving four National Forests. Timber removal which is necessary for conducting this study is permitted.

Range

M19-17 Existing grazing allotments will be permitted within this Management Area. No increase in grazing use from the existing will be permitted. No additional allotments will be permitted.

Wildlife

M19-18 Emphasis will be on habitat improvement for watchable wildlife and maintaining or improving fish habitat. If significant changes in recreation use are planned because of changes in facilities or access, they will be coordinated with the Oregon Department of Fish and Wildlife.

M19-19 Snags, and the live trees needed for future snags, will be maintained at 100 percent of the maximum potential population of cavity-nesting species. Snags determined to be safety hazards should be topped or removed. Nestboxes should be placed in campgrounds and other places of concentrated public use to allow observation opportunities of cavity-nesting wildlife.

M19-20 Selective closure of roads no longer needed will be undertaken with a guideline of 1 5 miles of open road per square mile Roads to traditional dispersed use sites will generally remain open.

M19-21 A portion of this Management Area is identified as a key elk area Forest-wide Standards and Guidelines WL-42-50 will be priority within this identified area.

Minerals and Special Uses

M19-22 These areas are currently open to mineral entry for mining claims for locatable minerals Areas will be withdrawn from mineral entry for mining claims when it is determined that mining will not be compatible with recreational, scenic, or wildlife values.

M19-23 No new geothermal leases will be granted within this Management Area Existing leases will be managed to minimize conflict with recreation and wildlife uses. Existing leases which are withdrawn or otherwise relinquished will not be reissued.

M19-24 Existing pits and quarries for common variety materials are permitted. No new quarries and pits will be constructed

M19-25 Existing special uses are permitted. Additional special uses may be authorized if the Management Area objectives are met.

Desired Visual Condition

M19-26 A continuous forest canopy will be maintained. Natural openings, or small natural-appearing openings will be permitted. Large diameter Ponderosa pine, with old-growth characteristics such as yellow, deeply fissured bark, are desirable

Visual changes will not be noticeable to the casual forest visitor The casual forest visitor is the recreation-oriented person or motorist traveling through a portion of the Forest. The casual forest visitor related to the visual environment based on the context of a landscape viewed, rather than focusing on an individual acre within the landscape.

Fuelwood

M19-27 Fuelwood gathering will normally be limited to cleaning up residual wood materials resulting from management activities Wood will be available first for use in public recreation facilities. No commercial firewood or personal use permits will be issued unless needed to meet a recreational objective.

Transportation

M19-28 Roads to developed recreation sites will be reconstructed, operated, and maintained to encourage passenger car access. To maintain compatibility, emphasis will be placed on matching the road design and maintenance standard with the service level of the developed site and will be in accordance with the Public Highway Safety Act.

M19-29 Commercial timber hauling will be restricted (limitations on haul during weekends, holidays, etc.) as needed to reduce conflict with recreation activities; however, when restrictions are not practical, short-term closures of public access may be necessary to meet the timber objectives of this Management Area and adjacent Management Areas.

M19-30 Unneeded roads and skid trails will be closed and returned to natural vegetative conditions.

M19-31 Some roads may be closed by entrance treatment, or by obliteration and revegetation. Temporary closure may be used to limit access during sensitive nesting or migratory times.

Fire Management

Wildfire

M19-32 All wildfires should be aggressively controlled by using low impact methods as much as practicable. Firelines constructed by hand will be favored over firelines constructed by heavy equipment except where high intensity fire situations may exist.

Prescribed Fire

M19-33 Prescribed fire may be used to reduce hazardous fuel concentrations and to form fuelbreaks adjacent to high use, high fire occurrence areas

M19-34 Prescribed burning may be done to enhance stand health and to perpetuate the Ponderosa pine stands and for other ecological reasons. Burning will be planned to have the minimum impact on recreation use or appearance of the area.

Fuel Treatment Options Other Than Prescribed Fire

M19-35 Treatment methods that will not be visible over a long period of time should be emphasized Treatment should occur outside the normal recreation season.

Fuel Loadings

M19-36 Fuel loadings will be determined at the time a proposal is made.

M19-37 Fuel treatment must be approprate to the goals and objectives for the Heritage Management Area and must be adequate to meet the fire suppression objective. Fuel reduction will be achieved through intensive utilization of material to the extent possible.

Management Area 20 Metolius Wildlife - Primitive

Goal

To protect and perpetuate a predominantly unmodified natural environment where natural ecological process can continue. To provide habitat for a wide variety of wildlife species, and to specifically maintain or enhance habitat for bald eagles To provide an opportunity for primitive dispersed recreation within this undeveloped forest environment.

General Theme and Objectives

This Management Area will provide nesting and foraging areas for a variety of wildlife species. Bald eagles are known to inhabit a portion of this Management Area. Suitable nesting and foraging habitat for this species will be provided on a continuing basis. Portions of the Management Area are identified as deer winter range and key elk habitat. Species which require large expansive home ranges, such as cougar and bear are also known to inhabit the area The predominantly unmodified character of this Management Area will provide habitat for these species.

This environmental setting will provide an opportunity for primitive recreational opportunities that are attainable in large undeveloped areas It will provide a feeling of vastness and remoteness and will have no irreversible evidence of humans. It will be in a predominantly unmodified or natural state. The environmental setting will often include a wide diversification of vegetation, terrain, and visible landform.

This area will be managed to provide limited social contact and interaction among visitors Primitive facilities, such as shelters and small camps, signing, and a transportation system for visitor access and use may be established. Management will provide recreation opportunities that occur in a primitive environment, but restrictions will be less than in Wilderness areas.
This Management Area contains a total of 13 1 M acres 3.2 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219.14(a). During the analysis of alternatives using the criteria in 36 CFR 219.14(c), 13.1 M acres were identified as not appropriate for timber production for this Management Area. Review and reconsideration of these findings must be done in accordance with CFR 219.14(d).

Standards and Guidelines

Recreation

M20-1 Visitor use and activities will be managed to prevent degradation of the wildlife/primitive resource.

Facilities

M20-2 Areas will be managed to provide dispersed recreation opportunities such as hiking, bird watching, and hunting that are compatible with maintaining desired populations of wildlife species in the area.

M20-3 Primitive facilities may be installed to protect resources, provide for user safety, distribute use, and to meet Management Area goals.

M20-4 Seasonal and locational restrictions on recreational activities such as hunting and off-highway vehicles may be needed, but will be determined on a case-by-case basis Developed recreation, such as campgrounds and resorts are not compatible with the goals of this Management Area, and will not be authorized.

ROS Category

M20-5 The recreation setting and opportunities provided include the Recreation Opportunity Spectrum categories of Roaded Natural, Semiprimitive Motorized and Semiprimitive Nonmotorized. (See Appendix 2 for an explanation of the categories)

Trails

M20-6 Existing horse and hiker trails will be maintained New horse and hiker trail systems may be developed. Locations of new trail systems will be planned so that they do not conflict with wildlife needs in the area.

Timber

M20-7 Timber harvest will not be programmed within this Management Area.

M20-8 Timber harvest will be allowed in catastrophic situations. Efforts will be made to protect or create suitable wildlife habitat during any harvest activities.

M20-9 Timber harvest will be allowed for the purpose of meeting the following wildlife objectives within the portions of the management area identified for emphasis of each species:

Bald eagle: To initiate long-term stand management to achieve eagle habitat objectives. Emphasis will be on maintaining forest stands dominated by Ponderosa pine and/or Douglas-fir. Depending on site-specific conditions, either uneven-aged or even-aged timber management may be appropriate to maintain desirable tree species and stand structure composition. Precommercial thinning under existing and selected future nest trees is an acceptable practice in maintaining tree vigor and reducing the threat of unacceptable bark-beetle damage. Proposed harvest must be analyzed with a biological evaluation in a long-range management plan within the NEPA process.

Range

M20-10 Range management practices (except predator control using baited traps and poison) may be allowed in this Management Area, provided they do not conflict with wildlife needs. Structural range improvements such as fences and water may be allowed and will be constructed of native materials whenever possible.

Wildlife

The following items apply to that portion of this Management Area identified as Bald Eagle emphasis:

M20-11 Protect all existing nest, roost, and perch trees. Provide large overmature trees that are potentially useable as nest sites and perch trees. Suitable trees should be available at any point in time to provide for the needs of the desired population, and widely distributed through the area to minimize territorial competition.

M20-12 Suitable nest and perch trees should exceed 110 feet in height and be 40 inches or greater diameter at breast height (dbh). An average density of 3 such trees per acre is satisfactory. Preferred trees have an open, flat-topped form of large limbs, and are usually Ponderosa pine or Douglas fir. Sufficient smaller-sized trees of various diameters will be needed to perpetuate these larger trees.

M20-13 Snags, and the live trees needed for future snags, will be maintained for 100 percent of the maximum potential population of primary cavity-nesting birds, except where eagle management goals would be jeopardized. This would be accomplished using the Deschutes National Forest Wildlife Tree Implementation Plan. Large-diameter snags are especially desirable as both nesting habitat for cavity-nesting animals and perch trees for eagles.

M20-14 Active nest sites will be protected from disturbing human activities during the nesting season, and key feeding areas or roosts may also require activity restrictions.

M20-15 Disturbing activities within 1/4 mile (1 mile for the use of explosives) of an active bald eagle nest will be restricted between January 1 and August 31. A bald eagle nest site will be considered inactive if not occupied by May 15.

Other Wildlife Species:

M20-16 Portions of this Management Area have been identified as key elk habitat. Refer to the Forest-wide standards/guidelines WL-42-50 for

management guidelines for this portion of the Management Area.

M20-17 The predominately unmodified character of the majority of this Management Area will provide adequate habiat for a wide variey of species. Enhancement opportunities may be approved if they support the wildlife values of the area.

Minerals

M20-18 This Management Area is open to mineral entry for mining claims for locatable minerals

M20-19 Geothermal leases will be issued with No Surface Occupancy Stipulations

M20-20 Seasonal operation restrictions may be placed on mining activities in pits and quarries.

Visual

M20-21 Management activities and facilities will meet Partial Retention or a higher objective. These activities and facilities may include trailheads, trail construction, bulletin board and sign construction, artificial nest construction, and vegetative management. Activities will be visible, but will blend in with the natural surroundings.

Transportation

M20-22 Trails and roads will be designed, constructed, and maintained to the minimum standard needed to achieve objectives and goals of this Management Area

M20-23 Roads management strategies will generally be "accept" or "encourage" use by dispersed recreationists. On some logging roads, dispersed recreational use may be "discouraged" or "eliminated" (See Forest-wide standards/guidelines for explanation of road management strategies).

M20-24 Some roads may be closed by entrance treatment, or by obliteration and revegetation. Temporary closures may be used to limit access during sensitive nesting or migratory times.

M20-25 Unneeded roads and skid trails will be closed and returned to a natural vegetative condition.

Fire Management

Wildfire

M20-26 Within the bald eagle portion of this Management Area:

Protection of bald eagle nest trees and adjacent snags will be the highest priority in the bald eagle emphasis portion of this Management Area. Suppression efforts, if within 1/4 mile of an active bald eagle nest during the nesting season, will be based on minimizing the disturbance time to the nesting species. The use of mechanized equipment such as chainsaws and pumps to reduce the exposure time is acceptable, however, the use of helicopters and aerial retardants should be undertaken with caution near active nest sites.

Low intensity fires outside the nesting season do not conflict with the habitat objectives. In high intensity fire situations the objective will be to minimize acres burned. The use of heavy equipment and retardant aircraft is acceptable. Fire camps should be located at least 1 mile from active nests

Standard suppression efforts may be used during the non-nesting season but with increased emphasis on saving large snags

The maximum low intensity burn acre objectives are 10 acres/year and 1 acre per occurrence. Maximum high intensity burn acre objectives are 5 acres/year and 1 acre per occurrence.

M20-27 Within the remainder of this Management Area, fire is considered to play a natural role in the ecology of the area In order to assure that the natural role of fire is allowed, all fires accidentally started by human activity will be declared a wildfire and suppressed However, lightning caused fires that meet preplanned prescription parameters, outlined in the Fire Management Action Plan, may be managed as prescribed fire.

Prescribed Fire

M20-28 Prescribed burning may be used to improve or maintain wildlife habitat or for other ecological purposes. Burns during the bald eagle nesting season should be restricted to areas at least one quarter mile away from active nests.

Fuel Loading

M20-29 Natural fuel loading will normally be the standard within the Management Area.

M20-30 Fuel treatment must be appropriate to the goals and objectives for this Management Area and must be adequate to meet the fire suppression objective. Fuel reduction will be achieved through intensive utilization of material to the extent possible.

Special Uses

M20-31 Special Uses will be allowed if they do not negatively affect the wildlife values in this Management Area.

Management Area 21 Metolius Black Butte Scenic

Goal

To perpetuate the unique scenic quality of Black Butte.

General Theme and Objectives

Black Butte is a unique and dominant landform in the Central Oregon landscape. The Butte is seen from many travel routes and from many residential areas throughout Central Oregon. It's dominant shape and color have been recognized by travelers and local inhabitants, dating back to pre-historic times. Landscapes in this Management Area will be managed to protect and perpetuate the unique and widely recognized appearance of Black Butte. To the casual observer, results of activities will not be evident or will be visually subordinate to the natural landscape

Vegetation will be managed to maintain or create a continuous forest canopy of mature or overmature tree stands having large trees, and in many cases two or more canopy levels to provide for replacement trees. Where possible, the emphasis will be on perpetuating or increasing the component of Ponderosa pine. Areas in which white-fir and other coniferous species are replacing Ponderosa pine due to the elimination of fire, will be managed to emphasize Ponderosa pine. Areas that are true mixed conifer stands will be maintained in that species composition.

A range of recreational and interpretive opportunities will be available within this management area.

This Management Area contains a total of 10.6 M acres. .3 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219.14(a). During the analysis of alternatives using the criteria in 36 CFR 219 14(c), .3 M acres were identified as not appropriate for timber production for this Management Area. Review and reconsideration of these findings must be done in accordance with CFR 219.14(d)

Standards and Guidelines

Recreation

M21-1 New recreational developments and changes to existing developments are permitted as long as they are consistent with the Management Area objectives. Modest interpretive facilities and activities will be provided for the recreational visitor.

M21-2 Parking facilities, structures, and other recreational facilities will be sensitively designed to blend with the elements found in the natural landscape and will remain subordinate to the overall visual strength of the surrounding landscape

M21-3 The Recreation Opportunity Spectrum (ROS) standard in Black Butte Scenic Management Area will normally be Roaded Natural, but may also include, Semi-primitive Non-motorized, Semi-primitive Motorized, and Semi-primitive Motorized Winter Only standards.

Trails

M21-4 Hiking and horse trails will be retained, kept in condition, and relocated as necessary. Bicycle trails may be established and maintained to meet the Management Area objectives.

M21-5 New trail proposals or proposals for relocation must meet the objectives of the Management Area and protection of the natural landscape

M21-6 Off-highway vehicles will not be permitted Over-the-snow vehicles may be permitted when the depth of continuous snow cover is adequate to protect other resources from adverse impacts. Some roads or trails may be designated for nonmotorized winter activities such as cross country skiing.

Desired Visual Condition

M21-7 A continuous forest canopy will be maintained. Natural openings, or small natural appearing openings will be permitted. Large diameter Ponderosa pine, with old growth characteristics, such as yellow, deeply-fissured bark, are desirable. Visual variety will be provided by leaving occasional gnarly, old over-mature "character trees."

M21-8 Diversity in species, where biologically possible, is desirable Species such as vine maple, aspen, and occasional stands of fir, cedar and lodgepole pine are desirable for added visual interest. Shrubs and groundcover species are also a desirable visual component.

M21-9 Visual changes will not be noticeable to the casual forest visitor. The casual forest visitor is the recreation-oriented person or motorist traveling through a portion of the Forest. The casual forest visitor relates to the visual environment based on the context of a landscape viewed, rather than focusing on an individual acre within a landscape. For the occasional pedestrian who wanders off a designated trail and views an individual acre where a management activity has recently taken place, visual changes will be noticeable.

M21-10 Within the Black Butte Scenic Management Area, the area seen from Forest Roads 11, 12, and 14 and State Highway 20 will be managed to a Visual Quality Objective of Retention Foreground.

M21-11 Vegetation along Roads 1110 and 1110-700 will be managed in such a way as to blend in with the visual characteristics of the Black Butte Special Interest Area (Management Area 23) designated above these roads. The objective is to not create a distinct visual line separating the two Management Areas.

M21-12 Areas that do not currently meet the desired visual condition because of past management activities should be reviewed by a landscape architect to determine management strategies needed to achieve the desired visual condition. Recovery by plantings should be emphasized as one method of rehabilitation. Landscapes containing negative visual elements, such as skid roads, activity residue, or cable corridors, are identified as a high priority for rehabilitation.

Timber

M21-13 Scheduled timber harvest is permitted to achieve the desired future condition and is included in the programed harvest base subject to the Management Area standards/guidelines.

M21-14 Management emphasis will focus on sustaining a healthy forest of large diameter trees which appear as a continuous forest canopy. Emphasis will be on Ponderosa pine, where appropriate

M21-15 Any proposed activity will be reviewed by an Interdisciplinary Team, which will include a landscape architect. Analysis done by the Team should include:

What treatment is necessary to achieve or retain the desired visual condition.

If cleanup activities can realistically be completed within the specified time limits.

What measures may be necessary to meet the desired visual condition, such as winter logging, helicopter logging, special slash treatment, etc.

What the predicted visual condition will be following the activity

M21-16 In Ponderosa pine stands and suitable uneven-aged mixed conifer stands, timber harvests will remove a maximum of 10 percent, every 20 years, of trees in each of the 18-24, 24-30, 30-36, and 36-42 inch diameter classes from each acre. Trees over 42 inches in diameter will not be harvested unless they are an imminent safety hazard. The target tree size for Ponderosa pine stands is 36 inches in diameter. The objective is to maintain at least two trees per acre over 36 inches in diameter at all times. In the uneven-aged mixed conifer stands the objective is to maintain at least two trees over 30 inches in diameter at all times Stocking goals are to maintain the stand at 70 to 100 percent of each site's maximum capability at all times.

M21-17 High risk salvage should be emphasized as part of the treatment described in the above paragraph. Trees considered a "high risk" are those that would probably die within the next

decade. High risk trees are considered to be those which rate 8 points or higher, using the Oregon/Washington Risk Rating System (R-6-5220-45, 12/11/63).

M21-18 Immature trees will be thinned (pre-commercial and commercial) to maintain sustainable health and vigor, and to provide adequate replacement trees. Removal of white fir under Ponderosa pine overstories is a high priority. Except in root rot pockets, thinning from below will have a higher priority than creating openings for treating mixed conifer stands The thinning may be designed to either create a stand suitable for uneven-aged management or an even-aged stand which will eventually have small openings. The objective of thinning the smaller trees in mixed conifer stands is to remove the white fir which is creating insect and disease problems Landscape architects will be consulted and involved in determining the shape of thinning units.

M21-19 In mixed conifer stands not suitable for uneven-aged management the priority for treatment will be

A Treatment of root rot infection centers This will be accomplished by removing the most susceptible species in the root rot center. Less susceptible species such as Ponderosa pine will be retained where possible to provide stocking In areas without suitable leave trees, small openings will be created. No more than 5 percent of the area can be in openings for a given decade.

B. Commercial thinning of even-aged stands Emphasis will be given to maintaining the mixed conifer character of the stand. Harvest will favor leaving, (in order of priority), Ponderosa pine, western larch, Douglas fir, spruce, white fir, cedar and lodgepole pine.

M21-20 Along major roads, slash from a thinning, tree removal activity, or other visible results of management activities, will not be visible to the casual forest visitor one year after the work has been completed.

M21-21 Residual material from management activities will be made available for personal use firewood gathering

M21-22 Management practices will normally not focus on maximum growth, due to the emphasis on visual quality. As a result, stand densities may be heavier or lighter than what would be considered necessary for optimum growth.

M21-23 Openings will be created by the following activities:

In the Ponderosa pine type, openings will result only from management activities which harvest natural mortality (dying or severely diseased trees which occur in scattered pockets).

In the mixed conifer type openings may be created, but within the openings healthy Ponderosa pine, western larch, Douglas fir and spruce should be retained. Openings not visible from the sensitive viewer locations should be kept as small as possible and no greater than 5 acres The maximum area which may be in openings in any decade is 5 percent

Range

M21-24 Livestock grazing is permitted when it is consistent with the Management Area Objectives.

M21-25 Structural range improvements such as fences, water developments, and access roads may be visible from sensitive viewer locations, but will remain subordinate to the overall strength of the landscape viewed, or designed to compliment scenic quality

M21-26 Salt blocks, water developments, or other improvements which attract livestock and result in a trampled appearing setting should be avoided in highly sensitive scenic areas. New corrals and loading chutes will be made of native materials and will be designed to be visually pleasing.

M21-27 Vegetation manipulation such as brush removal, reseeding, and prescribed burning will be designed to meet visual objectives.

Wildlife

M21-28 Wildlife snags and snag replacement trees will be maintained to meet 100 percent of

maximum population potential for cavity nesting species Snags determined to be safety hazards in areas of concentrated public use will be topped or removed.

M21-29 Where consistent with the desired visual condition, wildlife habitat improvements will focus on watchable wildlife.

M21-30 When managing vegetation along major roads which have deer migration routes crossing them, consideration will be given to minimizing risks of vehicular-deer collisions.

Minerals

M21-31 The area is currently open to mineral entry for mining claims for locatable minerals. Areas will be withdrawn from mineral entry for mining claims when it is determined that mining will not be compatible with recreational, scenic, or wildlife values.

M21-32 Geothermal leases will be issued with No Surface Occupancy Stipulations.

Special Uses

M21-33 Special Use permits will be allowed if they are compatible with other uses. Additional special uses may be authorized if the Management Area objectives are met.

M21-34 Trees may be removed within the Black Butte Scenic Management Area where necessary to permit access to electronic sites, utilities, and other special use sites.

Fuelwood

M21-35 Fuelwood gathering is permitted when it is consistent with the Desired Visual Condition and with wildlife objectives.

Transportation

M21-36 New roads will be located and designed to meet the objectives for the area. Routes likely to be popular with Forest visitors will be designed and maintained to enhance the forest's scenic qualities.

M21-37 Road alignments should fit the Forest landscape with a minimum of landform modifications and should present a cross-section of the area's landscape character. Road alignments should capitalize on opportunities that will create pleasant visual experiences.

M21-38 Signs should only be used where necessary for the user's safety and enjoyment of the Forest. They should be located and designed to blend with the elements found in the characteristic landscape wherever possible.

M21-39 Helispots, disposal sites, and borrow areas will be located out of sight of sensitive viewer locations.

Fire Management

Wildfire

M21-40 The primary objective in foreground areas is to suppress any wildfires that could potentially become high intensity fires as quickly as possible. Restoration efforts will be made where fire suppression activities do not meet the desired visual condition.

M21-41 Wildfires can be suppressed using standard techniques. Control strategies will be developed to minimize impacts from suppression activities on the landscape. Visual contrasts will not be created through suppression techniques unless absolutely necessary.

M21-42 An Interdisciplinary Team which includes a landscape architect should be consulted for recommended restoration measures following wildfire suppression activities in Scenic Views Management Areas.

Prescribed Fire

M21-43 Low intensity prescribed fires may be used to meet and promote the desired visual condition within each stand type. Prescribed fire and other fuel management techniques will be

used to minimize the hazard of a large high intensity fire. In foreground areas, prescribed fires will be small, normally less than 5 acres per block, and shaped to appear as natural occurrences. In areas not foreground, prescribed fires will be designed to be natural appearing and will normally be more than 5 acres in size.

M21-44 If at any time during the course of a prescribed burn it appears that the objectives for the burn are not being met, all burning will cease.

Fuel Loadings

M21-45 Fuel treatment must be appropriate to the goals and objectives for this Management Area and must be adequate to meet the fire suppression objective. Fuel reduction will be achieved through intensive utilization of material to the extent possible

Forest Health

M21-46 Monitoring and vegetative management will emphasize the control or prevention of major insect and disease problems. Minor insect infestations or root rot centers may not require immediate treatment, as long as they are consistent with the desired visual condition for the species in which they occur. Insect and disease problems in the Black Butte Scenic Management Area will be monitored to determine their rate of spread and degree of risk to the visual and recreational resources.

Management Area 22 Metolius Special Forest

Goal

To rehabilitate and sustain a healthy forest with an emphasis on timber production, while maintaining a near-natural appearance, and providing a range of recreational opportunities for public use and enjoyment.

General Theme and Objectives

Promoting healthy and vigorous forest stand conditions will be the highest priority management goal. Timber management activities will be conducted in a manner which provides a sustained yield of wood products, while minimizing disruption of a continuous forest canopy. The aim of a managed forest is to have stands in a variety of age classes with all stands utilizing the site growth potential This is achieved through stand treatments which address forest health issues, emphasize uneven-aged management as a preferred silvicultural treatment where appropriate, emphasize stocking sites with Ponderosa pine either by planting openings or utilizing existing large trees, and requiring reduced size of created openings.

Opportunities for dispersed recreation activities will be emphasized, particularly those associated with roads, trails, and streams. Dispersed camping is an important use of this area. Developed site recreation opportunities such as camping or picnicking occur on a limited basis throughout the area. Several roads within the management area provide access to the Mt. Jefferson Wilderness trailheads.

This Management Area contains a total of 18.4 M acres. 1.8 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219.14(a).

Standards and Guidelines

Recreation

M22-1 The majority of campgrounds and picnic areas will be managed at development Level 2. (See Appendix 3 for a description of the various levels) Some will be managed at Level 3, but none will exceed Level 3. Stands on these sites will be treated to retain the character that contributes to the value of the site for recreation.

M22-2 Traditional dispersed campsites, hunter camps, or areas where concentrated recreation use occurs will be recognized as being significant in producing and utilizing dispersed recreation opportunities. Prescriptions for harvesting, cleanup, site preparation, and thinning will consider the environmental setting that contributes to the attraction of these sites for recreation purposes. The attempt will be made to retain this attractive character during and after treatments.

M22-3 Additional campground capacity and day use facilities may be constructed. A major consideration in new development will be the balance of recreational facilities in adjacent Management Areas.

M22-4 This management area will be managed to provide the recreation activity, setting, and experience of the Recreation Opportunity Spectrum category of Roaded Natural or Roaded Modified, Semi-primitive motorized, and Semi-primitive Non-motorized (See Appendix 2 for an explanation of the categories)

M22-5 Generally, off-highway vehicle use is allowed. Closures and restrictions will be established where off-road vehicle use will threaten or damage other resource values, such as plantations, soils, and wildlife. Over-the-snow vehicles may be permitted when the depth of continuous snow cover is adequate to protect other resources from adverse impacts. Some roads, trails, or areas could be closed to motorized vehicles.

Timber

M22-6 Programmed timber harvest is scheduled for this Management Area.

M22-7 Uneven-aged management is the preferred silviculture system in the Metolius Special Forest Management Area and should be prescribed within the mature and overmature Ponderosa pine and mixed conifer community types where stand and site conditions are appropriate and no other resource objectives which preclude the use of uneven-aged management have been identified and documented during the project planning process.

M22-8 Within this Management Area created openings will normally be 10 acres or less in size. Created openings will not exceed 10% of the Management Area within any decade. An area is no longer considered a created opening when the majority of tree seedlings are greater than 4 1/2 feet in height. Management Standard and Guideline 2-1 in Pacific Northwest Regional Guide of May 1984 which permits exceptions to the created forest opening size of 40 acres when natural catastrophic situations occur will apply.

M22-9 Conifer stands will be managed to maintain or create the appearance of a continuous forest canopy dominated by large trees and a variety of species. Small openings will be created by natural mortality or treatment of disease centers. Thinnings from below which create an open park-like appearance and which mimic natural understory fires are allowed. Uneven-aged conifer stands will be managed to maintain uneven-aged structure where feasible

M22-10 Managed stands of both even-aged and uneven-aged structure will have a target tree size of 24 inches in diameter.

M22-11 Management of the forest as it relates to forest health issues will receive a high priority. Forest pests and diseases such as root or stem rot, bark beetles, defoliators, and dwarf mistletoe can seriously reduce options for management in these stands. Stands will be prioritized for entry, based on thr risk of existing conditions. Highest risk stands will be highest priority for treatment. Management will focus on treating high risk stands through methods that include commercial thinning, salvage, pre-commercial thinning, uneven-aged management, site species conversion, and small created openings.

M22-12 Immature trees will be thinned (pre-commercial and commercial) to maintain sustainable health and vigor and to provide adequate replacement trees. Removal of white fir under Ponderosa pine overstories is a high priority management goal

M22-13 Cleanup activities:

Slash from a thinning or tree removal activity, or other visible results of management activities, will not be visible to visitors traveling on major roads one year after the work has been completed

Following the completions of site preparation activities, residual material will be made available for personal use wood gathering, or left for soil biomass.

M22-14 Harvest is not scheduled within any riparian zones or any perennial streams or springs. Harvest on these sites may occur to meet site-specific riparian resource needs

Range

M22-15 Allotments will be managed to achieve or maintain a forage condition rating of fair or better or to the site's capability.

M22-16 Range allotment management plans will be written to reflect the management direction for all range lands within this management area.

M22-17 Annual permittee plans will provide for livestock distribution and use patterns to protect newly established tree plantations. Plantations can be further protected by fencing, caging trees, or use of repellents Salt and water should be placed one-half to one mile away from new plantations. Where conflicts cannot be resolved using the above techniques, establishment of new allotments and relocation of livestock should be considered.

M22-18 Transitory range will be managed in conjunction with timber management to achieve higher levels of forage production and the desired level of forage utilization. Livestock grazing on transitory ranges will take place under the following situations:

Where forage occurs as a result of site disturbance and/or timber canopy removal on a continuing basis.

Where disturbed sites and/or areas under timber management can be seeded with species which improve forage production and do not restrict tree establishment and growth.

On forest plantations when livestock will not damage the young trees. Success will require close and continuous coordination between grazing and reforestation to integrate these two activities.

Wildlife

M22-19 Management of deer summer habitat should be designed to provide a mosaic of forested conditions which incorporate the concepts of escape and hiding cover, thermal cover, travel corridors, visual screens, and harassment potential from other activities, e.g. roads, hunting pressure, and other recreation use. The area of consideration should be large enough (e.g. Forest Plan Implementation Unit) so that meaningful cover arrangements can be determined. Normally, this would be between 4,000 and 10,000 acres in size.

M22-20 More specific habitat needs should be identified at the project level through the interdisciplinary process. Further inventories or surveys may be required to validate the extent and importance of deer summer habitat.

M22-21 Minimum standards for wildlife habitat will be the Forest-wide standards and guidelines.

Minerals

M22-22 In general the entire area is open for mineral entry for mining claims for locatable minerals.

M22-23 Geothermal leases will be issued. Conditional Surface Use and Seasonal Restrictions Stipulations will be used to protect wildlife habitat and recreation areas that are included in the Metolius Special Forest Management Area.

M22-24 Mining activities for common materials are permitted in pits and quarries.

Visual

M22-25 To the extent possible, the highest inventoried visual quality level will be provided unless it requires a reduction of timber outputs. In that case, the minimum allowable visual quality objective is Modification. Created openings will be shaped and blended to the natural terrain, to the extent practical.

Transportation

M22-26 Long-term local roads for resource access will be planned, constructed, maintained, and operated to be economically efficient. During commercial hauling activities, public access will be discouraged or prohibited on some roads through appropriate signing. High clearance vehicles may be accepted during post sale activities, and all low clearance motorized traffic (passenger cars) will be discouraged or eliminated.

M22-28 Selective closure of roads will be conducted utilizing an interdisciplinary team approach. Generally, within an implementation unit, road density shall not exceed 2.5 miles of open road per square mile.

Fire Management

Wildfire

M22-29 Suppression practices will be designed to protect the investment in managed tree stands and to prevent losses of large acreages to wildfire.

M22-30 Snags that do not present a hazard to life or a threat to successful suppression action should not be felled.

M22-31 In Ponderosa pine stands (except for reproduction stands) emphasis should be placed on burning out from existing roads and natural barriers rather than constructing new firelines.

Prescribed Fire

M22-32 Prescribed fire may be used to protect, maintain, and enhance timber and forage production Criteria for utilizing fire are as follows:

To reduce risk of conflagration fire.

To increase soil productivity by cycling bound nutrients.

To prevent encroachment of less desirable, competing tree species.

To increase palatability and cover of desirable forage species.

To prepare sites for reforestation.

Fuel Treatment Other Than Prescribed Fire

M22-33 The lowest cost option of fuel management techniques which meets all resource objectives should be selected

Fuel Loadings

M22-34 Slash will be treated to reduce the chances of fire starts and rates of spread to acceptable levels, but will not be cleared to the point that the forest floor is devoid of all slash and logs. Some slash and larger dead material will be left for ground cover for soil protection, microclimates for establishment of trees, and small mammal habitat.

Optimum fuel loadings should be guided by the following photo series.

	PP	*LP*	*MC-MH*
Thinning	1-MC-3-PC 4-PP-1-TH	1-MC-3-PC 1-PP-1-TH	1-MC-3-PC 1-PP-1-TH
Partial Cut	4-TF-4-RC 2-LP-3-PC	2-LP-3-PC	2-MC-4-PC 2-TF-4-RC
Created Opening	2-MC-4-RC 1-LP-3-PC	1-LP-3-CC	3-TF-4-RC 2-MC-4-RC

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. These fuel loadings will be revised when new data, methods, or research indicate that a new profile would improve resource management programs.

Special Uses

M22-35 Special Use permits will be allowed if they are compatible with other uses in the area.

Forest Health

Prevention

M22-36 Monitoring and vegetative management will emphasize prevention of damage or loss of resource production because of pests.

Pest and disease control, where determined necessary, will favor biological and silvicultural techniques over chemical treatments.

Suppression

M22-37 Take immediate suppression action utilizing principles and techniques that reduce damage and losses, minimize the risk of future

pest problems from occurring, and meet management objectives.

Management Area 23 Metolius Special Interest

Goal

To preserve and provide interpretation of unique geological, biological, and cultural areas for education, scientific, and public enjoyment purposes.

General Theme and Objectives

Unusual geological or biological sites and areas are preserved and managed for education, research, and to protect their unique character. Facilities and opportunities may be provided for public interpretation and enjoyment of the unique values of these sites and areas. The primary benefiting uses of these areas will be for developed and dispersed recreation, research, and educational opportunities. These areas will be designated by Regional Forester authority

The Black Butte Special Interest Area and the Castle/Cathedral Rocks Special Interest Area are included in this Management Area.

This Management Area contains a total of 1.7 M acres 1.7 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219.14(a). During the analysis of alternatives using the criteria in 36 CFR 219.14(c), 1.7 M acres were identified as not appropriate for timber production for this Management Area. Review and reconsideration of these findings must be done in accordance with CFR 219.14(d).

Standards and Guidelines

Recreation

M23-1 Visitor use and activities will be managed to prevent degradation of the special interest resource.

M23-2 Facilities may be provided for protection of resource values, visitor use, environmental interpretation, or safety of visitors

M23-3 Off-highway vehicles will not be allowed Snowmobiles may be permitted where the depth of continuous snowcover is adequate to protect other resources from adverse impacts from this activity

M23-4 The Metolius Special Interest Management Area will provide the recreation activity, setting, and experience opportunities of the Recreation Opportunity Spectrum category of Semiprimitive nonmotorized.

The Black Butte Lookout Trail is located within the Black Butte Special Interest Area. Other trails may be provided as long as they are compatible with this Management Area's interests.

Modest interpretive facilities may be provided for the recreational visitor.

Timber

M23-5 There will be no programmed timber harvest. Firewood cutting is normally not permitted but may be allowed as directed in individual special interest area plans

M23-6 Unneeded roads and skid trails will be closed and returned to a natural vegetative condition.

Range

M23-7 The Green Ridge Sheep Allotment is adjacent to the Castle/Cathedral Rocks Special Interest Area. Entry of sheep into this Special Interest Area will be prohibited.

Range allotments will not be approved within this Management Area.

Wildlife

M23-8 Manipulation of the game and fish habitat will be allowed as long as it maintains a natural appearance and does not conflict with the purpose or objectives of the area.

M23-9 Emphasis will be on habitat improvement for watchable wildlife.

Minerals

M23-10 This Management Area will be recommended for withdrawal from mineral entry for mining claims when it is determined that mining will not be compatible and cannot be mitigated to preserve the values of this Area.

M23-11 Geothermal leases will not be issued within the Black Butte Special Interest portion of this Management Area. Geothermal leases will be issued with No Surface Occupancy Stipulations within the Castle Rocks Special Interest portion of this Management Area.

Visual

M23-12 To the extent possible, the visual quality level indicated on the Visual Quality Objective Map will be met.

Transportation

M23-13 Roads will be constructed only as needed to serve the management objectives of the Metolius Special Interest Area. Some roads may be closed to protect resource values. Helispots are not normally compatible.

Fire Management

M23-14 Special Interest Areas are divided into two classes: (1) one which primarily protects the vegetation and (2) one which is primarily geologic in nature and in which the vegetation may be treated the same as in the surrounding area. They are listed below:

Class 1: Black Butte

Class 2: Castle/Cathedral Rock

Wildfire

M23-15 All suppression entries should use low impact methods that are consistent with the Management Area direction.

Group 1:

This area should receive aggressive suppression in all areas.

Group 2:

This area should receive suppression emphasis which is compatible with the adjacent Management Area

Prescribed Fire (Groups 1 & 2)

M23-16 Prescribed fire may be used to attain the desired characteristics of the Special Interest Area and to reduce fuels to their natural conditions. Any burning would be designed to create minimum impacts on the appearance or use of the area for its intended purpose

Fuel Treatment Other Than Prescribed Fire (Groups 1 & 2)

M23-17 Fuels treatment methods should emphasize maintenance of the natural characteristics of the area.

Fuel loadings should be low enough to eliminate the possibility of high intensity fires while maintaining the natural characteristics of the area

Special Uses

M23-18 Special uses may be authorized if they do not detract from the values for which this Special Interest Area is managed.

Management Area 24 Metolius Research Natural Area

Goal

To preserve an example of a naturally occurring ecosystem in an unmodified condition for nonmanipulative research and education.

General Theme and Objectives

Research Natural Areas (RNAs) are managed to preserve the natural ecological succession. All Establishment Reports for these areas must be approved by the Chief of the Forest Service.

Research on the Metolius Research Natural Area must be essentially nondestructive in character; destructive analysis of vegetation is generally not allowed nor are studies requiring extensive forest floor modification or extensive soil excavation Collection of plant and animal specimens should be restricted to the minimum necessary for provision of vouchers and other research needs and in no case to a degree which significantly reduces species population levels. Such collection must also be carried out in accordance with applicable State and Federal agency regulations. In consultation with the Forest Supervisor and District Ranger, the Director of the Pacific Northwest Forest and Range Experiment Station is responsible for approving management implementation plans and for overseeing and coordinating approved research on all research natural areas. The District Ranger administers, protects, and manages the Metolius Research Natural Area and reports through the Forest Supervisor to the Station Director any planned activities on, or immediately adjacent to, Metolius Research Natural Area.

The purpose of the Metolius RNA is to provide:

1. Baseline areas against which effects of human activities can be measured.

2. Sites for study of natural processes in undisturbed ecosystems.

3. Gene pool preserves for all types of organisms.

This Management Area contains a total of 1 3 M acres. 1.3 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219 14(a)

Standards and Guidelines

Recreation

M24-1 No physical improvements for recreation purposes such as campgrounds or buildings will be permitted.

M24-2 Picnicking, camping, collecting plants, gathering cones and herbs, picking berries, and other public uses will be allowed, though not encouraged, as long as they do not modify the area to the extent that such uses threaten impairment of research or educational values.

M24-3 The area will be closed to all off-highway motorized vehicles.

Timber

M24-4 Timber harvesting is not allowed in the Metolius Research Natural Area. No control of insect or disease should be instituted

M24-5 Firewood cutting is not permitted

M24-6 Timber harvesting will not be allowed in catastrophic situations.

Range

M24-7 Grazing will only be allowed when the Regional Forester and Director of the Pacific Northwest Forest and Range Experiment Station authorize such a management practice to preserve some representation of the vegetation for which the natural area was originally created

M24-8 The Green Ridge Sheep Allotment is located adjacent to the east boundary of the Metolius Research Natural Area Entry of sheep into this RNA will be prohibited.

M24-9 Vegetative manipulation will not be allowed in catastrophic situations.

Wildlife

M24-10 The Regional Forester and the Director of the Pacific Northwest Forest and Range Experiment Station may authorize management practices to control excessive non-game animal populations. This would only be done in cases where these populations threaten the preservation of some representation of vegetation for which the natural area was originally created.

Minerals

M24-11 The Metolius RNA will be withdrawn for mineral entry for mining claims.

M24-12 Geothermal leases will be issued with No Surface Occupancy Stipulations

M24-13 Pits and quarries will require approval of the Experiment Station Director and the Forest Supervisor.

Visual

M24-14 Management activities and research facilities should meet the visual quality level on the Visual Quality Objective Map.

Transportation

M24-15 No new roads or trails will be permitted within the Metolius RNA, except those considered essential to research, protection, or educational uses.

M24-16 Any transportation facilities such as roads and trails provided for in this Management Area will have minimum impacts on the ecosystems and must be located and managed to best fulfill the Area's management objectives. Management of the transportation facilities could include closing facilities to all but the designated research personnel. Helispots and special uses such as telephone lines are not allowed.

Fire Management

Wildfire

M24-17 Unless plans approved by the Station Director provide for letting natural fires burn, aggressive containment using low impact methods should be used. High impact methods will be used only to prevent a total loss of the Research Natural Area Mop up should be minimized with natural burnout being the preferred method

Prescribed Fire

M24-18 Prescribed fire will be used only as specified in approved Research Natural Area management goals.

Fuel Loading

M24-19 Fuels will be allowed to accumulate at natural rates.

Special Uses

M24-20 Special Uses will be allowed if they support the management objectives of the Area and are approved by the Experiment Station Director and the Forest Supervisor.

Forest Health

M24-21 Monitor the Area to detect pest problems which could destroy the Research Natural Area or cause damage to adjacent lands. Reintroduction of fire should be considered to reduce possible insect epidemic conditions.

M24-22 Action should be taken when the damage has the potential to modify ecological processes to the point that the Area has little value for observation and research.

M24-23 Follow Forest-wide standards/guidelines for Forest Health.

Management Area 25 Metolius Spotted Owls

Goal

Manage habitat to enhance the carrying capacity for Northern Spotted Owls.

General Theme and Objectives

Nesting habitat and foraging areas will be protected and enhanced. Suitable nesting sites will be provided on a continuing basis and spaced to prevent territorial competition. Old growth stands with large trees will be emphasized. Human disturbance will be minimal during the nesting season.

This Management Area contains 4 spotted owl habitat areas Ten SOHAs, which are also part of the Forest Network, are addressed in Management Area 4, Spotted Owls.

This Management Area contains a total of 5.4 M acres 1 6 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219.14(a). During the analysis of alternatives using the criteria in 36 CFR 219.14(c), 5.4 M acres were identified as not appropriate for timber production for this Management Area. Review and reconsideration of these findings must be done in accordance with CFR 219.14(d).

Standards and Guidelines

Recreation

M25-1 Areas will be managed to provide dispersed recreation opportunities such as hiking, bird watching, and hunting that are compatible with maintaining desired populations of these wildlife species

M25-2 Seasonal restrictions on recreational activities such as hunting, boating, and off-highway vehicles may be needed, but will be determined on a case-by-case basis. Developed recreation, such as campgrounds and resorts, is not compatible with the goals of this Management Area, and will not be authorized. Existing sites may continue operation, but will not be expanded.

M25-3 This Management Area will generally provide the recreation opportunities of the Recreation Opportunity Spectrum category of the major adjacent Management Area The appropriate category will be limited to either Semiprimitive Nonmotorized, Semiprimitive Motorized, or Roaded-Natural. (See Appendix 2 for an explanation of the categories.)

Timber

M25-4 There will be no programed timber harvest. Timber harvesting will be allowed as a result of catastrophic situations as long as spotted owl habitat is the primary consideration in carrying out such activities

Range

M25-5 Vegetative manipulation for livestock forage improvement will not be allowed in these areas

M25-6 Grazing, which is currently allowed due to existing allotments, will be allowed as long as it remains compatible with the primary objectives of the Spotted Owl Habitat Areas (SOHAs). The use of existing allotments is minimal because the forage characteristics found in the SOHAs are not of high value to livestock

Wildlife

M25-7 For each of 4 locations managed for spotted owls, an area containing approximately 1,500 acres of suitable old growth forest habitat will be reserved to provide an owl pair with the resources required for breeding, feeding, and resting throughout the year. Collectively, these areas are designated the Spotted Owl Habitat Area Network. Some SOHAs contain significantly more than 1,500 acres because they are key links, in terms of their location or above-average owl reproduction rate, in the Network.

M25-8 This habitat is delineated within a 1.5 mile radius of the known or suspected nest site, or

center of activity if the nest site is unknown. Some Spotted Owl Habitat Areas include suitable habitat outside the 1.5 mile radius because insufficient suitable habitat exists to provide 1,500 acres within this limitation.

M25-9 Modifications to the Spotted Owl Habitat Area Network may be considered on a case-by-case basis after consultation with the Regional Office.

M25-10 A network of 4 areas suitable for spotted owl occupancy is established. This network provides habitat for the continued existence of well-distributed breeding pairs throughout their existing range and over time A large percentage of these 4 areas is intended for occupancy by breeding pairs, with the remaining areas, presumably containing insufficient habitat for successful breeding, being available for juvenile dispersal or adult recruitment from adjacent areas.

M25-11 One additional pair of spotted owls included in the Forest Network is found within the Mt. Jefferson Wilderness (Appendix 4). Yet another pair is located in the Oregon Cascades Recreation Area (Management Area 14). Ten SOHAs are located on the remainder of the Forest (Management Area 4). Four SOHAs are located in Metolius Management Area 25. The Forest Network totals 14 pairs.

M25-12 Stand structure identified as providing habitat for spotted owls contains: (1) multiple layers of trees with an overstory, midstory, and understory of moderate to high canopy cover, and (2) large trees with cavities, broken-tops, and platforms of branches holding accumulated organic matter suitable for nesting; and (3) standing dead trees and fallen decayed trees providing habitat for an abundance of prey animals like flying squirrels and wood rats. Vegetation types may include mixed conifer forest (CW, CD, & CR), Engelmann spruce bottom lands (CW-S9-11), and mountain hemlock forest (CM).

M25-13 Studies should be initiated to validate the extent and importance of habitat actually used by owl pairs. Research should evaluate what management actions are necessary to maintain habitat suitability over the very long-term.

Minerals

M25-14 These areas will be recommended for withdrawal for mineral entry for mining claims.

M25-15 Geothermal leases in spotted owl habitat areas will be issued with No Surface Occupancy (NSO) stipulations

M25-16 No pits or quarries will be allowed in this management area

Visual

M25-17 Management activities will meet Modification or a higher objective. Activities may include timber harvest, trail construction, prescribed burning or artificial nest construction. Activities will be visible, but will blend in with the natural surroundings

Fuelwood

M25-18 No fuelwood gathering is permitted.

Transportation

M25-19 Road networks will be designed to facilitate easy control of access during nesting season. Road closures can be used to limit disturbing human activity.

M25-20 The right-of-way of existing roads forming the boundary of Spotted Owl Management Areas, may be cleared up to 200 feet from the centerline of the road

M25-21 Road management to restrict public access within 1/4 mile of active nests during March 1 through July 31 may be needed (Purpose: to prevent disruption of nesting activities).

Fire Management

Wildfire

M25-22 Fire suppression activities will meet the following burn objectives.

M25-23 Maximum annual low intensity burn acre objectives for each area are 1 percent.

M25-24 Maximum annual high intensity burn acre objectives for each area are .3 percent.

M25-25 Selection of appropriate suppression techniques for use in designated Wilderness must weigh the sovereignty of Wilderness values against the long-term viability of the spotted owl habitat area network, and should be evaluated in the Escaped Fire Situation Analysis

Prescribed Fire

M25-26 Prescribed burning may be used to treat unacceptably hazardous fuel loading.

Fuel Treatment Other Than Prescribed Fire

M25-27 All methods are acceptable.

Special Uses

M25-28 Special Uses will be allowed if the spotted owl can be protected.

Forest Health

M25-29 Suppress forest pests when they have the potential to, or are, impacting that component of the vegetation which is essential for nesting and rearing habitat

M25-30 Follow Forest-wide standards/guidelines for Forest Health.

Management Area 26 Metolius Scenic Views

Goal

To provide Forest visitors with high quality scenery that represents the natural character of the Metolius Basin.

General Theme and Objectives

Landscapes seen from selected travel routes, such as Forest Roads 12, 1230, 1234, and 1292, and visitor use areas will be managed to maintain or enhance their appearance. To the casual observer, results of activities either will not be evident or will be visually subordinate to the natural landscape.

Landscapes will be enhanced by opening views to distant peaks, unique rock forms, unusual vegetation, or other features of interest Timber harvest is permitted, but only to protect and improve the visual quality of the stands both now and in the future Landscapes containing negative visual elements, such as skid roads, activity residue, or cable corridors, will be rehabilitated.

The desired condition for Ponderosa pine is to achieve and maintain visual diversity through variations of stand densities and size classes. Large, old-growth pine will remain an important constituent, with trees achieving 30 inches in diameter or larger and having deeply furrowed, yellow bark characteristics.

For other species, the desired condition requires obtaining visual variety through either spatial distribution of age classes and species mixes, through density manipulation, or through a mixture of age classes within a stand.

This Management Area contains a total of 4.8 M acres. .5 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219 14(a) During the analysis of alternatives using the criteria in 36 CFR 219.14(c), 4.3 M acres were identified as appropriate for timber production for this Management Area. Review and reconsideration of these findings must be done in accordance with CFR 219.14(d).

Description

Scenic Views

The Metolius Scenic Views management area is classified as Retention or Partial Retention based on the Visual Management System, as explained in **National Forest Landscape Management, Vol. 2, Agriculture Handbook Number 462.**

The S&Gs for Metolius Scenic Views management area are oriented primarily towards vegetation management because the visual resource is most often affected by timber management activities. For this reason, the majority of S&Gs deal with vegetative changes in the landscape.

Standards and Guidelines

Recreation

M26-1 New recreational developments and changes to existing developments are permitted as long as they are consistent with the desired visual condition. When viewed from significant viewer locations, recreational facilities will meet the established visual quality standards. For viewer locations within the recreational development being viewed, established visual quality standards may not always be met.

M26-2 Parking facilities, structures and other recreational facilities will normally be placed where they are not visible from significant viewer locations. Where it is not possible to screen recreational facilities, they will be designed to blend with the elements found in the natural landscape and will remain subordinate to the overall visual strength of the surrounding landscape.

M26-3 The Recreation Opportunity Spectrum (ROS) standard in Scenic Views Management Areas will normally be Roaded Natural, but may also include Primitive, Semi-primitive Non-motorized, Semi-primitive Motorized and Semi-primitive Motorized Winter Only standards.

Timber

The following Standards and Guidelines are designed to respond to the Desired Visual Condition for each timber type, as described below.

Timber/Ponderosa Pine

Desired Visual Condition

M26-4 Ponderosa pine in Scenic Views Management Areas will be managed to maintain or create a visual mosaic of numerous, large diameter, yellow-barked trees with stands of younger trees offering visual diversity and a sense of depth in landscapes viewed from travel routes, recreation use areas and other sensitive viewer locations.

Old growth characteristics, such as yellow, deeply-fissured bark, are desirable.

Diversity in species, where biologically possible, is desirable Species such as vine maple, aspen and occasional stands of fir, cedar and lodgepole pine are desirable for added visual interest. Shrubs and ground cover species are also a desirable visual component

Small, natural-appearing open spaces help provide a sense of depth and are a desirable visual component in these landscapes.

In Retention areas visual changes will not be noticeable to the casual forest visitor. The casual forest visitor is the recreation-oriented person or motorist traveling through a portion of the Forest. The casual forest visitor relates to the visual environment based on the context of a landscape viewed, rather than focusing on an individual acre within a landscape. For the occasional pedestrian who wanders off a designated trail and views an individual acre where a management activity has recently taken place, visual changes will be noticeable, even in Retention areas.

In Partial Retention areas management activities may be noticeable to the casual forest visitor. However, visual changes will not be so obvious as to dominate a particular portion of a landscape.

Any area that does not meet the desired visual condition because of past management activities should be reviewed by a landscape architect to determine management strategies needed to achieve the desired visual condition.

Vegetative Management

M26-5 Where there is an existing mosaic of tree sizes, size class diversity will be perpetuated by managing some of the trees within each size class. Where visual diversity is lacking, diversity will be gradually introduced to ultimately produce the desired mosaic. Although the numbers of trees will change through time, those stands that currently have a large number of large-diameter, yellow-barked trees will continue to have large numbers of the same type of trees. In order to accomplish this, trees may be removed where necessary to:

Perpetuate the desired visual condition

Control insect and disease problems.

Create vista points or enhance a unique landscape feature, such as a rock outcrop or unique vegetation.

Provide for safety along travel routes and in recreation use areas

Provide access for special uses, mineral activities, and administrative purposes.

M26-6 Management emphasis will focus on leaving the largest diameter trees and the healthiest crowns and forms in every stand. Visual variety will be provided by leaving occasional gnarly, old, overmature "character trees." Occasional clumps of large snags are desirable.

M26-7 Any proposed activity will be reviewed by a landscape architect. An analysis will be developed by the landscape architect to determine:

What treatment is necessary to achieve or retain the desired visual condition.

If cleanup activities can realistically be completed within the specified time limits.

Where existing pockets of dead and dying trees should be enlarged to produce the desired visual condition of small, natural-appearing open spaces.

What measures may be necessary to meet the desired visual condition, such as winter logging, special slash treatment, etc.

What the predicted visual condition will be following the activity.

M26-8 Timing of Cleanup Activities:

In Retention areas, slash from a thinning or tree removal activity, or other visible results of management activities, will not be visible to the casual forest visitor one year after the work has been completed.

In Partial Retention areas, logging residue or other results of management activities will not be obvious to the casual forest visitor two years following the activity

M26-9 Stand Densities for Immature Trees.

In Retention, management practices will normally not focus on maximum growth, due to the emphasis on visual quality. As a result, stand densities may be heavier or lighter than what would be considered necessary for optimum growth.

In Partial Retention, biologically optimal stand densities may be appropriate. In some areas, this means that tree densities will be lower than they presently are.

M26-10 Openings

In Retention areas visual openings[1] may result from management activities which harvest natural mortality (dying or severely diseased trees which occur in scattered pockets.) In Retention, these openings will range from 1/4 acre to 2 acres.

In Partial Retention areas openings will range from 1/4 acre to 5 acres, and may include additional openings where size class diversity is visually insufficient.

M26-11 Large diameter trees (24 inches diameter at breast height, or greater) will not be harvested in Retention unless there is a need to remove them for any of the following reasons:

There is a significant insect or disease problem

They have off-color or fading crowns.

They are already dead.

There is a visual need to provide additional size-class diversity.

There is a need to provide additional visual diversity by releasing pockets of reproduction through activities such as group selection and overstory removal.

They pose a safety threat to forest users.

M26-12 In Partial Retention, large diameter trees (24 inches d.b.h., or greater) will not be removed unless they meet one of the requirements above, or when.

Trees are considered a "high risk," and would probably die within the next decade. Use the Oregon/ Washington Risk Rating System (R-6-5220-45, 12/11/63). High risk (8 point or higher) are the only trees to be removed.

M26-13 Adequate snags and replacements will be left to meet wildlife requirements, as long as they contribute to the landscapes' visual quality.

M26-14 Thin immature trees in Retention and Partial Retention to maintain acceptable health and vigor of stands, with the objective of eventually producing replacement trees of 24 inch diameter and larger In Retention thin to slightly closer than normal spacing in order to provide full crowns and some screening. In Partial Retention, normal silviculturally prescribed spacings are acceptable.

[1] An opening is visually in an "open" or untimbered condition until trees are an average of 10 feet tall on slopes less than 30 percent, and an average of 15 feet tall on slopes greater than 30 percent

Timber/Mixed Conifers

Desired Visual Condition

M26-15 Mixed conifer stands in Scenic Views Management Areas will be managed to perpetuate or enhance the characteristic (or natural) landscape. The characteristic landscape normally contains stands that are visually dense, though

not necessarily continuous. Diversity in tree and shrub species and in diameter classes produces the desired visual character when viewed from travel routes, recreation use areas and other sensitive viewer locations.

Small, natural appearing openings are desirable, and are an important visual element of the characteristic landscape in mixed conifer stands.

Large diameter old growth characteristics are an important visual component in these landscapes Ponderosa pine is a desirable component of these stands, where it either exists or could be introduced.

Vegetative Management

M26-16 To produce or perpetuate the desired visual condition through time, mixed conifer stands require more frequent management treatment than Ponderosa pine stands. Thinnings and other tree removal practices will be done to maintain species diversity, and to promote the health and visibility of larger old-growth trees

M26-17 Where visual diversity is lacking, diversity will be gradually introduced through tree removal, thinnings, creating planned openings and by planting desirable tree and shrub species to ultimately produce the desired visual condition.

M26-18 In many of the mixed conifer stands on the forest, mature and over-mature trees are in poor condition. For this reason, the number of large-diameter, old growth trees in mixed conifer will gradually decline through the years. However, the presence of large-diameter trees in these areas will continue to be a major visual component, but not at all times on every acre. Replacement large-diameter trees will be provided through actively managing existing younger, more healthy trees.

M26-19 Trees may be removed from mixed conifer where necessary to:

Perpetuate the desired visual condition.

Control or prevent major insect and disease problems

Create vistas or enhance unique landscape features.

Provide for safety along travel routes and in recreation use areas.

Provide access for special uses, mineral activities, and administrative purposes

M26-20 Management emphasis will focus on leaving trees with the healthiest crowns, deep green foliage (as viewed in the summer months), and that offer the greatest species and size class diversity.

M26-21 Any proposed activity in will be reviewed by a landscape architect. An analysis will be developed by the landscape architect to determine:

What treatment is necessary to achieve or retain the desired visual condition.

If cleanup activities can realistically be completed within the specified time limits.

What mitigation measures may be necessary to meet the desired visual condition, such as winter logging, special slash treatment, etc.

What the predicted visual condition will be following the activity.

M26-22 Timing of Cleanup Activities

In Retention, slash from a thinning or tree removal activity, or other visible results of management activities, will not be visible to the casual forest visitor one year after the work has been completed.

In Partial Retention, logging residue or other results of management activities will not be obvious to the casual forest visitor two years following the activity.

M26-23 In mixed conifer foregrounds, management practices will normally not focus on maximum growth As a result, stand densities will normally be heavier than what would be considered necessary for optimum growth.

M26-24 Create small, natural-appearing openings, where they are lacking, to achieve the desired visual character. Plant these openings with species that will result in visual variety. Species offering fall color are especially desirable. Large diameter

trees (24 inches d b h. or greater) can be removed in these openings.

In Retention, these openings will range from less than 1/4 acre to 2 acres.

In Partial Retention, openings will range from less than 1/4 acre to 5 acres.

M26-25 Where the opportunity exists, manage for a variety of species,including Ponderosa pine, Douglas fir, true firs, incense cedar, western larch, western white pine, lodgepole, aspen, vine maple and various shrub species.

M26-26 When Ponderosa pine can biologically be a component of the stand, design treatments to maintain or improve the Ponderosa pine component, but not to the exclusion of other species.

M26-27 Large diameter trees (24 inches d.b.h., or greater) will not be harvested in mixed conifer unless there is a need to remove them for the following reasons·

There is a significant insect, root rot or disease problem.

They have off-color or fading crowns.

They are already dead.

There is a visual need to provide additional size-class diversity.

There is a need to provide additional visual diversity by releasing pockets of reproduction or other species which will add visual diversity through activities such as group selection and overstory removal.

They pose a safety threat to forest users

Trees are considered a "high risk", and would probably die within the next decade.

M26-28 Adequate snags and replacements will be left to meet wildlife requirements, as long as they contribute to the landscapes' visual quality.

Range

M26-29 Livestock grazing is permitted when it is consistent with the Desired Visual Condition.

M26-30 Structural range improvements such as fences, water developments and access roads may be visible from sensitive viewer locations, but will remain subordinated to the overall strength of the landscape viewed, or designed to compliment scenic quality.

M26-31 Utilization standards will be established to avoid an over-sued appearance

M26-32 Salt blocks, water developments, or other improvements which attract livestock and result in a trampled-appearing setting should be avoided in highly sensitive scenic areas. New corrals and loading chutes will be made of native materials and will be designed to be visually pleasing.

M26-33 Vegetation manipulation such as brush removal, reseeding, and prescribed burning will be designed to meet visual objectives.

M26-34 Allotment management plans will be written to reflect the management direction for this management area. They will include the grazing system to be used, season of use, class of livestock, stocking levels, range improvements needed and forage production and utilization standards.

Wildlife

M26-35 Wildlife snags and snag replacement trees will be maintained only where they contribute toward the Desired Visual Condition for the tree species. Where snags and snag replacement trees detract from the Desired Visual Condition, the placement of wildlife trees will be modified to meet visual management objectives.

M26-36 Snags determined to be safety hazards in areas of concentrated public use will be topped or removed Grouping snags is generally preferable over even-distribution.

M26-37 Where consistent with the Desired Visual Condition, wildlife habitat improvements will focus on watchable wildlife.

M26-38 When managing vegetation along major highways which have deer migration routes crossing them, consideration will be given to minimizing risks of vehicular-deer collisions.

Minerals and Special Uses

M26-39 Geothermal leases will be issued with Conditional Surface Use restrictions. Mineral developments, utilities, and electronic sites may be located in these areas if the facilities and associated improvements are located, designed, and maintained to blend with the characteristic landscape. Visual quality objectives may not always be met when the viewer is within the special use site itself, due to the usual large scale of these facilities. However, when viewed from travel routes, recreation areas, and other sensitive viewer locations, Visual Quality Objectives should be met.

M26-40 Trees may be removed within Scenic Views Management Areas where necessary to permit access to geothermal sites, mineral development, electronic sites, utilities, and other special-use sites

Fuelwood

M26-41 Fuelwood gathering is permitted when it is consistent with the Desired Visual Condition for the species

Transportation

M26-42 New roads will be located and designed to meet the Visual Quality Objectives for the area Routes likely to be popular with Forest visitors will be designed and maintained to enhanced the Forest's scenic qualities.

M26-43 Road alignments should fit the Forest landscape with a minimum of landform modifications and should present a cross-section of the area's landscape character. Road alignments should capitalize on opportunities that will create pleasant visual experiences.

M26-44 Signs should only be used where necessary for the user's safety and enjoyment of the Forest They should be located and designed to blend with the elements found in the characteristic landscape wherever possible.

M26-45 Helispots, new gravel pits, disposal sites and borrow areas will be located out of site from sensitive foreground viewer locations

Fire Management

M26-46 Low intensity prescribed fires will be used to meet and promote the Desired Visual Condition within each stand type Prescribed fire and other fuel management techniques will be used to minimize the hazard of a large high intensity fire In foreground areas, prescribed fires will be small, normally less than 5 acres, and shaped to appear as natural occurrences. If burning conditions cannot be met such that scorching cannot be limited to the lower 1/3 of the forest canopy, then other fuel management techniques should be considered

M26-47 If at any time during the course of the prescribed burn it appears that the objectives for the burn are not being met, all burning will cease.

Wildfire

M26-48 The primary objective to suppress any wildfires that could potentially become high intensity fires as quickly as possible Standard suppression techniques may be applied in foreground areas The method used to suppress wildfires should have the lease impact on vegetation and soils possible. Restoration efforts will be made where fire suppression activities do not meet the desired visual condition.

M26-49 Recommended burn acre objectives will be developed as a part of the Fire Management Action Plan.

M26-50 A landscape architect should be consulted for recommended restoration measures following wildfire suppression activities in Scenic Views Management Areas

Forest Health

M26-51 Monitoring and vegetative management will emphasize the control or prevention of major insect and disease problems. Minor insect infesta-

tions or root rot centers may not require immediate treatment, as long as they are consistent with the desired visual condition for the species in which they occur. Insect and disease problems in Scenic Views Management Areas will be monitored to determine their rate of spread and degree of risk to the visual resource. (Also see Forest-wide standards/guidelines for Forest Health.)

Management Area 27 Metolius Old Growth

Goal

To provide naturally evolved old growth forest ecosystems for (1) habitat for plant and animal species associated with old growth forest ecosystems, (2) representations of landscape ecology, and (3) public enjoyment of large, old-tree environments.

This Management Area will also contribute to the biodiversity of the Forest.

General Theme and Objectives

This old growth forest will be managed to provide (1) large trees, (2) abundant standing and downed dead trees, (3) single canopy old growth stands, and where appropriate (4) vertical structure (multiple vegetative canopy heights).

Two old growth stands are included in this Management Area The Lower Black Butte Old Growth Area will emphasize the scenic and social value of Ponderosa pine old growth. The Glaze Meadow Old Growth Area is identified as part of the Forest-wide network of old growth areas designated to be managed for the habitat requirements of indicator species, and will therefore emphasize the wildlife values associated with Ponderosa pine old growth as a primary objective. Because the Glaze Meadow Old Growth area is larger than required for the indicator species network, a secondary objective will be management for the scenic and social values of Ponderosa pine old growth, where they do not conflict or interfere with the wildlife values

This Management Area contains a total of 1.8 M acres 4 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219.14(a) During the analysis of alternatives using the criteria in 36 CFR 219.14(c), 1.8 M acres were identified as not appropriate for timber production for this Management Area. Review and reconsideration of these findings must be done in accordance with CFR 219.14(d).

Standards and Guidelines

Recreation

M27-1 Concentrated human activity is not compatible in this Management Area but dispersed recreation is generally acceptable.

M27-2 The current outfitter-guide use of the horse trail from Black Butte Ranch should not negatively impact the wildlife values of the Glaze Meadow Old Growth area. The trail is currently located near the perimeter of the area and the type of activity is considered to be dispersed. Any proposal for expansion of this use would be evaluated with consideration for the wildlife values of the area.

M27-3 A moderate level of human activity is acceptable within the Lower Black Butte portion of this Management Area. Entry into the area for the purpose of viewing and experiencing an old growth Ponderosa pine forest is encouraged

M27-4 Modest interpretive facilities, parking areas and trails are permitted in the Lower Black Butte portion of this Management Area. This type of facility may be permitted in certain locations within the Glaze Meadow Old Growth area where it does not conflict with wildlife values.

M27-5 Vegetative manipulation to maintain the old growth character may conflict with recreation use, but such occurrences should be limited in size and number. Restriction of recreation use in some key areas for certain periods of time, to protect animal populations, may be necessary.

M27-6 Off-highway vehicle use will not be permitted in this Management Area.

Timber

M27-7 There will be no programmed harvest or wood removal in these areas during this planning period, however, vegetative manipulation including removal may occur to perpetuate or enhance old growth characteristics.

M27-8 If the structure of the Glaze Meadow portion of this Management Area is significantly altered through a catastrophic event such as a fire, windstorm, or insect epidemic, another stand

would be substituted that meets the minimum requirements for the indicator species. The original area could then be salvaged and reforested.

An old growth area will be considered significantly altered if it no longer meets the minimum habitat needs for the indicator species.

M27-9 Firewood cutting and gathering is not permitted.

Range

M27-10 Livestock grazing is generally not compatible with old growth areas. The existing Glaze cattle allotment will continue unless found through the Allotment Management Planning Process to be in conflict with wildlife values.

M27-11 Exotic plants will not be introduced. Vegetative manipulation to enhance forage production or species composition for livestock consumption is not permitted.

Wildlife

M27-12 Snags, and the live trees needed for future snags, will be maintained at 100 percent of the maximum potential population of primary cavity-nesting birds using the Deschutes National Forest Wildlife Tree Implementation Plan. Live trees in lodgepole pine stands may not be available over the next few decades due to existing and predicted bark beetle-caused mortality. Dead, down trees will be managed to maximize biological diversity.

Minerals

M27-13 This Management Area is open to mineral entry for mining claims for locatable minerals.

M27-14 Geothermal leases will be issued with No Surface Occupancy Stipulations.

M27-15 Pits and quarries for common materials are not permitted.

Visual

M27-16 Management activities will meet or exceed the inventoried visual quality objective.

Transportation

M27-17 Access by road or trail will be limited to the minimum standard and density that meets the objectives of this Management Area. Roads no longer needed will be closed and allowed to revegetate naturally. Helispots and transmission corridors will not be allowed Trail construction may occur within the Lower Black Butte portion of this Management Area.

Fire Management

Wildfire

M27-18 In Ponderosa pine forest, when existing and predicted burning conditions favor low intensity fires, containment suppression tactics are appropriate This may include burning out from existing barriers and scratch lines.

M27-19 High intensity fires will be suppressed.

M27-20 The low intensity burn acre objective for each old growth area will be the same as the adjacent management area with the lowest burn acre objective.

Prescribed Fire

M27-21 In Ponderosa pine stands, prescribed fire may be used to achieve desired old growth characteristics. It may also be used to reduce unacceptable fuel loadings that potentially could result in high intensity wildfire.

Fuel Treatment Other Than Prescribed Fire

M27-22 Prescribed fire is the preferred method of fuel treatment. However, if prescribed fire cannot reduce unacceptable fuel loadings, other methods will be considered.

Fuel Loadings

M27-23 Natural fuel loading will normally be the standard.

Special Uses

M27-24 Special uses may be authorized if they do not detract from the values of this Management Area. Transmission corridors and helispots will not be permitted.

Forest Health

M27-25 Monitor pests normally associated with old growth ecosystems to prevent unacceptable damage to adjacent areas.

M27-26 See Forest-wide standards/guidelines for Forest Health. Only practices which are compatible with the objectives of this Management Area will be adopted when considering the treatment of insects and diseases.

Management Area 28 Metolius Wild and Scenic River

Goal

To protect and enhance those outstandingly remarkable values that qualified segments of the Metolius River for inclusion in the National Wild and Scenic Rivers system.

General Theme and Objectives

The following S&Gs will ensure that the values which qualified the river for inclusion in the National Wild and Scenic River System are preserved until the management planning is completed for the Metolius River These S&Gs will serve as interim management direction, in conjunction with current interim management direction provided through Regional Policy, until the formal river corridor management plan is completed and the Forest Land and Resource Management Plan is amended to include the appropriate direction.

The primary objectives for managing waterways which are components of the National Wild and Scenic Rivers System will be to protect the outstandingly remarkable values identified for the river and maintaining the free-flowing nature of the river. The difference between a wild, scenic, or recreational section of river is measured by the degree of development, appropriate types of land use and ease of accessibility by roads and trails.

This Management Area contains a total of 4 6 M acres. 1.3 M acres were identified as not suitable for timber production during the analysis of the management situation in accordance with CFR 219.14(a). During the analysis of alternatives using the criteria in 36 CFR 219.14(c), 4.6 M acres were identified as not appropriate for timber production for this Management Area. Review and reconsideration of these findings must be done in accordance with CFR 219.14(d).

Standards and Guidelines

M28-1 The following guidelines set forth standards for the Metolius River segments designated as scenic and recreational. These guidelines should be applied to the extent of the Forest Service's jurisdiction over federal lands, federal scenic or access easements, and other interests. They do not apply to privately owned lands.

M28-2 Forest-wide S&Gs found in Chapter 4 also contain important direction to be implemented within the scenic and recreational river classifications.

M28-3 Standards for the Scenic segment of the Metolius River

This segment of the river begins at Bridge 99 and proceeds 17.1 miles to Lake Billy Chinook.

Vegetation Management: Vegetation management activities would be confined to those required to meet health and safety needs and protect resources during catastrophic situations. Vegetation outside the boundary but within the visual seen area should be managed in a manner which retains its visual quality.

Water Supply: All water supply dams and major diversions are prohibited.

Hydroelectric Power: No development of hydroelectric power facilities would be permitted.

Flood Control: Flood control dams and levees would be prohibited.

Mining: Subject to regulations 36 CFR 228 that the Secretaries of Agriculture and the Interior may prescribe to protect the values of rivers included in the National System, new mining claims and mineral leases could be allowed. However, mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment.

Geothermal: Geothermal leasing will not be permitted in this management area.

Road Construction: Few low standard primitive roads presently access this portion of the river

corridor. Those roads and the access they provide would be permitted to remain in place during the interim period in which the river management plan is being developed and prior to amendment of this plan. New roads and access facilities would not be permitted.

Recreation Development: New recreational facilities considered would be required to conform with the primitive definitions in the ROS users guide.

Structures: Any concentrations of habitations are limited to relatively short reaches of the river corridor. New structures would not be permitted.

Utilities: New transmission lines, gas lines, water lines, etc would not be permitted.

Motorized Travel: Motorized travel on land or water may be permitted, prohibited or restricted as necessary to protect the identified river values.

M28-4 Standards for the Recreational segment of the Metolius River

This section of the river begins approximately 2,055 feet north of Metolius Springs and proceeds north to Bridge 99.

Vegetation Management: Vegetation management activities would be confined to those which protect the immediate river environment, and its outstandingly remarkable resource values.

Dead or dying trees adjacent to the river and associated recreation facilities should be evaluated for their scenic, wildlife and fisheries (should they fall in the river) values as well as for any safety and disease control risks they may pose

Water Supply: Existing low dams, spring development, diversion works, rip rap, water wheels and other minor structures are permitted to remain in place during the interim planning period, provided the waterway remains generally natural in appearance. New structures will not be permitted.

Hydroelectric Power: Development of hydroelectric power facilities is prohibited.

Flood Control: Existing flood control works may be maintained. New structures are prohibited

Mining: Subject to regulations (36 CFR 228) that the Secretaries of Agriculture and the Interior may prescribe to protect values of rivers included in the National System, new mining claims and mineral leases are allowed and existing operations are allowed to continue Mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment

Geothermal: Geothermal leasing will not be permitted in this management area.

Recreation Development: Numerous recreation facilities exist in the form of campgrounds picnic areas and various interpretive sites and trails Additional facilities will not be constructed during the interim planning period unless considered necessary to resolve a health and safety problem, or to reduce resource damage.

Structures: Small communities as well as dispersed or cluster residential developments are allowed. New structures for both habitation and for intensive recreation use will not be permitted during the interim period. Reconstruction, replacement or repair of existing facilities will be permitted if their resulting appearance and use is consistent with the resource values identified for the river in the Metolius River Resource Assessment. Management of existing stream banks and structures close to the river bank, including summer homes, will focus on reestablishing natural riparian vegetation This is especially important on islands which may have wildlife habitat value.

Utilities: New transmission lines, gas lines, water lines, etc , are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are indicated, they will be required to protect or enhance the resource values identified for the river.

Motorized Travel: Motorized travel on land or water may be permitted, prohibited or restricted, consistent with the resource values identified for the river. Controls will usually be similar to surrounding lands and waters.

Additional S&Gs for River Classifications

Wildlife and Fish

M28-5 Management will emphasize maintenance or enhancement of habitat for watchable wildlife especially in the riparian zone. Retention of snags will be emphasized for dependent species habitat and as a source of large organic debris for the river. Snags which may be a hazard in recreation sites will receive careful scrutiny and will be removed only if they pose a hazard.

M28-6 Fish and wildlife habitat improvement projects will be permitted but should be natural appearing and be compatible with other important values of the riverine setting. Fish habitat improvements will not create unacceptable hazards to boaters.

M28-7 Portions of this Management Area have been identified as key elk habitat. Refer to Forest-wide standards/guideline WL-42-50 for management guidelines for this area

Wildfire

M28-8 All wildfires will be agressively controlled by using low impact methods as much as practicable. Firelines constructed by hand will be favored over firelines constructed by heavy equipment, except where high intensity fire situations may exist.

Recreation Residence

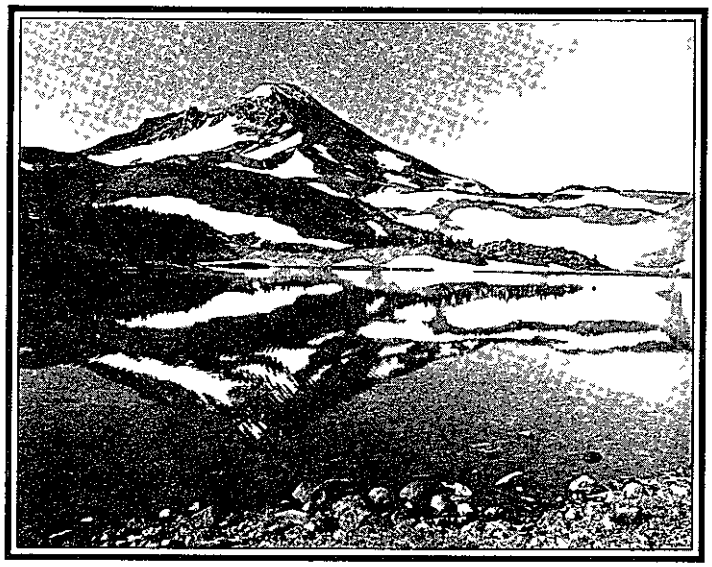
M28-9 Recreation residence tract objectives will be used as guidelines for management of the recreation residences along the river during the interim management period.

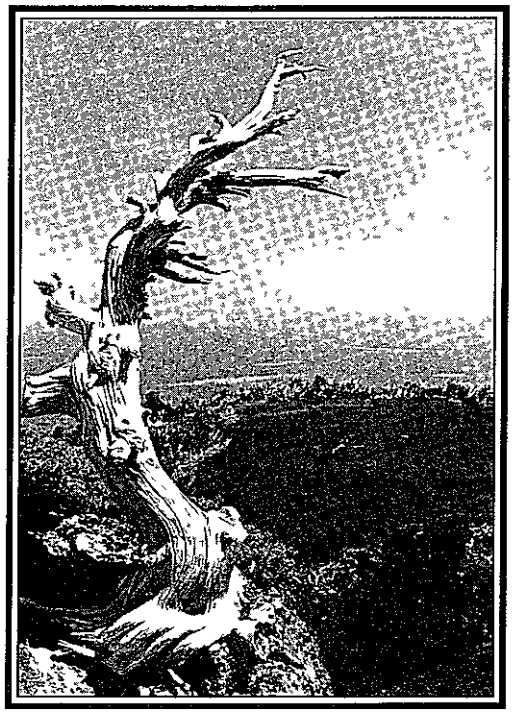
Administration

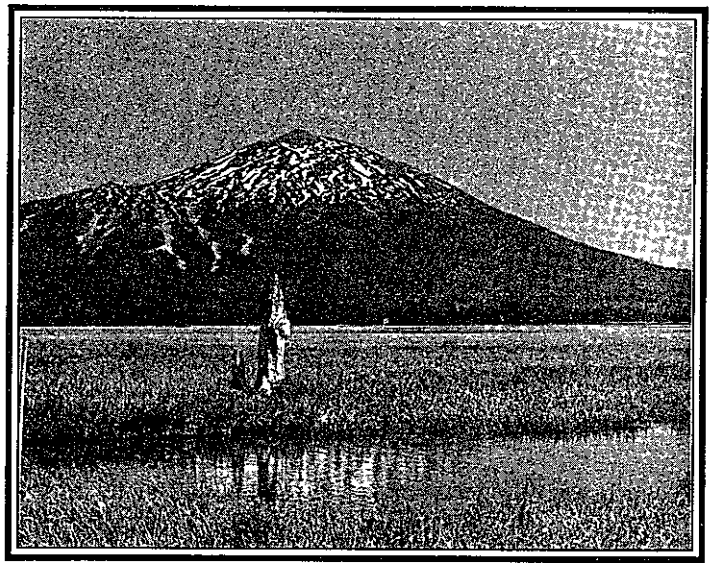
M28-10 The Omnibus Oregon Wild and Scenic Rivers Act of 1988 requires that the 17.1 mile Scenic segment of the river from Bridge 99 to Lake Billy Chinook be managed by the Secretary of Agriculture, through a cooperative agreement between the Secretary of Interior and the Confederated Tribes of the Warm Springs Reservation. In addition, a variety of County, State, and Federal government entities have responsibilities and interests in the management of the Metolius River corridor. Each has a unique area of expertise and authority, and each can make a contribution in protecting this River. Working cooperatively with these organizations and the public to develop the Metolius River Wild and Scenic River Management Plan will be an essential part of the Forest Service management planning effort.

Chapter 5

Implementation of the Forest Plan







Chapter 5

Implementation of the Forest Plan

Introduction

Implementation of the Forest Plan occurs through identification, selection, scheduling, and execution of management practices to meet management direction provided in the plan Implementation also involves responding to proposals by others for use and/or occupancy of National Forest System lands.

Implementation of the Deschutes National Forest Plan requires moving from an existing management program, with a budget and "targets" for accomplishment, to a new management program with a budget, goals, and objectives that provide a different way of addressing the issues and concerns people have voiced about Forest Management This Forest Plan establishes the direction for the Deschutes National Forest for the next 10 to 15 years, when used in conjunction with Forest Service Manuals and Handbooks and the Pacific Northwest Regional Guide.

The three following sections describe aspects of implementation that are influenced by previous management activities and objectives

1. Implementation Direction - the relationship between project planning and the Forest Plan

2. Monitoring and Evaluation - the goals and requirements of monitoring and evaluation.

3. Evaluation of Monitoring Results - the circumstances which could require the Plan to be amended or revised.

Implementation Direction

Implementating Forest Plans under the National Forest Management Act (NFMA) involves two decision levels The **first level** is associated with approving, amending or revising the Forest Plan. The decisions made at this level are to provide direction for all resource management programs, practices, uses, and protection measures. These decisions involve full compliance with both NFMA and NEPA. Final decisions made in the Forest Plan are:

1 Forest-wide goals and objectives.

2. Forest-wide desired future condition.

3 Forest-wide standards and guidelines

4. Management area goals and standards.

5. Management area theme and objectives.

6 Management area standards and guidelines.

7 Monitoring plan and evaluation process.

8 Incorporation of extant plans or projects.

9 Identification (location) of lands considered suitable and selected for timber harvesting.

10. Establishment of the Forest-wide allowable sale quantity.

The emphasis of the Forest Plan decisions are not on site specific projects or site specific resource outputs. Nor does the Forest Plan identify the cumulateve effects and connected actions of individual projects. The Forest Plan and accompanying EIS do not contain sufficient detail to determine which activities will be undertaken in a site specific location. Before these decisions can be made, further analysis will be necessary.

The **second level** of decisions is associated with the approval of site specific projects and activities necessary to achieve the goals, objectives and desired future conditions in the Forest Plan. This

level also involves full compliance with NFMA and NEPA

Project Scheduling

Projects necessary to accomplish the goals and objectives are scheduled through a process which takes Forest-wide outputs and activities and locates them to more site-specific areas on the Ranger Districts. The framework for this is the Implementation Unit which is a sub-unit of the Districts. For timber-related outputs and activities, the FORPLAN solution by analysis area and management area is interpreted for each Implementation Unit. Within each Implementation Unit, the approximate location of harvesting and treatments is identified for the first decade. In some instances the solution from the FORPLAN model may not be feasible since outputs were based on averages and the model did not contain information regarding past administrative decisions or actions that could limit the amount of harvesting that could occur in any single Unit. Such things as areas with sales under contract that have been granted extensions and have not been cut could affect how much more could be planned in the immediate future.

The schedule for projects associated with wildlife habitat improvement, range improvement, recreation development, etc., will be done in a similar manner to ensure that the integration and standards/guidelines are complied with.

Project scheduling will be completed and made available for review at the Ranger District Offices and the Supervisor's Office. Schedules of possible projects will routinely change as project are implemented or are removed from the listings for other reasons, such as new projects taking their place, adjustments to the schedule being made based on budgets, and other unforseen events, like wildfires or insect epidemics.

Consistency with Other Instruments

This Forest Plan serves as the single land management plan for the Deschutes National Forest. Subject to valid existing rights, all outstanding and future permits, contracts, cooperative agreements, and other instruments for occupancy and use of lands included in the Forest Plan will be consistent with the direction established in the Forest Plan. Adjustments of existing instruments, under Forest control, will be accomplished within three years from the time the Forest Plan is issued Items under Regional Control will have four years. Renewable permits will be changed at the time of renewal or sooner if the permittee agrees. Easements will not be included, but will remain in effect as originally developed, but the Plan will have to be amended so that they are in conformance if they are to remain.

All other land and resource management plans are replaced by the direction in this Plan. Table 5-1 is a list of plans superseded by this Forest Plan.

Table 5-1 Deschutes National Forest Plans that Would be Superseded by this Forest Plan

Document Title
Timber Management Plan
Deschutes N F Land Mgm Plan, 1978
1972 Fire Plan
Three Sisters and Mt. Jefferson Wilderness Plans
Land Adjustment Plans
Lava Butte Special Interest Plan
Swatter EA
Off-Road Vehicle Plan

Budget Proposals

The schedule of activities and outputs discussed in Chapter 4 are translated into multi-year program budget proposals. This is then used to request and allocate funds. Upon completion of a final budget, the annual program of work is finalized and carried out. Accomplishment of the annual program of work is the incremental implementation of the management direction of the Forest Plan.

Environmental Analysis

As projects and activities are designed consistent with the Forest Plan, they are subject to compliance with the NEPA process. If the environmental analysis for a project shows that: (1) the management area prescriptions and standards/guidelines can be complied with and (2) few or no environmental effects are expected beyond those identified and documented in the Forest Plan EIS, the analysis

could result in a categorical exclusion The need for public input will be scoped during the environmental analysis process An analysis file will also be available for review, but it will not always be in the form of an environmental assessment or EIS.

Compliance with the NEPA process may, on the other hand, result in an Environmental Assessment or an Environmental Impact Statement.

Monitoring and Evaluation Program

Monitoring

Monitoring will test some aspects of the Issues, Concerns, and Opportunities which were the basis for the Plan. It will also test the objectives of the Plan as well as the Standards/Guidelines Table 5-3, The Monitoring Matrix, lists monitoring questions, responsibilities and programs by resource. If the answer to a question is yes, then there is reasonable assurance that the expected results are being achieved and implementation would continue If the answer is no, further evaluation will be necessary with appropriate action taken to correct the situation Appropriate action could range from correcting the performance deficiencies when standards/guidelines are not being implemented, to modifying the Forest Plan when acceptable effects can not be achieved within the framework of the Forest Plan. Monitoring worksheets for each item that is listed on the Monitoring Matrix are in Appendix 6 of this Plan The work sheets contain additional monitoring information and include the approximate additional costs to programs, if any.

Implementation strategy is being developed to facilitate monitoring This may include the development of documents such as guidebooks for implementation in both office and field versions. These documents will be designed to provide additional information with regard to cumulative effects analysis and integrated resources

Evaluation Programs

While monitoring questions are designed to be clear about what outcome is being tested, they are purposely phrased to allow flexibility in sampling procedures. This will allow the responsible person to tailor the design of the monitoring activities to special management concerns at the time of sampling and to use the most recent information and techniques available

Monitoring and evaluation are separate, sequential activities that provide information to determine whether programs and projects are meeting Forest Plan direction. Monitoring collects information, on a sample basis, from sources specified in the Forest Plan. Evaluation of monitoring results is used to determine the effectiveness of the Forest Plan and the need to either change the Plan through amendment or revision or to continue with the Plan.

The overall objective of monitoring and evaluating forest plans is to determine whether programs and projects are meeting forest plan direction. Within this broad objective, specific goals are to:

1 Ensure that forest plan goals and objectives are being achieved and management prescriptions are being implemented as directed

2. Determine if the costs of implementing the plan and the management effects are occurring as predicted.

Monitoring Required by NFMA.

A Planned versus actual outputs [36 CFR 219.12(k)(1)]

B. Planned versus actual costs [36 CFR 219 12(k)(3)]

C Population trends of management indicator species [36 CFR 219.19(a)(6)]

D Determine if lands are adequately restocked [36 CFR 219.12(k)(5)(i)]

E. Ensure that destructive insect and disease organisms do not increase to potentially damaging levels following management activities [36 CFR 219.12(k)(5)(iv)]

Monitoring Levels

There are three distinct levels of monitoring: 1) implementation monitoring, 2) effectiveness monitoring, and 3) validation monitoring.

Implementation Monitoring

Forest and Ranger District personnel will conduct implementation monitoring as part of their routine assignments and document the results in project files as part of their management responsibilities. Implementation monitoring will determine if plans, prescriptions, projects, and activities are implemented as designed and in compliance with forest plan objectives and standards/guidelines.

Effectiveness Monitoring

Effectiveness monitoring will determine if plans, prescriptions, projects, and activities are effective in meeting management direction, objectives, and the standards/guidelines. This level of monitoring will be conducted by resource and/or technical specialists on a limited basis as determined by resource values and risks, and public issues. Effectiveness monitoring will begin only after determining that the plan, prescription, project, or activity to be monitored has been implemented according to the plan's direction.

Validation Monitoring

Validation monitoring will determine whether the initial data, assumptions, and coefficients used in development of the plan are correct; or if there is a better way to meet forest planning regulations, policies, goals, and objectives. Validation monitoring will be conducted when effectiveness monitoring results indicate basic assumptions or coefficients are questionable. Generally, validation monitoring will establish permanent plots or studies in close coordination with research personnel. The scope of validation monitoring will be limited to those coefficients and standards that are not reasonably substantiated by existing research.

Evaluation of Monitoring Results

Monitoring and evaluation are separate, sequential tasks. Monitoring is designed to observe and record the results of both natural processes and actions permitted by forest land and resource management plans Evaluation looks at those results, determines how well those results meet forest plan direction, and identifies measures to keep the plan viable.

Evaluation techniques include but are not limited to:

1. Site-specific observations by on-site resource specialists.

2. Field assistance trips by other technical specialists.

3. General field observations by Forest Service officials

4. On-going accomplishment reporting processes such as PAMARS.

5. Formal management reviews on a scheduled basis

6. Discussions with other agencies and the public users.

7. Management team review of monitoring results.

8. Interdisciplinary team reviews of monitoring results.

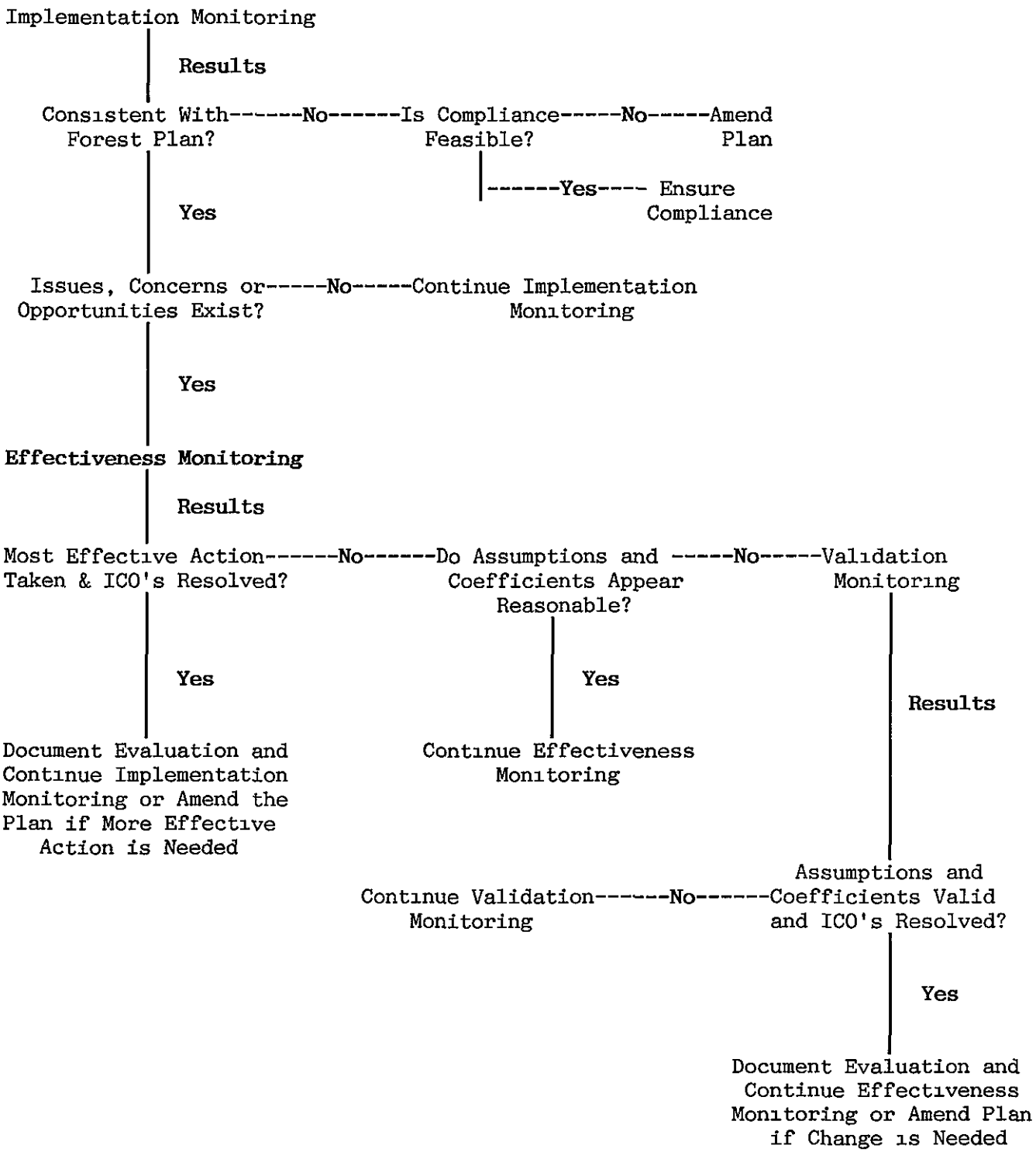
9 Involvement with existing research activities.

10. Review and analysis of records documenting monitoring results

Evaluation in Relation to the Three Monitoring Levels

Table 5-2 displays the process for evaluating monitoring results from each monitoring level. There is a direct, sequential relationship between the levels. This relationship is designed to focus initial attention at the implementation monitoring phase An approved forest plan represents the most appropriate, current management direction; therefore, first ensure that it is implemented as designed. Needless expense and confusion may result by going directly to effectiveness or validation monitoring.

Table 5-2 Evaluation of Monitoring Results for Forest Plan Implementation



Implementation Monitoring Results

Evaluation of the results of implementation monitoring indicate whether implementation of a project or activity is consistent with the forest plan.

1. If implementation results are not consistent with the plan, determine if compliance is feasible. If compliance is feasible, take appropriate measures to ensure complete implementation. If compliance is not feasible, either change the activity or follow the amendment procedures described later in Chapter 5.

2. If implementation results are consistent with the plan, determine if the original planning issues, concerns, or opportunities (ICO's) are still unresolved or if new ICO's have developed. If there are no ICO's or they are of minor consequence, continue implementation monitoring. If ICO's exist, begin effectiveness monitoring.

Effectiveness Monitoring Results

Evaluation of the results of effectiveness monitoring indicate whether plans, prescriptions, projects, or activities are effective in meeting management direction, objectives, and the standards/guidelines.

1. If results indicate the initial action implemented was the most effective and the ICO's have been resolved; document the evaluation and continue implementation monitoring.

2. Even though ICO's have been resolved, the results of effectiveness monitoring may identify a different, more effective action that needs to be taken and the plan requires change. Follow the plan amendment procedures in Chapter 5 and continue implementation monitoring.

3. If results indicate the most effective action was not taken or the ICO's have not been resolved, estimate if the basic assumptions and coefficients used in development of the plan are reasonable. If they appear reasonable, continue effectiveness monitoring. If the basic assumptions or coefficients appear questionable, begin validation monitoring.

Validation Monitoring Results

Evaluation of the results of validation monitoring indicate whether initial data, assumptions, and coefficients used in development of the plan are correct, or if there is a better way to meet forest planning regulations, policies, goals, and objectives

1. If results indicate initial assumptions and coefficients are valid, document the evaluation and continue effectiveness monitoring.

2. If ICO's have been resolved but the results of validation monitoring indicate a change in the basic assumptions or coefficients is needed, the plan may require change Follow the plan amendment procedures in Chapter 5 and continue implementation monitoring.

3 If results indicate assumptions and coefficients are still questionable and the ICO's have not been resolved, continue validation monitoring

New Assumptions, Coefficients, or External Changes

It may be necessary to initiate monitoring at the effectiveness or validation level, rather than at the implementation level, when either a condition develops that is uncontrollable under the current management situation or a change is expressly directed. Examples include:

1. Changes in laws, regulations, or direction.

2. Major changes in the resource base.

3. Major economic changes, both local and regional.

4. Fundamental changes in the basic data, assumptions, and coefficients due to proven results of research."

Table 5-3 shows the monitoring program for those items which will be monitored.

The following terms are found in the Monitoring Matrix.

1. Standard, Outputs or Key Assumptions to Review: Identifies if the Monitoring Element is an output expected to result from the Plan, a standard or guideline to be followed in implementing the Plan, or a key assump-

tion used in predicting outputs which would result from implementation of the standards and guidelines

2. Basis of Evaluation: Describes the specific standard, output, or assumption that is being monitored.

3. Area of Consideration. Indicates the geographical unit that will be monitored.

4 Action Threshold: Identifies the degree of deviation from Forest Plan outputs, standards and guidelines, or assumptions that will trigger further management action as described in Table 5-2.

5. Frequency: Specifies how often monitoring will occur.

6 Who Gathers/Who Facilitates: Presents *who is responsible for data collection and* who is responsible for organizing the Forest monitoring effort and evaluating the results

7. Technique: Describes how the monitoring information will be collected.

8 Risk: Evaluates the relative importance of the monitoring element to the implementation of the Forest Plan

9. Level Trend to Specified Percent Reduction: Describes an expected trend that could range from a specified percent reduction to no change from existing conditions.

10 Level Trend to Specified Percent Increase: Describes an expected trend that may range from a specified percent increase to no change from existing conditions.

11. Baseline: Represents existing conditions as described by the sampling (monitoring)

12 Greater Than a Specified Percent Reduction From Baseline. Describes a trend that will show at least a specified percent reduction from existing conditions

13. Level Population Trend· Indicates a trend where no change from existing conditions occurs.

Table 5-3 Monitoring Matrix

MONITORING ELEMENTS	INTEGRATED RESOURCE AREAS (IRA) Items Consolidated for Annual Review
1-Standards, Outputs or Key Assumptions to Review	1. Management Area 2. Soils & Water S&Gs/Best Mgm. Practices (BMPs) 3. Riparian Area Practices 4. Open Road Density 5. Snag Habitat 6. Dead & Down Logs 7. Timber Mgm. S&Gs (Includes Vegetative Diversity)
2-Basis of Evaluation	Adherence to Forest Wide & Management Area Standards/Guidelines (For more information see the Total Resource Opportunity Assessment (TROA) Worksheets)
3-Area of Consideration	One IRA per District
4-Action Threshold	Items 1, 4 & 7 - Deviation from Standards/Guidelines 2. Deviation from S&Gs and BMPs 3. Any Condition Above Stated Standards 5. If Baseline Above Standard, a Reduction Below Standard If Baseline Below Standard, Negative Trend 6. Less than 75% of Unit Meets Standard
5-Frequency	Annually
6-Who Gathers Who Facilitates	IRA Review Team Forest Planning Staff
7-Technique	Total Resource Opportunity Assessment of One IRA per District per Year by Review Team
8-Risk	1. Low 4. High 7. High 2. High 5. High 3. High 6. Low

MONITORING ELEMENTS	Soil Restoration Targets	Detrimental Soil Disturbance	Water Temperature
1-Standards, Outputs or Key Assumptions to Review	Output	Standard	Standards & Guidelines
2-Basis of Evaluation	400 Acres of Restoration per Year	Less than 20% of a Project Area Detrimentally Displaced, Compacted, Eroded or Burned to a Degree that Effects Site Productivity. S&Gs Being Met.	Management Induced Change In Water Temperature In Excess Of The Desired Range Of A Benefiting Resource (Fish, Domestic Water Supply)
3-Area of Consideration	Forest	Treatment Unit	Project Level
4-Action Threshold	Collect Data Annually and Evaluate on a 3-Year Average. Must be Within 25% of Annual Target.	Greater than 20% of Treatment Area of any unit Detrimentally Displaced, Compacted, Eroded or burned to a Degree that Effects Site Productivity	1)Project Plan Eval.'s Which Demonstrate Effects Outside of Desired Temp. Range 2) 3 Consecutive Years of Temp. Outside Desired Range
5-Frequency	Annually	1)Every Soil Disturbing Project Planned on Sensitive Soils 2)Field Sampling of 50 Treatment Units Annually	1)Each Project During Analysis Process 2)For Streams Temp. is Predicted to be Altered, Monitor at Least 1 Yr. Before & 3 Yr. After Project
6-Who Gathers Who Facilitates	District Forest Soil Scientist	District Forest Soil Scientist - Forest Soil Staff	District Forest Water Staff
7-Technique	Annual Accomplishment Report	1)Sens. Soil Analys. Report and Alternative Impacts of All Project Phases to be Incl In All Proj. Analy. on Sens. Soils 2-Field Sampling	1)Project Planning Evaluation 2)Post Project Monitoring
8-Risk	High	High	High

MONITORING ELEMENT	Channel Morphology and Low Flows	Riparian Allotment Bank Conditions	Bald Eagle Population Trends
1-Standards, Outputs or Key Assumptions to Review	Standards & Guidelines	Standard	Output
2-Basis of Evaluation	No Management Induced Changes In Channel Structure Or Reductions In Low Flows	Defined In Allotment Management Plans	Level Trend with 20 Pairs as Existing Condition
3-Area of Consideration	Forest Service Managed Stream and River Reaches Draining Up To 4,000 Acres	Allotment Pasture	Forest
4-Action Threshold	1)10-Year Trend Of Increasing Channel Width To Depth Ratio Associated W/ Mgm. Activities 2)Greater Than 30% Reduction In Low Flow or Width to Depth	Bank Degradation By Livestock	Downward Trend After 5 Years of Data Collection
5-Frequency	1)Project Planning Assesments of Sediment & Flow 2)Indicator of Stream and River Segment Monitoring Bienniel (Aug. or Sept.)	Each Allotment With Stream Channels Once Every 5 Years	Annually
6-Who Gathers Who Facilitates	District Forest Water Staff	District Forest Watershed Staff	District Forest Watershed Staff
7-Technique	1)Project Planning Evaluation 2)Channel Profile And Low Flow Measurements (Aug. and Sept.) On Indicator Stream And River Segments	Channel Survey And Analysis	Cooperative Trend Survey
8-Risk	High	Low	High

MONITORING ELEMENTS	Bald Eagle Nesting Habitat Capacity	Osprey Population Trends	Three-toed Woodpecker Population Trends
1-Standards, Outputs or Key Assumptions to Review	Output	Output	Output
2-Basis of Evaluation	20 Suitable Nesting Areas	Existing Level to 35% Reduction	Level, to a 60% Reduction From Existing
3-Area of Consideration	Forest	Osprey Management Area	Forest
4-Action Threshold	If Baseline Above Target, Any Reduction Below Target. If Baseline Is Below Target, A Negative Trend. Based on 5 Year Trend.	Greater Than 25% Reduction From Baseline-Current Sample After 5 Years Data Collection	Greater Than 60% Reduction From Baseline After 10 Years of Data Collection
5-Frequency	Annually	Biennially	Biennially
6-Who Gathers Who Facilitates	District Forest Wildlife Staff	District Wildlife Forest Wildlife Staff	Forest Wildlife Staff Forest Wildlife Staff
7-Technique	Evaluation Of Habitat Conditions	Trend Survey	Trend Survey
8-Risk	High	High	High

MONITORING ELEMENTS	Three-toed Woodpecker Nesting Habitat Capacity	Northern Spotted Owl Population Trends	Northern Spotted Owl Nesting Habitat Capacity
1-Standards, Outputs or Key Assumptions to Review	Output	Output	Output
2-Basis of Evaluation	Habitat Capable of Supporting 2400 Three-toed Woodpeckers	Level Population Trend	14 Suitable Nesting Areas
3-Area of Consideration	Forest	Forest	Forest
4-Action Threshold	If Baseline Above Standard, a Reduction Below Standard. If Baseline Below Standard, a Negative Trend. Trend based on 5 Years.	Greater than a 20% Reduction from Baseline After 5 Years of Data Collection	Take Action For Any Reduction Below Target.
5-Frequency	Annual Review of Areas Affected by Management. Repeat Every 5 Years	Annually	Biennially
6-Who Gathers Who Facilitates	District Forest Wildlife Staff	Forest Wildlife Staff Forest Wildlife Staff	District Wildlife Forest Wildlife Staff
7-Technique	Evaluation of Stand Condition	Trend Survey	Habitat Surveys
8-Risk	High	High	High

MONITORING ELEMENTS	Peregrine Falcon Population Trends	Wolverine Population Trends	Pine Marten Population Trends
1-Standards, Outputs or Key Assumptions to Review	Output	Output	Output
2-Basis of Evaluation	Occasional Sightings	Occasional Sightings	Level To A 15% Reduction
3-Area of Consideration	Forest	Forest	Forest
4-Action Threshold	Nesting Pair	Any Confirmed Sightings	Greater Than A 25% Reduction From Baseline After 10 Years of Data Collection
5-Frequency	Annually	Annually	Biennially
6-Who Gathers Who Facilitates	District Wildlife Forest Wildlife Staff	District Wildlife Forest Wildlife Staff	Forest Wildlife Staff Forest Wildlife Staff
7-Technique	Sightings Based on Inquiries of Public and Forest Personnel	Sightings Based on Inquiries of Public and Forest Personnel	Trend Survey
8-Risk	Low	Low	High

MONITORING ELEMENTS	Pine Martin Habitat Capacity	Elk Population Trend	Elk Habitat Capacity
1-Standards, Outputs or Key Assumptions to Review	Output	Output	Standard
2-Basis of Evaluation	Habitat Capable Of Supporting 1,600 Pine Martin	Elk Increasing Toward Target In Summer Population	Meet Standards/Guidelines defined in Chap. 4 of the Forest Plan for Key Elk Areas
3-Area of Consideration	Forest	Forest	IRA
4-Action Threshold	If Baseline Above Standard, a Reduction to Below Standard. If Baseline Below Standard, a Negative Trend. Trend based on 10 Years.	Greater than 20% Change from Baseline After 5 Years of Data Collection	Failure to Meet Standards and Guidelines in Key Elk Areas
5-Frequency	Examine 10% of Areas Every 5 Years to Determine Habitat Effectivness. Repeat Every 5 Years.	5 Year Summary	Where cover or forage dist. is an ISSUE, environmental assessments will analyze for each project. Analysis based on EA Conclusions
6-Who Gathers Who Facilitates	District Forest Wildlife Staff	Forest Wildlife Staff Forest Wildlife Staff	District Forest Wildlife Staff
7-Technique	Evaluation of Habitat Effectivness	Oregon Department Of Fish And Wildlife Harvest And Trend Counts	*Project Planning Assessment*
8-Risk	High	High	High

MONITORING ELEMENTS	Deer Population Trend	Deer Habitat Capacity	Townsend's Big Eared Bat Habitat
1-Standards, Outputs or Key Assumptions to Review	Output	Standard	Standard
2-Basis of Evaluation	Upward Trend	Meet Standards/Guidelines defined in Forest Plan for over 80% of an IRA	No Harmful Level Of Human Disturbance
3-Area of Consideration	Forest	IRA	Caves Providing Winter And Nursery Habitat
4-Action Threshold	A Downward Trend	Failure To Meet Standards And Guidelines Over 80% Or Greater Of An IRA Because of Management Activities	Greater than a 10% Reduction from Baseline
5-Frequency	5 Year Summary	Where Cover or Forage Distribution is an Issue E.A.s Will Analyze for Each Project. Analysis Based on E.A. Conclusions.	Annually
6-Who Gathers Who Facilitates	Forest Wildlife Staff Forest Wildlife Staff	District Forest Wildlife Staff	District Forest Wildlife Staff
7-Technique	Oregon Department of Fish and Wildlife Harvest and Trend Counts	Project Planning Assessment	IRA Review/ Monitoring Of Frequency Of Human Activities And Bat Population Trends In Important Caves
8-Risk	High	High	High

MONITORING ELEMENTS	Wildlife Habitat Improvement	T & E/ Sensitive Plants	Fish Resource Habitat, Type of Fishery and Capacity
1-Standards, Outputs or Key Assumptions to Review	Output	Standard	Output
2-Basis of Evaluation	Acres/Structures	Protection Or Enhancement	Defined In Stream, Lake and River Inventories and Evaluations
3-Area of Consideration	Forest-wide	Forest-wide	Stream, River Reach, or Lake Identified as Important Fisheries in Appendix 11
4-Action Threshold	Less Than 75% Of Target Based on a 3-Year Average	A 10% Reduction in Distribution of T & E or Sensitive Plants Due to Management Activities	20% Below Target Level Hab. Capacity or Any Recreation Use Incompatable With Fisheries Type as Defined in Appendix 13
5-Frequency	Annually	For Plants Affected by Mgm., Annually for 2 Consecutive Years Out of 5.	Pre-project Analysis for Every Project on Important Fisheries Stream as Defined in Appendix 11. Analysis Will be Based on EA Evaluations.
6-Who Gathers Who Facilitates	Forest Wildlife Staff Forest Wildlife Staff	District/SO Wildlife Staff Forest Wildlife Staff	District Forest Fisheries Staff
7-Technique	Annual Accomplishment Report	Surveys	Habitat Survey, Analysis, and Recreational Fisheries Goal Evaluation for Projects on Important Fish Stream/Lakes as in App. 13. ODFW Creel -
8-Risk	Low	High	Census Data, Public Interview High

MONITORING ELEMENTS	Fish Habitat Improvement Target	Fish Habitat/Sedimentation	Indicator Fish Population Trends
1-Standards, Outputs or Key Assumptions to Review	Output	Standard	Output
2-Basis of Evaluation	100 Acres Or Structures Annually	No Forest Service Mangement Related Increases In Stream Sedimentation Which Will Have A Detectable Negative Effect on Fish Habitat	Forest Plan Projection Of An Increaseing Trend In Fish Habitat Capacity
3-Area of Consideration	Forest	Indicator segments of Streams Providing Spawning and Rearing Habitat as Defined in Appendix 11	Indicator Stream and River Segments Identified in Forest Plan Appendix 11
4-Action Threshold	3-Year Average Must Be Within 25% Of Annual Target	6 Year Trend of Increases in Sedimentation OR an Annual Increase Greater than 30%t Associated with Management Activities	A Negative 6 Year Trend Associated With Habitat Change Caused by Management Activites
5-Frequency	Annually	Each Indicator Stream Biannually	Biennially
6-Who Gathers Who Facilitates	District Forest Fishery Staff	District Forest Fisheries Staff	District Forest Fishery Staff
7-Technique	Annual Accomplishment Reports	Spawning Site Sediment and Emergence Success Assessment	Indicator Segment Trends And Oregon Department Of Fish And Wildlife Sampling And Harvest Records
8-Risk	Low	High	Low

MONITORING ELEMENTS	Forage Utilization	Range Condition and Trend	Permitted Grazing
1-Standards, Outputs or Key Assumptions to Review	Standard	Standard	Output
2-Basis of Evaluation	As Defined In Allotment Management Plan for Upland and Riparian Areas	As Defined In Allotment Management Plan	Permitted (M) AUM's
3-Area of Consideration	Allotment Pasture	Allotment Pasture (Allotment With Primarily Permanent Range)	Forest-wide
4-Action Threshold	Average of Greater than 10% Above Target	Less Than 90% of Benchmarks Meeting Standards	Less Than 95% of Target
5-Frequency	Biennially	Each Allotment Monitored Once Per Decade	Annually
6-Who Gathers Who Facilitates	District Forest Range Staff	District Forest Staff	District Forest Range Staff
7-Technique	Sample Key Areas (Transects or Photos) of 50% of the Allotments Annually	Program Review	Annual Accomplishment Report
8-Risk	Low	Low	Low

MONITORING ELEMENTS	Summer Trails Construction/Reconstruction	Winter Trails Construction/Reconstruction	Dispersed/Semi-Primitive Recreation
1-Standards, Outputs or Key Assumptions to Review	Output	Output	Standards
2-Basis of Evaluation	Miles of Trail	Miles of Trails	Standards/Guidelines-ROS Objectives and MRVD's - 1400M to 2,000M Depending on Decade
3-Area of Consideration	Forest-wide	Forest	Forest
4-Action Threshold	Less Than 90% Of Target Being Met	Less than 90% of Target	Use 10% Above or Below Planned
5-Frequency	Collect Data Annually and Evaluate on a 3-Year Average	Collect Data Annually and Evaluate on a 3-Year Average	Every 5 Years
6-Who Gathers Who Facilitates	District Forest Recreation Staff	District Forest Recreation Staff	District District/Forest Rec. Staff
7-Technique	Annual Accomplishment Report	Annual Accomplishment Report	Activity Reviews for Trails, OHV's, Roads and Dispersed Rec. Use. One Every 5 Years. Trails Impacts-IRA Review Spot Checks/Counts
8-Risk	Low	Low	Low

MONITORING ELEMENTS	Wilderness Use and Impacts	Developed Recreation (Sites-Construction/Reconstruction)	Developed Recreation Use
1-Standards, Outputs or Key Assumptions to Review	Output	Output	Output
2-Basis of Evaluation	MRVD's - 77M to 170M Depending of Decade	650 per Decade	MVRD's 1,400M to 2,700M Depending on Decade
3-Area of Consideration	Forest	Forest	Forest
4-Action Threshold	Use 10% Above or Below Planned	5-Year Average Below 325 Units	Use Below Planned (10%)
5-Frequency	Annual Observations and LAC Data Evaluation Every Three Years	Every 5 Years	Once Every 5 Years
6-Who Gathers Who Facilitates	District District/Forest Rec. Staff	District Recreation Staff Forest Recreation Staff	District Recreation Staff Forest Recreation Staff
7-Technique	LAC Data Collection Entry Permits Spot Checks/ Counts	Accomplishment Reports	Year-end Collections (Total $$)
8-Risk	High	Low	Low

MONITORING ELEMENTS	Cultural Resources	Cultural Resources/Output	Retention
1-Standards, Outputs or Key Assumptions to Review	Standards	Output	Standard
2-Basis of Evaluation	Adherence to S&Gs - Compliance	10% of Recorded Sites	Whether or Not the Projects Within a Viewshed Result in Established Visual Quality Standards.
3-Area of Consideration	Forest	Forest	Viewshed
4-Action Threshold	Deviation from Standards	Destruction of Site(s)	Any Deviation from the Standards/Guidelines
5-Frequency	Annually	Annually	All Level 1 Viewsheds Every Two Years
6-Who Gathers Who Facilitates	District Forest Recreation Staff	District Forest Recreation Staff	Forest Landscape Architect Forest Staff
7-Technique	Monitoring Reports	Field Reviews Incident Reports Monitoring Reports	Field Review
8-Risk	Low	High	High

MONITORING ELEMENTS	Partial Retention	Fuel Wood	Timber Mgm. Standards and Guidelines (Includes Vegetative Diversity)
1-Standards, Outputs or Key Assumptions to Review	Standard	Standard	Standard
2-Basis of Evaluation	Whether or Not a Selected Project Meets Partial Retention	Standards in Forest Plan	Standards in Forest Plan
3-Area of Consideration	Viewshed	Management Areas 7,8 & 9 Forest	Management Areas 3,7,8,9,11, 16, &18
4-Action Threshold	Any Deviation from the Standards/Guidelines	Demand Exceeds Supply-Negative Public Response Received	Standards Not Met
5-Frequency	One Project per District per Every 2 Years - Wait One Year Following B.D. Activities	Annually	Each Project - 1 IRA per District per Year
6-Who Gathers Who Facilitates	Forest Landscape Architect Forest Staff	District Forest Timber Staff	District Forest Timber, Range, Wildlife and Watershed Staff
7-Technique	Field Reviews	Quarterly Personal-Use Firewood Sold Summary, STARS, Contacts with Vendors, TMA's and District Receptionists and Field Contacts	Program Review - IRA Review
8-Risk	High	Low	High

MONITORING ELEMENTS	Timber Harvest Levels - MCF Offered - Chargeable	Lands Suitable for Timber Management	Silvicultural Practices
1-Standards, Outputs or Key Assumptions to Review	Output	Assumption	Output
2-Basis of Evaluation	MCF	Acres	Acres
3-Area of Consideration	Management Areas 3,7,8,9 and 18	Management Areas 3,7,8,9,11, 16 & 18	Management Areas 3,7,8,9,11, 16 & 18
4-Action Threshold	+/- 10% of ASQ for Entire Planning Period	When a Change is Determined to be Needed	+/- 20% from Planned for Entire Planning Period
5-Frequency	Annually	When a Change is Determined to be Needed	Annually
6-Who Gathers Who Facilitates	Forest Timber Staff Forest Timber Staff	District Forest Planning Staff	District Forest Timber Staff
7-Technique	STARS - Sale Tracking and Reporting System	Specialist's Field Studies, ID Team Analysis, S.O. Staff	Field Exams, SILVE, TSI & Reforestation Accomplishment Reports (Tracs Data Base) and STARS
8-Risk	High	Low	High

MONITORING ELEMENTS	Cumulative Changes In Assumptions Affecting the Plan	Insects and Disease	Slash Abatement
1-Standards, Outputs or Key Assumptions to Review	Assumption	Output	Standard
2-Basis of Evaluation	Assumptions in the Forest Plan	Adverse Trend	Photo Series Standard and Guidelines for Each Mgm. Area. See Forest Plan
3-Area of Consideration	Management Areas 3,7,8,9,11, 16 & 18	Entire Forest Except Wilderness	Project Area
4-Action Threshold	When Empirical Evidence Indicates a Consistent or Significant Falldown in Stated Outputs or Failure to Achieve Described Character	Decided by Professional Judgement	+/- 10% of Fuel Loadings Described by Photo Series
5-Frequency	Ongoing	Annually	Part of Every Fuels Reduction Project Review
6-Who Gathers Who Facilitates	Forest TM & LMP Staff District Personnel - Bend Silviculture Lab	District Forest Timber Staff	District Forest Fire Staff
7-Technique	Review of Outputs, Growth Studies, Inventory Plots	Aerial Surveys and Field Exams	Post Project Review
8-Risk	High	High	High

* - The Old Growth entry is on the last page of this table

MONITORING ELEMENTS	Total Road Mileage by Operational Status	Payments to Counties	Jobs in the Local Economy
1-Standards, Outputs or Key Assumptions to Review	Output	Output	Output
2-Basis of Evaluation	Miles of Road by Maintenance Level and Operational Status Table 4-20 (See Glossary-Road Maintenance Level)	Estimated Payments	Estimated Changes in Numbers of Jobs
3-Area of Consideration	Forest	Forest Zone of Influence	Forest Zone of Influence
4-Action Threshold	Less Than 90% of Total Road Mileage by Maintenance Level Meets Annual Target	Failure to Meet Plan Objectives	Three Year Average Within +/- 15% of Estimates
5-Frequency	Annually	Annually	Annually
6-Who Gathers Who Facilitates	Forest Engineering Staff Forest Engineering Staff	Forest Planning Staff Forest Planning Staff	Forest Planning Staff Forest Planning Staff
7-Technique	Annual Accomplishment Report	Review Payments to Counties Reports	U.S. Census, State Publications, County and Local Agency Reports, etc.
8-Risk	Low	Low	Low

MONITORING ELEMENTS	Personal Income in the Local Economy	Local Population Changes and Composition	Lifestyles, Attitudes, Beliefs, or Values
1-Standards, Outputs or Key Assumptions to Review	Output	Assumption	Assumption
2-Basis of Evaluation	Estimated Changes in Income	Changes in Population and Make-Up	Changes in Lifestyles, Attitudes, Beliefs or Values
3-Area of Consideration	Forest Zone of Influence	Forest Zone of Influence	Local Communities
4-Action Threshold	Three Year Average Within +/- 15% of Estimates	+/- 15% Change Over Three Years	Established Trend Toward Forest-Community Conflict or Identification of Problems
5-Frequency	Annually	Annually	Biennial Reporting/ Quarterly Monitoring
6-Who Gathers Who Facilitates	Forest Planning Staff Forest Planning Staff	Forest Planning Staff Forest Planning Staff	Forest Planning Staff Forest Planning Staff
7-Technique	U.S. Census, State Publications, County and Local Agency Reports, etc.	U.S. Census, State Publications, County and Local Agency Reports, etc.	Interviews With Key Publics and Opinion Leaders in Communities, Observation etc.
8-Risk	Low	Low	Low

MONITORING ELEMENTS	Forest Contribution to Area Forest Products Industries	Costs, Values and Other Major Analytical Assumptions	Lands and Minerals Program
1-Standards, Outputs or Key Assumptions to Review	Output	Assuption	Standards/Assumptions
2-Basis of Evaluation	Changes in Forest Contribution to Area Forest Products Industries	Changes in Major Cost, Value and Modeling Assumptions Used in Forest Plan Analysis	Is the Program Responsive to Regional & Nat. Energy Needs, Are S&Gs Being Met, Are Leasees in Compliance, Is the Program Timely
3-Area of Consideration	Forest Zone of Influence	Forest and IRA	Forest Wide
4-Action Threshold	Failure to Meet Plan Objectives	When a Trend is Established that Would Change the Average ASQ for the Plan Period by +/- MMBF per Year	Failure to Meet Objectives
5-Frequency	Annually	Annually	Annually
6-Who Gathers Who Facilitates	Forest Planning Staff Forest Planning Staff	Forest Planning Staff Forest Planning Staff	District/L&M Staff Lands and Minerals Staff
7-Technique	Tracking of Raw Materials Flow to Mills; Industry Mix	Tracking of Forest Financial Records, Accomplishment Reports, Timber Cut and Sold Reports, IRA Reviews	Review of All Leasing Actions
8-Risk	Low	Low	Low

MONITORING ELEMENTS	Special Use Demands/Consistency w/ Other Forest Goals	Congressionally Classified Areas (Other Than Wilderness)	Old Growth
1-Standards, Outputs or Key Assumptions to Review	Standards/Assumptions	Meet Direction in the Area Management Plan	Standards
2-Basis of Evaluation	Adherence to Forest Wide & Management Area Standards and Guidelines	Treat Each Congressionally Designated Area (CDA) as an IRA (Integrated Resource Area)	Adherence to Forest Wide & Management Area Standards/ Guidelines
3-Area of Consideration	Management Areas	Oregon Cascades Recreation Area and Wild and Scenic Rivers, Newberry National Monument (NNM)	Management Area 15 and the Rest of the Forest.
4-Action Threshold	Not Meeting Demands for Special Uses; Inconsistencies w/ Other Forest Goals; Permittees Not in Compliance	Collect Data Annually and Evaluate on a 3 - Year Average	Any deviation from the Standards/Guidelines
5-Frequency	Year around checks and Annual Review	Annually	Ongoing
6-Who Gathers Who Facilitates	Districts/Lands & Min. Staff Lands and Minerals Staff	District Forest CDA Specialist	District Ranger/LMP Staff District Ranger/LMP Staff
7-Technique	Review of All Permit Actions	Evaluation of LAC Standards Project and Program Reviews	Project EA and IRA Reviews
8-Risk	Low	High	High for "A" Low for "B" (See Worksheet)

MONITORING ELEMENTS	Aquatic Sediment		
1-Standards, Outputs or Key Assumptions to Review	Standard		
2-Basis of Evaluation	No Management Related Increases in Stream Sedimentation which will have a Measured Negative Effect on Aquatic Macroinventories		
3-Area of Consideration	Indicator Stream and River Segments Identified in Forest Plan Appendix 11		
4-Action Threshold	A Negative 20% Change in Good Water Quality Indicator Species (Mayflies, Stoneflies)		
5-Frequency	Biannually		
6-Who Gathers Who Facilitates	District Forest Fishery/Watershed Staff		
7-Technique	Macroinvertebrate Population Trends		
8-Risk	High		

Evaluation of Monitoring Results

Information collected during monitoring will be evaluated at the end of the first 5 years of plan implementation to determine how effective the Plan is being implemented. Evaluations in some areas could be done earlier than this, if the monitoring program indicates a significant change is occurring or outputs are predicted to be significantly above or below those estimates used in the planning process.

The Land Management Planning (LMP) shop will be responsible for maintaining the data and results of monitoring.

All of the items to be monitored list a measurement frequency. The results of these measurements will be transmitted to the LMP Shop and the end of each fiscal year.

Monitoring will become part of our annual program of work and objectives package.

Monitoring will be mandatory for those items where activities are taking place or being implemented. Monitoring will be part of project costs, when the project is funded it is absolutely essential that necessary monitoring costs be included or the project should not be implemented.

Results of project monitoring will be transmitted to the LMP shop. A selected number of projects should be monitored to ensure the project is designed in conformance with the Forest Plan and that the project was implemented in accordance with the design and that the project then achieves the desired future condition, Goals or objectives.

Accomplishment of objectives, targets etc. will be submitted to the LMP shop to be used in assessing forest plan implementation accomplishments These will be filed in the LMP shop.

Annually the Forest Plan Interdisciplinary Team will meet and evaluate the data and issue a report.

During project or area analysis the ID team will conduct an analysis of costs associated with carrying out the planned management prescriptions as compared with costs estimated in the Plan. The results of this analysis will be submitted to the LMP Shop.

Amendment and Revision

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 objectives and translating them into management direction in the form of standards/ 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 management 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 amended. 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.

The Forest Supervisor may amend the Forest Plan. Based on the monitoring and evaluation and an analysis of the objectives, standards, and other contents of the Forest Plan, the Forest Supervisor will determine if an amendment is necessary and if so if the proposed amendment would result in a significant change in the Plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor will follow the same procedures as that required for development and approval of a Forest Plan If the change resulting from the amendment is determined not to be significant for the purpose of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of the NEPA procedures. All amend-

ments will be incorporated into this section at least annually.

The Forest Supervisor will review the conditions of the land covered by the Plan 5 years after it is implemented to determine whether conditions or demands of the public have changed significantly. If so the Plan could be revised. The Plan ordinarily is revised 10 years after the Record of Decision (ROD) is signed but would be revised no later than 15 years after the ROD is signed. It can also be revised whenever the Forest Supervisor determines that changes in RPA policies, goals, and objectives would have a significant effect on Forest level programs. In the monitoring and evaluation process, the Interdisciplinary Team may recommend a revision of the Forest Plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of the Forest Plan.

LAND OWNERSHIP SITUATION

Land Adjustment Prescriptions for Blocks A Through N Identified in Group 3-C

(Refer to the Land Status Map when using the following information.)

a. (Squaw Back Addition) - Rearrangement of ownership patterns for mutual benefit of owners.

b. (Squaw Back Ridge) - Retraction area. National Forest lands to be used in exchanges.

c. (Squaw Back Ridge Extension) - Land outside Forest boundary. Land acquisition if wildlife habitat cannot be protected with county zoning regulations. Most of this block is outside the Forest exchange boundary. A land exchange boundary adjustment is needed prior to acquisition.

d. (Black Butte) - Rearrangement of ownership patterns for mutual benefit of owners.

e. (Bull Springs) - Retraction area. National Forest lands to be used in exchanges.

f. (Bull Springs Addition) - Rearrangement of ownership patterns for mutual benefit of landowners.

g. (Trout Creek) - Retraction area. National Forest land to be used in exchanges.

h. (North Century Drive) - This block has been deleted from Group 3-C. The block is reclassified as Group 2 (lands needed for special type of management).

i. (Lower Deschutes) - Rearrangement of ownership to acquire stream frontage and consolidate other Federal holdings.

j. (Masten) - Rearrangement of ownership patterns for mutual benefit of landowners.

k. (Dorrance) - Retraction area. National Forest lands to be used in exchanges.

l. (Jackpine Village) - Retraction area National Forest lands to be used in exchanges.

m. (Spring Butte) - Retraction Area. National Forest lands to be used for exchange purposes.

n (Crescent Area) - Rearrangement of ownership patterns for mutual benefit of landowners.

APPENDIX 1
LAND OWNERSHIP SITUATION

Table A-1-1 Acres of Private and Other Public Lands by Groups and Subgroups (acres based on 1987 ownership pattern).

	OTHER PUBLIC					PRIVATE	
Group	BLM	State	County	Parks & Rec.	Industry	Other	Total Other Public and Private
1	--	--	--	--	--	--	0
2	165	200	--	80	6,815	6,440	13,700
3							
3A	80	545	40	--	1,030	490	2,185
3B	--	--	--	--	565	8,125	8,690
3C	270	200	--	645	181,345	15,025	197,485
3D	--	--	--	--	--	--	0
Sub-total 3	(350)	(745)	(40)	(645)	(182,940)	(23,640)	(208,360)
4	--	445	140	--	950	32,155	33,690
5	*46,000*	*1,900*	--	--	*12,300*	*28,100*	*88,300*
TOTAL	**46,515**	**3,290**	**180**	**725**	**203,005**	**90,335**	**340,050**

Table A-1-2 Acres of Land Potentially Available for Adjustment by Groups and Subgroups
(acres based on 1987 ownership pattern).

	OTHER PUBLIC				PRIVATE			
Group	*USFS*	*BLM*	*State*	*County*	Parks & *Rec*	*Industry*	*Other*	Total Other Public and *Private*
1	--	--	--	--	--	--	--	0
2	--	165	200	--	80	6,815	6,440	13,700
3								
3A	--	80	545	40	--	1,030	490	2,185
3B	3,880	--	--	--	--	565	8,125	8,690
3C								
Rearrange-ment[1]	64,305	--	200	--	--	78,415	7,715	86,330
Retrac-tion[2]	925	--	--	--	--	--	--	--
External Areas[3]	--	*270*	--	--	--	*2,500*	*5,440*	*8,210*
Subtotal 3-C	(65,230)	(270)	(200)	(0)	(0)	(80,915)	(13,155)	(94,540)
3D	40	--	--	--	--	--	--	--
4	*200*	--	--	--	--	--	--	--
TOTALS	**69,350**	**515**	**945**	**40**	**80**	**89,325**	**28,210**	**119,115**

[1] Rearrangement of ownership patterns (Blocks a, d, b, i, j, n)

[2] Retraction Areas (Blocks b, e, g, h, k, l, m)

[3] External Area - Not included in present exchange boundary (Block c).

APPENDIX 1
LAND OWNERSHIP SITUATION

Table A-1-3 Potential Acres of Land Where Rights to be Acquired in Group 2 - by Management Areas (acres based on 1987 ownership pattern).

	OTHER PUBLIC			PRIVATE		
Management *Areas*	*BLM*	*State*	*Parks & Rec*	*Industry*	*Other*	Total Other Public *and Private*
1	--	--	40	--	--	40
3	--	--	--	--	55	55
7	165	--	40	2,560	3,725	6,490
9	--	200	--	4,255	345	4,800
11	--	--	--	--	1,535	1,535
12	--	--	--	--	140	140
13	--	--	--	--	*640*	*640*
	165	**200**	**80**	**6,815**	**6,440**	**13,700**

Table A-1-4 Acres of Land Potentially Available for Adjustment in Group 3C by block (acres based on 1987 ownership pattern).

	OTHER PUBLIC					PRIVATE		
Block	*USFS*	*BLM*	*State*	*County*	Parks *& Rec*	*Industry*	*Other*	Total Other Public *and Private*
a	2,320	--	--	--	--	1,520	--	1,520
b	--	--	--	--	--	--	--	0
d	16,350	--	--	--	--	8,495	--	8,495
e	50	--	--	--	--	--	--	0
f	3,830	--	--	--	--	4,775	--	4,775
g	160	--	--	--	--	--	--	0
h	--	--	--	--	--	--	--	0
i	1,760	--	--	--	--	--	1,665	1,665
j	2,945	--	--	--	--	905	--	905
k	160	--	--	--	--	--	--	0
l	555	--	--	--	--	--	--	0
m	--	--	--	--	--	--	--	0
n	*40,550*	--	*200*	--	--	*62,720*	*6,050*	*68,970*
Sub-total	68,680	(0)	(200)	(0)	(0)	(78,415)	(7,715)	(86,330)
c	--	*270*	--	--	--	*2,500*	*5,440*	*8,210*
TOTAL	**68,680**	**270**	**200**	**0**	**0**	**80,915**	**13,155**	**94,540**

APPENDIX 2
RECREATION OPPORTUNITY SPECTRUM

Recreation Opportunity Spectrum

Primitive

The area is characterized by an essentially unmodified natural environment of fairly large size. Interaction among users is very low and evidence of other users is minimal The area is managed to be essentially free from evidence of human-induced restrictions and controls Motorized use within the area is not permitted. Large mammals and wildlife species which are not too tolerant of humans may be present.

Semi-Primitive Nonmotorized

The area is characterized by a predominately natural or natural-appearing environment of moderate to large size. Interaction among users is low, but there often is evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is not permitted Large mammals which are not too tolerant of humans may be present

Semi-Primitive Motorized

Area is characterized by a predominately natural or natural-appearing environment of moderate to large size. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is permitted. Wildlife species mid-range between those tolerant of human presence and those not.

Roaded Natural

Area is characterized by predominately natural-appearing environment with moderate evidence of the sights and sounds of humans. Such evidence usually harmonizes with the natural environment Interaction among users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and design of facilities. Large mammals tolerant of humans may be present; those not tolerant present infrequently. There is a prevalence of smaller wildlife species

Roaded Modified

This area is characterized by a setting that is heavily modified by human activity. Access is generally easy for highway vehicles. The setting is generally the result of intensive commodity production There is no size criteria Concentration of users is low, but there is considerable evidence of others Users have a moderate degree of isolation from the sights and sounds of other people.

Rural

Area is characterized by substantially modified natural environment. Resource modification and utilization practices are primarily to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of humans are readily evident, and the interaction among users is often moderate to high. Many of the facilities are designed for use by a large number of people. Facilities often are provided for special activities. Moderate densities are provided far away from developed sites. Facilities for intensified motorized use and parking are available. Wildlife species are limited mostly to those tolerant of human presence.

Urban

Area is characterized by a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manicured. Sights and sounds of humans on site are predominant. Large numbers of users can be expected, both on site and in nearby areas. Facilities for highly-intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site Wildlife species are restricted to those highly tolerant of human presence.

APPENDIX 2
RECREATION OPPORTUNITY SPECTRUM

ROS Activity and Experience Characterizations

Information regarding ROS activity and experience characterizations can be found in the USDA Forest Service 1986 Recreation Opportunity Spectrum Book and the Recreation Opportunity Spectrum Users Guide.

APPENDIX 3

RECREATION MANAGEMENT DEVELOPMENT LEVELS

Environmental Modification	Development Scale	Recreation Experiences
Minimum site modification. Rustic or rudimentary improvements designed for protection of the site rather than comfort of the users. Use of synthetic materials avoided. Minimum controls are subtle. No obvious means of regimentation Spacing informal and extended to minimize contacts with others. Motorized access not provided or permitted.	**1 Primitive**	Primitive forest environment is dominant. Rudimentary and isolated development sites beyond the sight or sound of inharmonious influences. Maximum opportunity for experiencing solitude, testing skills and compensating for the routines of daily living. User senses no regimentation Feelings of physical achievement in reaching site is important
Little site modification. Rustic or rudimentary improvements designed for protection of the site rather than comfort of the users. Use of synthetic materials avoided. Minimum controls are subtle. Little obvious regimentation. Spacing informal and extended to minimize contacts with others. Motorized access provided or permitted. Primary access over primitive roads.	**2 Semi-Primitive**	Near primitive forest environment. Outside influences present but minimized. Feeling of accomplishment associated with low standard access is important but does not necessarily imply physical exertion to reach site. Opportunity for solitude and chance to test outdoor skills is present.

APPENDIX 3

RECREATION MANAGEMENT DEVELOPMENT LEVELS (continued)

Environmental Modification	Development Scale	Recreation Experiences
Site modification moderate. Facilities about equal for protection of site and comfort of users. Contemporary/rustic design of improvements is usually based on use of native materials Inconspicuous vehicular traffic controls usually provided. Roads may be hard surfaced and trails formalized. Development density about three family units per acre. Primary access to site may be over high standard well traveled roads. VIS, if available is informal and incidental.	**3 Moderately Modified**	Forest environment is essentially natural. Important that a degree of solitude is combined with some opportunity to socialize with others. Controls and regimentation provided for safety and well-being of user sufficiently obvious to afford a sense of security but subtle enough to leave the taste of adventure.
Site heavily modified. Some facilities designed strictly for comfort and convenience of users but luxury facilities not provided. Facility designs may tend toward and incorporate synthetic materials. Extensive use of artificial surfacing of roads and trails. Vehicular traffic controls present and usually obvious. Primary access usually over usually over paved roads. Development density three to five family units per acre. Plant materials usually native.	**4 Heavily Modified**	Forest environment is pleasing and attractive but not necessarily natural. Blending of opportunities for solitude and socializing with others. Testing of outdoor skills on site mostly limited to the camping activity. Many user comforts available. Contrast to daily living routines is moderate. Invites marked sense of security. Visitor Information Services frequently available.

APPENDIX 3

RECREATION MANAGEMENT DEVELOPMENT LEVELS (continued)

Environmental Modification	Development Scale	Recreation Experiences
High degree of site modification Facilities mostly designed for comfort and convenience of users including showers, bath houses, laundry facilities, and electrical hookupos Trails are surfaced, formal and often obvious Access is usually by high speed highways Development density five or more family units per acre. Plant materials may be foreign to the environment. Formal VIS services usually available. Designs are formalized and architecture may be contemporary Mowed lawns and clipped shrubs are not unusual. (Class 5 sites only provided in special situations or close to large cities where other lands are not available.)	**5 Modern**	Pleasing environment attractive to the novice or highly gregarious camper. Opportunity to socialize with others very important. Satisfies urbanites' needs for compensating experiences and relative solitude but less intensive than in Classes 1-4 Obvious to user that he is in secure situation where ample provision is made for his personal comfort and he will not be called upon to use undeveloped skills.

APPENDIX 4
WILDERNESS AND CASCADE RECREATION AREA PLANS

Wilderness and Oregon Cascade Recreation Area Plans

Introduction

Overall direction for wilderness management is included in the Management Area Standards/ Guidelines section of the Forest Plan These plans provide additional direction that have been developed for situations unique to a particular wilderness, or for concerns identified by local wilderness managers. Specific direction in this section is additional and subordinate to the Forest-wide or management area standards/guidelines.

Mt. Jefferson Wilderness Management Direction

Occupancy

Situation

There are no nonconforming facilities within the wilderness.

Recreation Use Levels

Situation

Specific areas in the wilderness are experiencing levels of recreation use which are inhibiting natural processes or are adversely affecting the values for which wilderness areas were established Such adverse levels of use are not in compliance with standards/guidelines.

1. Increasing resource damage such as soil compaction, trampling of vegetation, loss of ground cover, cutting green vegetation, declining water quality, excessive removal of woody material, and snag removal is occurring This is especially severe in subalpine areas that are ecologically slow to recover.

2. Opportunities for solitude, challenge, and primitive recreation are declining in specific areas.

3. Comparisons of visitor numbers with LAC standards reveal excessive numbers of visitors during at least some portions of the season. The current (1989) listing of such areas includes; Canyon Creek Meadows, Rockpile Lake, Shirley Lake, Cabot Lake, and Carl Lake.

Areas may be periodically added or deleted from this list, depending on the findings of monitoring and management efforts.

Objective

Determine and manage a standard and level of use that will preserve and restore the wilderness resource and opportunities for wilderness recreation.

Management Direction

Continue to monitor use and begin initiating measures identified as being necessary and appropriate to meet objectives. Continue active rehabilitation and revegetation of impacted areas.

Specific direction for each zone (Pristine, Primitive, Semi-Primitive and Semi-Primitive/Transition) are contained in the Wilderness Management Area standards/guidelines, Chapter 4, of the Forest Plan

Capacity Range for the Mt. Jefferson Wilderness (See Table A-4-1)

It is relatively common to use a specific number of recreation users (a recreation capacity) as a measure of the threshold of overuse or as a maximum level of tolerable use in wilderness Such numbers, however, are only weakly linked to the condition of wilderness settings and to the maintenance of wilderness values Numbers are used here as a management aid. Monitoring to determine the relationship between use levels, LAC standards, and wilderness management objectives will be the primary tool for assessing maximum levels of recreation uses in specific areas and the free degree to which wilderness ecosystems are freely operating.

Estimated capacities shown in Table A-4-1 are maximums for various Wilderness Recreation Spectrum (WRS) Zones. The capacities are expressed in terms of People at One Time (PAOT) These numbers will be periodically adjusted based

APPENDIX 4
WILDERNESS AND CASCADE RECREATION AREA PLANS

on the Limits of Acceptable Change (LAC) process described in the Wilderness Prescription section of Chapter 4 of the Forest Plan.

Table A-4-1 Capacity Range for the Mt. Jefferson Wilderness

WRS Zones

Forest	Pristine Acres	Pristine PAOT	Primitive Acres	Primitive PAOT	Semi-Primitive Acres	Semi-Primitive PAOT	Semi-Primitive Transition Acres	Semi-Primitive Transition PAOT	Total Acres	Total PAOT
Deschutes	26,933	12-25	3,840	55-77	1,961	49-74	0	N/A	32,734	116-176
Willamette	55,501	27-41	9,535	134-207	7,337	172-227	192	14-16	72,565	347-491
Mt Hood	2,000	8-16	1,100	21-31	693	17-25			3,793	46-72
TOTAL	82,778		9,715		13,972		2,627		105,299	

Transportation (Trails)

Situation

Resource damage is occurring from utilization of some improperly designed and located trails and trailheads.

Objective

Provide and maintain a trail system to a standard that will meet management needs for protecting resources and distributing visitor use, eliminate duplication of routes, and minimize maintenance costs.

Management Direction

The following trails and trailheads are among those which may be constructed or reconstructed to meet the above objective. Monitoring and on-site evaluation of each trail strongly influences the management action. Refer also to the Trails Implementation Schedule in this Appendix.

Pacific Crest Trail (PCT) 2000
Santiam Lodge Trail 3496
Bowerman Trail 3492
South Breitenbush Trail 3375
Swallow Lake Trail 3488
Bear Valley Trail 6
Two Springs Trail 5
Brush Creek Trail 4
Jefferson Lake Trail 1

The following are among the trailheads that may need reconstruction to provide adequate parking. Toilets are also needed for these facilities.

Whitewater Trail
Pamelia Trail
Duffy Trail
Summit Trail
Bear Valley Trail

Range

Situation

No commercial grazing takes place within the wilderness.

Objective

Maintain the wilderness free from commercial grazing.

Management Direction

Issue no commercial grazing permits.

Commercial Operations

Situation

Activities associated with the issuance of recreation (outfitter-guide) permits are approaching the point where adverse impacts are surfacing in some areas.

Objective

To continue to provide the 1988 level of commercial outfitted use which is compatible with the Wilderness Act and public desires To modify by reducing or eliminating commercial use in specific areas where use levels begin to threaten the preservation of wilderness values. (Refer to Management Area 6 - Wilderness, and the Forest-wide standards/guidelines for Commercial Uses.)

Nonconforming Encroachments

Situation

Due to increased and easier access, new technologies in recreation, and some existing natural situations, incidents of unauthorized encroachment is increasing.

Objective

Reduce the number of unauthorized encroachments.

Management Direction

Post the wilderness boundary within three years to clearly define the wilderness.

Three Sisters Wilderness Management Direction

Occupancy

Situation

There are facilities within the wilderness that are potentially nonconforming with the wilderness concept. They are:

Trail Shelters

Buck Meadows
James Creek
Mink Lake
Cliff Lake

Lookouts

Olallie
Rebel Rock

Guard Station

Olallie

Cabins

Muskrat Lake
Rebel Rock
Unnamed, undiscovered, or other miscellaneous cabins and structures

Makeshift cabins and shelters have also occasionally been illegally constructed within the wilderness

Objective

Remove existing improvements, structures, and facilities not essential to the protection of the wilderness resource and which are not significant cultural resources.

Management Direction

Conduct a cultural resource evaluation, if applicable, to determine eligibility for nomination to the National Register of Historic Places. Remove nonconforming facilities within two years of the record of decision. Do not maintain, or permit others to maintain, these structures (Refer to Management Area 6 - Wilderness, and the

APPENDIX 4
WILDERNESS AND CASCADE RECREATION AREA PLANS

Forest-wide standards/guidelines for Cultural Resources.)

Prescriptions will be developed for those facilities that are determined to be conforming with wilderness values.

Recreation Use Levels

Situation

Specific areas in the wilderness are experiencing levels of recreation use that may be inhibiting the functioning of natural processes or are adversely affecting the values for which wilderness areas were created. Some resource and social impacts are not in compliance with standards/ guidelines.

1. Increasing resource damage is occurring such as soil compaction, trampling of vegetation, loss of ground cover, cutting green vegetation, declining water quality, excessive removal of woody material, and snag removal. This is especially severe in the subalpine and alpine areas where recovery is slow.

2. Opportunities for solitude, challenge, and primitive recreation are declining in specific areas.

3. Comparisons of visitor numbers with LAC standards reveal excessive numbers of visitors during at least some portions of the season

The current list (1989) of adverse impact areas follows. Others may be added as monitoring data is evaluated.

Green Lakes
Erma Bell Basin
South Matthieu Lake
North Matthieu Lake
Linton Lake
Blow Lake
Proxy Falls
Dons Lake
Sisters Mirror Lake Area
South Sister Climbing Trail
Horse Lake
Musckat Lake Cabin
Golden Lake
Mesa Creek
Moraine Lake
Hinton Springs
Chambers Lakes
Honey Lakes Area
Soap Creek Crossing
Park Meadows
Nash Lake
Porky Lake
Camp Lake
Eileen Lake-Husband Lake-Linton Meadows
Mink Lake and Mink Lake Shelter Area
Sunshine-Obsidian Falls-Arrowhead

Trails

Lower French Pete Trail - 3311
Fall Creek Trail - 17
Six Lakes Trail - 14
Erma Bell Trail - 3563
Irish Mountain Trail
Pole Creek Trail (Green Lakes Spur)-72
Main Climbing Routes to the Three Sisters
Park Meadow - 75
Three Creek Lake - 76
Tam McArthur Rim - 78
Park Meadow Trailhead
Black Crater - 58

Objective

Determine and manage to a standard and level of visitor use that preserves (and/or restores) the wilderness resource and opportunities for wilderness recreation.

Management Direction

Continue to monitor use and begin initiating measures identified as being necessary and appropriate to meet objectives. Continue active rehabilitation and revegetation of impacted sites.

Specific directions for each zone are contained in Wilderness Management Area Prescription, Chapter 4, of the Forest Plan.

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Capacity Range for Three Sisters Wilderness Area (See Table A-4-2)

It is relatively common to use a specific number of recreation users (a recreation capacity) as a measure of the threshold of overuse or as a maximum level of tolerable use in wilderness Such numbers, however, are only weakly linked to the condition of wilderness settings and to the maintenance of wilderness values. Numbers are used here as a management aid. Monitoring to determine the relationship between use levels, LAC standards, and wilderness management objectives will be the primary tool for assessing maximum levels of recreation uses in specific areas and the free degree to which Wilderness ecosystems are freely operating.

Estimated capacities shown in Table A-4-2 are maximums for various Wilderness Recreation Spectrum (WRS) Zones. The capacities are expressed in terms of People at One Time (PAOT). These numbers may be periodically adjusted based on the LAC process described in the Wilderness Prescription section of Chapter 4.

Table A-4-2 Capacity Range for Three Sisters Wilderness

WRS Zones

Forest	Pristine		Primitive		Semi-Primitive		Semi-Primitive Transition		Total	
	Acres	PAOT	Acres	PAOT	Acres	PAOT	Acres	PAOT	Acres	PAOT
Deschutes	78,913	40-55	5,792	93-145	7,460	239-321	541	25-40	92,706	397-561
Willamette	147,880	70-111	22,610	280-420	17,427	360-432	1,429	71-79	189,346	781-1042
TOTAL	226,793	110-166	28,402	373-565	24,887	599-753	1,970	96-119	282,052	1,178-1,603

Transportation

Situation

Excessive numbers of visitors are being drawn into wilderness areas by trails being constructed and maintained to higher than necessary standards and trails routed directly to attractive sites and areas

Improper trail location or construction is also causing resource damage.

Objective

Provide and maintain a trail system to a standard that will meet legal direction, management needs for protecting resources and distributing visitor use, eliminate duplication of routes, and minimize maintenance costs.

Management Direction

Modify trail maintenance and construction standards in order to achieve wilderness objectives. Modified standards can address clearing widths, "step-over" logs, alignment, maximum grade, bridge needs, and drainage

Develop and implement a trail relocation and reconstruction plan that emphasizes correction of poor alignment and is designed to distribute use away from overused areas. Trails to be included are listed below. Some corrective actions may already be in progress.

Buck Meadows
Starwano
Portions of McBee
Pacific Crest Trail

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Erma Bell Lakes Trail

Range

Situation

Public complaints have been received concerning commercial grazing in the wilderness causing degradation of the wilderness resource and visitors' experience.

Objective

Minimize the impact of grazing upon the wilderness experience of visitors while utilizing the wilderness range resource according to law and policy.

Management Direction

Advise visitors through the information and education efforts of areas they can visit within the wilderness where grazing does not occur, and the legal basis and purpose of commercial grazing within the wilderness.

Encourage techniques in allotment management and management of grazing animals that will minimize impacts on the natural wilderness environment and the experience of wilderness visitors.

Commercial Operations

Situation

Where activities associated with the issuance of outfitter-guide permits are adversely impacting the wilderness by encouraging excessive numbers of people in the same area at one time, encouraging use by large groups inappropriate to a wilderness setting, and increasing the likelihood of site damage from overuse, the activities will be restricted or eliminated.

Objective

To continue to provide the 1988 level of commercial outfitted use which is compatible with the Wilderness Act and public desires To modify by reducing or eliminating commercial use in specific areas where use levels begin to threaten the preservation of wilderness values. (Refer to Management Area 6 - Wilderness, and the Forest-wide standards/guidelines for Commercial Uses.)

Nonconforming Encroachments

Situation

Due to increased and easier access, new technologies in recreation, and some existing natural situations, incidents of unauthorized encroachments are increasing

Objective

Reduce the number of unauthorized encroachments.

Management Direction

Post the wilderness boundary within three years to clearly define the wilderness area.

Mt. Washington Wilderness Management Direction

Occupancy

Situation

There are no nonconforming facilities within the wilderness.

Recreation Capacity

Situation

Specific areas in the wilderness apparently are receiving use in excess of capacity as evidenced by:

1. Increasing resource damage such as soil compaction, trampling of vegetation, loss of ground cover, cutting of green vegetation, declining water quality, and snag removal. This is especially severe in ecologically slow recovery subalpine areas.

2 Opportunities for solitude, challenge, and primitive recreation are declining in specific areas.

3. Comparisons of visitor numbers with LAC standards reveal excessive numbers of

visitors during at least some portions of the season.

The current list (1989) of such areas follows Others may be added as monitoring data is evaluated.

Benson Lake
Tenas Lake
Hand Lake
Patjens Lakes
George Lake

Objective

Determine and manage standards of capacity of visitor use (PAOT) that preserve and restore the wilderness resource and opportunities for wilderness recreation

Management Direction

Continue to monitor use and begin initiating measures identified as being necessary and appropriate to meet objectives. Monitor existing user-built trails to determine if they should be obliterated or added to the system Continue active rehabilitation and revegetation of impacted areas.

Specific direction for each zone (Primitive Trailless, Primitive Trailed, Semi-Primitive, and Semi-Primitive/ Transition) are contained in the Wilderness Management Area Prescriptions, Chapter 4, of the Forest Plan.

Capacity for the Mt. Washington Wilderness (See Table A-4-3)

It is relatively common to use a specific number of recreation users (a recreation capacity) as a measure of the threshold of overuse or as a maximum level of tolerable use in wilderness. Such numbers, however, are only weakly linked to the condition of wilderness settings and to the maintenance of wilderness values Numbers are used here as a management aid. Monitoring to determine the relationship between use levels, LAC standards, and wilderness management objectives will be the primary tool for assessing maximum levels of recreation uses in specific areas and the free degree to which wilderness ecosystems are freely operating.

Estimated capacities shown in Table A-4-3 are maximum for various Wilderness Recreation Spectrum (WRS) Zones. The capacities are expressed in terms of People at One Time (PAOT). These numbers may be changed periodically through the LAC process described in the Wilderness Prescription Section of Chapter 4

Table A-4-3 Capacity Range for the Mt. Washington Wilderness

WRS Zones

	Pristine		Primitive		Semi-Primitive		Semi-Primitive Transition		Total	
Forest	Acres	PAOT	Acres	PAOT	Acres	PAOT	Acres	PAOT	Acres	PAOT
Deschutes	12,868	1-10	280	8-9	415	17-33	0	0	13,563	26-52
Willamette	36,992	27-28	2,560	76-79	1,514	92-94	0	0	40,996	195-201
TOTAL	49,860	28-38	2,840	84-88	1,929	109-127	0	0	54,559	221-253

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Transportation

Situation

Excessive numbers of visitors are being drawn into wilderness areas by trails being constructed and maintained to higher than necessary standards, and trails routed directly to attractive sites and areas.

Excessive maintenance widths in flat or dusty areas of some trails are causing trail systems to grow to excessive widths.

Objective

To maintain a trail system that provides diverse and challenging recreation opportunities with minimal maintenance and that is compatible with other wilderness management objectives.

Management Direction

Modify trail maintenance and construction standards in order to achieve Wilderness Resource Management Objectives Modified standards can address clearing widths, "step-over" logs, alignment, maximum grade, and bridge needs and drainage. Adopt standards applicable to setting objectives by zone (primitive and semi-primitive).

The Trails Implementation Schedules provided in the Appendix emphasizes correction of poor alignment and is designed to distribute use Maintenance and preservation of the inventoried recreation spectrum categories of various areas will be the objective used to decide trail locations and routing. Some trails to be included are Benson (from Benson Lake to Scott Mountain) - 3502 and Pacific Crest Trail - 2000.

Range

Situation

No commercial grazing takes place in the wilderness.

Objective

Maintain the wilderness free from commercial grazing.

Management Direction

Issue no commercial grazing permits.

Commercial Operations

Situation

Activities associated with the issuance of recreation (outfitter-guide) permits are minimal in the wilderness.

Objective

Prevent adverse effects on the wilderness setting and provide wilderness opportunities for solitude and low encounter levels that may not be available in the adjacent more heavily-used wilderness areas.

To continue to provide the 1988 level of commercial outfitted use which is compatible with the Wilderness Act and public desires. To modify by reducing or eliminating commercial use in specific areas where use levels begin to threaten the preservation of wilderness values. (Refer to Management Area 6 - Wilderness, and the Forest-wide standards/guidelines for Commercial Uses)

Nonconforming Encroachments

Situation

Due to increased and easier access new technologies in recreation, and some existing natural situations, incidents of unauthorized encroachments are increasing.

Objective

Reduce the number of unauthorized encroachments.

Management Direction

Post the wilderness boundary within three years to clearly define the wilderness area.

Diamond Peak Wilderness Management Direction

Occupancy

Situation

There are facilities within the wilderness which do not conform with the wilderness concept.

1. Cabin - 300 yards south of Diamond Rockpile Lake

2 Cabin - Approximately in SW 1/4, Sec. 23, T. 23 S., R. 5-1/2 E.

3. Snow Pillow Site - Soil Conservation Service

4. Cabin - Near Diamond View Lake

Objective

Remove existing improvements, structures, and facilities not essential to the protection of the wilderness resource and which are not significant cultural resources.

Management Direction

Conduct a cultural resource examination, and determine cultural eligibility for nomination to the National Register of Historic Places Eliminate or retain according to direction in overall standards/ guidelines for wilderness management areas.

Determine cultural status of other newly discovered structures or cabins and occupancies within one year of discovery. If they are found not to be eligible, eliminate within one year or retain according to direction in overall standards/ guidelines for Wilderness Management Areas.

No new cabins, structures, or occupancies will be permitted to be established. Work with the Soil Conservation Service on the relocation of their Snow Pillow Site outside wilderness.

Recreation Capacity

Situation

The only area that appears to be utilized over its capacity is Vivian Lake.

Objective

Determine and manage for a level of visitor use that will protect and preserve wilderness values and the wilderness recreation experience

Management Direction

Specific direction for each zone (Pristine, Primitive Trailed, Semi-Primitive, and Semi-Primitive/ Transition) is contained in the Wilderness Management Area Prescription, Chapter 4, of the Forest Plan

Capacity Range for the Diamond Peak Wilderness (See Table A-4-4)

It is relatively common to use a specific number of recreation users (a recreation capacity) as a measure of the threshold of overuse or as a maximum level of tolerable use in wilderness Such numbers, however, are only weakly linked to the condition of wilderness setting and to the maintenance of wilderness values. Numbers are used here as a management aid. Monitoring to determine the relationship between use levels, LAC standards, and wilderness management objectives will be the primary tool for assessing maximum levels of recreation uses in specific areas and the free degree to which wilderness ecosystems are freely operating

Capacities shown in Table A-4-4 are maximum for various Wilderness Recreation Spectrum (WRS) Zones The capacities are expressed in terms of People at One Time (PAOT). Monitoring programs will establish capacities for specific areas within the wilderness and these capacities will be based on the standards in Table A-4-4. These numbers may be adjusted through the

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LAC process described in the Wilderness Prescription section of Chapter 4

Table A-4-4 Capacity Range for the Diamond Peak Wilderness

WRS Zones

Forest	Pristine Acres	Pristine PAOT	Primitive Acres	Primitive PAOT	Semi-Primitive Acres	Semi-Primitive PAOT	Semi-Primitive Transition Acres	Semi-Primitive Transition PAOT	Total Acres	Total PAOT
Deschutes	29,002	15-20	1,199	23-37	2,376	80-133	387	21-66	32,964	139-256
Willamette	14,590	6-11	3,476	72-107	1,536	55-76	171	20-22	19,773	153-216
TOTAL	43,592	21-31	4,675	69-144	3,912	135-209	558	41-88	52,737	292-472

Trails

Situation

Opportunities exist to distribute and disperse visitor use by making adjustments to the existing trail system. Care will be taken to ensure a range of wilderness recreation opportunities are provided and that the degree of wilderness is not diminished.

Opportunities exist to improve trail location, ease trail maintenance, and eliminate duplication of trail routes.

Objective

Provide and maintain a trail system to a standard that will meet legal direction, management needs for protecting resources and distributing visitor use, eliminate duplication of routes, and minimize maintenance costs.

Management Direction

Establish a new junction of Crater Butte Trail No 44.1 with the Pacific Crest Trail in order to eliminate portions of this trail paralleling the Pacific Crest Trail.

The Pacific Crest Trail should be maintained to a Level 3 standard within the wilderness

Commercial Operations

Situation

There are no commercial operations in the Diamond Peak Wilderness.

Objective

Issue no outfitter-guide permits.

Mt. Thielsen Wilderness Management Plan

Background

On June 26, 1984, President Reagan signed the Oregon Wilderness Act. This Act created 849,300 acres of additional wilderness in Oregon. The Act also created the 157,000-acre Oregon Cascades Recreation Area (OCRA), within which lies the Mt. Thielsen Wilderness. The 55,100-acre Mt. Thielsen Wilderness is administratively divided between the Umpqua National Forest (22,700 acres), the Winema National Forest (26,000 acres), and the Deschutes National Forest (6,400 acres). The Act mandates that management direction for the Oregon Cascades Recreation Area be developed in either the Forest Land and Resource Management Plans developed for each Forest or in an integrated management plan that shall be prepared within three years from the date of enactment.

It is the decision of the Forests involved to develop direction for the Mt Thielsen Wilderness within an integrated wilderness plan The Umpqua is the lead Forest for planning purposes for the OCRA. Management direction for the non-wilderness portion of the recreation area will be developed within the individual Forest Land and Resource Management plans, but will be closely coordinated to ensure continuity of management across Forest boundaries

General

The Mt. Thielsen Wilderness is located along the crest of the Cascade Range in Douglas and Klamath Counties, Oregon The legal boundary is described in a document entitled, "The Exterior Boundary of Mount Thielsen Wilderness," dated May 1987. The description is part of this document and is available for review at the Umpqua National Forest Supervisor's Office. The area is characterized by flat to moderately steep rolling landforms along its periphery to very steep, sharply dissected landforms in the interior on the Cascade crest. Elevations range from 4,500 feet on the North Umpqua River near Tolo Creek to 9,182 feet on the summit of Mt Thielsen

The Mt. Thielsen Geologic Area was established on August 4, 1969, by the Regional Forester. This 2,567-acre tract includes most of the important geological aspects of the area such as volcanic plugs, bedding planes, glacial cirques, and aretes. The area was set aside to protect a spectacular example of a dissected volcano. About 1,400 acres is located on the Umpqua National Forest; the remaining 1,167 acres is on the Winema National Forest Mount Thielsen, the most prominent geologic feature, was formed as a result of 10 million years of active volcanism. At an estimated height of 10,000 feet, volcanic activity ceased before the onset of the Ice Age For 10,000 years glaciers gouged at its sides producing the unique features present today.

The area shelters three watersheds· The North Umpqua, Deschutes, and the Klamath rivers Maidu and Lucile are the only lakes within the area. Principle tree species include lodgepole pine, mountain hemlock, Shasta red fir, Pacific silver fir, ponderosa pine, western white pine, and whitebark pine.

Present Management Situation

The area was managed to preserve wilderness values prior to official designation. No activities which would have precluded consideration as wilderness were permitted. Management practices have been largely custodial. Trails are cleared of blowdown and tread maintained after the snow leaves. A few trips per year are made into the area to pick up litter and survey the general conditions. The Pacific Crest National Scenic Trail (PCNST), Howlock Mountain Trail, and the Maidu Lake portion of the North Umpqua Trail have been rerouted and some other trails have been reconstructed Construction was completed during the summer of 1983 on a new trail to replace the existing Mount Thielsen Trail. The old trail has been blocked at the trailhead but still receives some use. Trail bridge construction projects were completed on the North Umpqua and Maidu Lake Trails within and outside the wilderness.

The Umpqua National Forest employed a seasonal wilderness guard for the first time during the summer of 1985. This person's time has been divided between the three wildernesses on the Umpqua Work included litter cleanup, light trail maintenance, installation of trailhead information boards and visitor contact. Directional signing, 52 miles of maintained trails, three Wallowa toilets, and two trail shelters are the only indications the user has of the administration of the area.

A variety of recreational opportunities are available including hiking, camping, fishing, Nordic skiing, horseback riding, and nature observation. Snowmobiling and motorized vehicles have been allowed in certain areas in the past. These activities are augmented by the well-maintained trail system, which includes 26 miles of the Pacific Crest National Scenic Trail which traverses the full length of the area in a north-south direction.

The area is surprisingly free of major problems. Minor problems exist with litter, vandalism, motor vehicle use, soil compaction, devegetation, and very localized overuse. These problems are

confined in location and are not a serious impact on the resources of the area overall, due in part to the relatively minor use the area receives.

The area is untrammeled by humans and has retained its primeval character and integrity; the apparent naturalness to the user is also high. Outstanding opportunities for solitude are available here because the wilderness is adjacent to the remainder of the OCRA, is large, and the environment provides topographic as well as vegetative screening, and is only a moderate distance from the OCRA perimeter. These factors, along with limited recreational developments, moderate diversity of recreational opportunities and some opportunities for challenge, offer the user a high-quality primitive recreation experience.

Management Objectives

1. Preserve and restore the integrity of the wilderness resource.
2. Provide consistent administration by all Forests and Districts involved.
3. Maintain and enhance the wilderness resource by managing wilderness under a non-degradation and enhancement policy. FSM 2322 R-6 SUPP 81.
4. Provide a complementary variety of social and managerial settings per FSM 2322, R-6 SUPP 81, using the Wilderness Resource Spectrum (WRS).

Management Units

The WRS concept provides a framework by which the wilderness can be divided into management classes. FSM 2322, R-6 SUPP 81 displays the characteristics and management objectives for the different WRS classes. Using those criteria, the following is an inventory of the present situation:

Table A-4-5 Mt. Thielsen Wilderness Resource Spectrum Inventory

	WRS Class	Acres
Winema	Pristine	22,920
	Primitive	2,960
	Semi-Primitive	120
		26,000
Deschutes	Primitive	6,400
Umpqua	Primitive	22,200
	Semi-Primitive	500
		22,700
	Totals By WRS	
	Pristine	22,920
	Primitive	31,560
	Semi-Primitive	620
	Total Acres	**55,100**

The 620 semi-primitive acres are an aggregate of three localized areas which receive a disproportionate share of the recreation use. The areas are the Mt. Thielsen Trail, the Maidu/Lucile Lakes basin and the Maidu Lake Trail on the Winema NF. This use results in an inability of these areas

to meet the more stringent physical, biological and social settings desired in primitive and pristine WRS.

All of the area judged to meet the pristine designation, as specified in FSM 2322, SUPP 81, is on the Winema National Forest and receives very little use There are 2.5 miles of abandoned trail (Howlock Trail) in the pristine area. Erosion is evident on this abandoned trail, which will be permanently closed. Erosion control measures will be accomplished

The remainder of the wilderness is well trailed and meets the criterion for the Primitive WRS Class. Details of the conditions present which lead to the above classification will be given by individual resource in the sections to follow

Resource Situation, Assumptions, and Management Direction

Recreation

The area is managed to provide a wide range of primitive recreational experiences which include, but are not limited to day hiking, backpacking, camping, hunting, horseback riding, Nordic skiing, and fishing.

Assumption

The area receives approximately 6,800 recreation visitor days per year (see Glossary). A preliminary estimate of carrying capacity by WRS is indicated below. Carrying capacity estimates will be modified to reflect information gained from monitoring limits of acceptable change (LAC). The LAC system is a framework for establishing acceptable and appropriate resource and social conditions in response to the need of managers for a means of coping with increasing demands on recreation areas in a visible logical fashion. The LAC also represents a reformation of the recreation carrying capacity concept, with the primary emphasis now on the conditions desired in the area rather than on how much use an area can tolerate

Table A-4-6 Mt. Thielsen Wilderness Carrying Capacity

Inventoried	Acres	Capacity RVD/Ac/Yr [1]	Capacity RVD/Yr
WRS Class			
Pristine	22,920	0.5	11,460
Primitive	31,560	0 6	18,936
Semi-Primitive	620	0.75	465
Totals	**55,100**		**30,861**

[1] Umpqua National Forest ROS Carrying Capacity Coefficients - Erl Swanson, 11/12/82, 120-day use season assumed.

Demand for primitive recreation experience in National Forests has increased faster in the last 30 years than all other recreation uses (Resource Planning Act Assessment, 1980).

As indicated in Tables A-4-7 and A-4-8, the overall demand for the area by the year 2030 will only be about half of the theoretical capacity. However, use is not evenly distributed, as the more popular areas previously listed may already be used above theoretical capacity. Monitoring using

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LAC and the criteria listed in FSM 2322, R-6 SUPP 81 will help determine if the desirable conditions for a given area are being maintained.

Use is concentrated in July, August, and September on the Umpqua portion with winter use low. On the Deschutes and Winema portions, recreation use is highest from mid-August through deer and elk season in November, with winter use low. Recent improvements in winter recreational clothing and equipment, as well as the increasing popularity of Nordic skiing and ski mountaineering, has resulted in increased winter use; this trend will likely continue.

Table A-4-7 Mt. Thielsen Wilderness Recreation Use and Projected Demand

1984 Use (RVD)	Multiplier [1]	2030 Projected Use (RVD)
6,800	2.27	15,436

[1] Growth rate 1.8 percent per annum compounded for 46 years (1984-2030) = 2.27

Management Direction

1. Monitor use throughout the area Pay particular attention to areas already heavily used. Use FSM 2322, R-6 SUPP 81 to provide a list of indicators to monitor

2. Manage within the existing WRS inventoried using the criteria in FSM 2322, R-6 SUPP 81. Utilize the Limits of Acceptable Change (LAC) system for establishing acceptable and appropriate resource, social and managerial conditions. The LAC System represents a reformulation of the recreational carrying capacity concept, with the primary emphasis on the conditions desired in the area rather than on how much use an area can tolerate.

   If LAC System analysis of the area indicates that unacceptable impacts on the wilderness resources are occurring, the following options should be executed in the order listed:

   a. Disseminate information through information center, visitor contacts, and the media if necessary, to describe the overuse situation and discourage and redirect use. This may involve advertisement of little used areas or areas outside the wilderness.

   b. Manipulation of access roads, trails, and trailheads to alter use patterns.

   c. Manipulate attractions to alter use patterns. Example: If good fishing attracts a level of use at a lake which results in unacceptable resource impacts, consider stocking fish less often or curtail stocking altogether.

   d. Apply regulatory controls (i.e., further limit party size, require permits and limit number issued for a particular area, limit outfitter guide use, etc.).

3. Limit party size by WRS class per FSM 2322, R-6 SUPP 81.

   Pristine - Maximum party size is six people. Livestock limits should be based on vegetation and soil impacts, and in all cases will not exceed nine head total. Larger party sizes can be granted by written permission from the District Ranger.

   Primitive - Maximum party size is 12 people. Livestock limits are based not only on vegetation and soil impacts but also on expected encounters with other parties. Because of the likelihood of encountering more than four other parties per day, the maximum party size with livestock is 20. A maximum of 12 livestock are permitted per party. This party size limit is designed to

allow two families or groups of four people each to travel on horseback with four pack stock. Party size limits of up to 12 persons and 18 livestock can be granted by written permission from the District Ranger.

Semi-Primitive - Same as Primitive

Vegetation and Threatened or Endangered Plants

Vegetation occurs in three zones characterized as alpine, sub-alpine, and coniferous forest. Most of the area exists in a natural condition. Some alterations have occurred at heavy use areas such as Maidu and Lucile Lakes and along the trail system. In a few areas, non-native vegetation has been introduced as a result of sheep grazing many years ago. The Cascade daisy (*Erigeron cascadensis*) and Suksdorf's campion (*Silene suksdorfii*) sensitive plants are believed to occur in the area No other sensitive, rare, endangered, or threatened plants have been located. Surveys designed specifically to locate threatened or endangered plants have not been performed A low priority has been placed on performing such surveys because ground disturbing projects are not occurring.

No commercial timber harvest has occurred Trees have been cut only to build shelters, trail bridges, and helispots. Mountain pine beetle is attacking some lodgepole pine stands resulting in tree mortality.

Assumptions

Increased use may result in increased damage to vegetation. Mountain pine beetle will continue to be active in the area.

Management Direction

1. Protect sensitive plant species

2. Using native species, rehabilitate areas of vegetation excessively damaged as a result of human use.

3. All projects where vegetation may be affected will be surveyed for sensitive plants prior to implementation. Routine surveys for inventory purposes will normally have a low priority.

4. Encourage the use of processed weed-free livestock feeds.

5. Outfitter-guide permits which use livestock must provide pelleted feed for the animals.

Range

That portion of the wilderness on the Deschutes National Forest is within the Little Deschutes Grazing Allotment. Cattle are grazed from early July to early October, with the majority of the use occurring within the riparian types and meadows along the Little Deschutes River and Clover Creek Most use occurs outside the wilderness. Range improvements within the wilderness are limited to three cattle bridges. A road along the Little Deschutes River to Burn Creek has been used for delivering salt and bridge materials. This road has been closed outside the wilderness boundary If the bridges need repair or replacement native materials on or near the site will be used. The Forest Service and the permittee have agreed that motorized vehicles and equipment will not be used inside the wilderness.

Assumption

The allotment will continue to be used. Cattle use will be evident along the Little Deschutes

Management Direction

1. Range facilities will not be constructed within the wilderness unless absolutely necessary for resource protection.

2 There shall be no curtailments of grazing in wildernesses simply because an area is, or has been, designated as wilderness, nor should wilderness designation be used as an excuse to slowly phase out grazing.

3 Use of motorized equipment for range management purposes will normally not be permitted unless established prior to wilder-

ness designation The Regional Forester may approve the use of motorized vehicles on a case-by-case basis

4. The existing allotment plan will be reviewed in context with the guidelines in FSM 2323.2.

Wildlife and Threatened or Endangered Animals

The area is identified as big game summer range. Species present include Roosevelt elk, blacktail deer and mule deer, black bear, mountain lions, and coyotes. Hunting is allowed in accordance with State regulations, and a moderate amount of big game hunting occurs in the early fall. Furbearer trapping is light, with marten being the main target species. A variety of smaller animals including pine marten, fisher, red fox, and badger are also present. The badger is normally considered an eastside Cascades resident but also is found on the west side of the Cascades in this area A black color phase of the red fox is common in the area. There have also been reported sightings of wolverine near the area. The wolverine is currently listed as threatened by the State of Oregon and is considered to be indicative of an environment where natural processes are relatively unaffected by human activities.

A variety of birds are also present. The most commonly sighted species include Clark's nutcracker, Oregon junco, common raven, gray jay, and redtailed hawk. Ruffed and blue grouse are the only game bird inhabitants although migratory waterfowl may be seen occasionally. The peregrine falcon, which is on the endangered species list, has been sighted from the top of Mt. Thielsen. The bird is known to nest in Crater Lake National Park A bald eagle has been sighted at Maidu Lake, but the location of its nest site is unknown. No nest sites are known within the wilderness. A goshawk nest is located near the Little Deschutes River about a mile upstream from the wilderness boundary. Surveys designed specifically to locate threatened or endangered animals have not been performed A low priority has been placed on performing such surveys because ground disturbing projects are not occurring.

Assumption

Human influences affect the distribution and abundance of wildlife populations. The general suppression of fire is reducing the variety of habitat available for grazing and browsing animals as well as for other wildlife species. Hunting in the area will increase as overall use increases. As overall use increases wildlife populations will be affected. Activities outside the area may greatly affect populations within, a situation which is particularly true for species migrating into and out of the area seasonally. Predacious animals and birds are an important part of natural life systems.

Management Direction

1. Native animal species will be maintained. Threatened or endangered species will receive special emphasis. No non-native species will be introduced.

2. State laws pertaining to hunting and trapping will be applicable unless they are in conflict with other regulations designed to protect the wilderness resource.

3. If predator control is necessary to protect threatened or endangered species or prevent special and serious losses of domestic livestock, the Regional Forester may approve programs on a case-by-case basis to ensure minimum disturbance to the wilderness resource and visitors

Fisheries

The North Umpqua River, Evening Creek, Little Deschutes River, Maidu, and Lucile Lakes support the only fisheries in the area. The rivers and creek receive almost no fishing due to low populations and the small size of the fish. The lakes are usually stocked every two years by air by the Oregon Department of Fish and Wildlife. Before stocking the lakes did not have fish. Introduced populations of eastern brook trout (native east of the Mississippi River) are present in both lakes. Rainbow, brown, and brook trout are present in the other waters.

Assumption

Oregon Department of Fish and Wildlife will continue to stock Maidu and Lucile Lakes by air. Fishing pressure will be greater with increasing use of the area. At some point present stocking levels may contribute to overuse and unacceptable physical and social resource impacts Although brook trout are exotic to the area, they represent a species most suitable to these previously barren lakes (FSM 2323 34)

Management Direction

1. Stocking of individual waters will be limited to those methods used historically This includes the use of aircraft, per direction in FSM 2323.34b.

2 Numbers and frequency of fish stocking will be considered as a useful tool for controlling use in the Maidu and Lucille Lake areas if LAC System monitoring indicates unacceptable resource impacts.

Water

Much of the area is identified as an aquifer recharge area in the Umpqua's 1978 Land Management Plan The principal bodies of water were listed in the previous section No power withdrawals or proposed impoundments exist. Waters leaving the area are used for municipal water sources, hydroelectric power, irrigation, livestock, wildlife, and recreation No pollution problems have been observed. The Environmental Protection Agency, which conducted an acid rain study in Cascade Range wildernesses in the fall of 1985, may provide information important to this area.

Assumptions

Water yields from the area will remain essentially the same over the long term. Present uses of the water will continue. Waters may become more polluted due to rainborne pollutants or direct human use

Management Direction

1. Except as provided in Section 4(d)4 of the Wilderness Act, watersheds will not be altered or managed to provide increased water quantity, quality, or timing of discharge.

2. Water quality monitoring to gather baseline data for determining effects by humans will be used where human use is concentrated.

Minerals

The area has a low mineral potential, as reported by John Benham's "Mineral Resources of the Windigo-Thielsen RARE II Area," USDI Bureau of Mines, 1981. The U S. Geological Survey has classified the area as prospectively valuable for geothermal resources. No geothermal, gas, oil, or mineral leases or permits exist in the area, nor any mining claims.

An abandoned mine has been reported about 1 5 miles southeast of Mule Peak; this mine has not been active for many years and its exact location and condition are unknown Bureau of Land Management records do not show this claim as active.

Assumption

The area will remain closed to mining, but is open for mineral exploration in accordance with Section 4(d)(2) of the Wilderness Act of 1964.

Management Direction

1 Locate and examine the existing mine. Rehabilitate the area if necessary unless the area is of cultural-historical value If so, follow the guidelines in Section 106 of the National Historic Preservation Act and 36 CFR 800.

2 Special-use permits will be issued to authorize gathering of information on mineral resources Permits will allow only minor surface disturbance and limited subsurface investigation Only hand tools and some hand portable mechanical equipment will

be authorized. (NOTE: Use of hand portable mechanical equipment requires Regional Forester approval.)

Soils

Soils are derived from volcanic ejecta, lava flows, and glacial action Some soil compaction is taking place as a result of sustained use near Maidu and Lucile Lake Shelters; the impacts should be quantified and their relationship to LAC determined. Some erosion is taking place on all trails. Horse use on the Howlock Mountain and Old Thielsen Creek Trails has caused some gullying and erosion The old Mt. Thielsen Trail was improperly located with excessive grades and poor location that made the trail difficult to maintain without erosion problems, a new trail was constructed in 1983. The old trail was closed at that time, but not blocked or rehabilitated.

Assumption

The problems mentioned above will increase with increased use, but could be mitigated with better dispersion of users and with user education.

Management Direction

1. Any new trail locations will avoid areas of high erosion potential

2. Camp locations will be located, relocated, or closed if necessary to prevent excessive soil erosion and compaction if necessary

3. Provide offsite, user education designed to make users aware of "light on the land" camping practices.

4. Close, block, and rehabilitate the old Mt. Thielsen Trail.

5. Rehabilitate gullying on the Howlock and Thielsen Creek Trails. Employ methods to prevent future problems.

Special Uses

A few special-use permits have been issued over the years. These permits have all been short duration outfitter-guide permits, which authorized outfitters to take small parties on horseback into the wilderness for a fee.

Assumption

Requests for special-use permits for activities inside the wilderness will likely continue at the present level or slightly higher.

Management Direction

1. Applications for special-use and outfitter-guide permits which occur inside the wilderness will be dealt with on a case-by-case basis. Only permits for activities which are consistent with the protection of the wilderness resource will be issued. In general, the Deschutes and Umpqua National Forests do not anticipate issuing any new outfitter-guide permits for their portions of the wilderness.

2. Outfitter guides using livestock will be required to provide pelletized feed to reduce the impacts on native plants and limit the chance of introducing non-native plant species.

Visual Quality

The visual quality within the area has been little altered from its natural state. The majority of alterations are a result of the trail system and camping. These impacts include trail tread, soil compaction, clearing and vegetation damage associated with repeated use of an area for camping. Structures which affect visual quality are limited to signs, two trail shelters, three pit toilets, and some concrete blocks from the defunct Tenas Peak Lookout. The area is only about 7.5 miles wide at its widest point and much of the area is higher than the surrounding general forest. Views of areas as far away as 200 miles are possible. The viewer is able to see a vast area of middleground where human activities are apparent, the most striking of which are timber harvest units and roads.

Assumption

To a degree, trails, signs and evidence of camping are necessary and acceptable visual impacts. Under certain circumstances where special problems exist with human waste (e g. shallow soils, potential for water pollution) pit toilets may also be acceptable. Visual intrusions from outside the wilderness will continue. Land management activities on surrounding Federal land will be continued, per Forest-wide standards/guidelines and will not necessarily provide natural-appearing landscapes when viewed from vantage points within the wilderness.

Management Direction

1. Campsites, trailheads, and trails should avoid low visual absorption capability (VAC) areas where possible. (Visual absorption capability is the relative ability of land to be impacted by human activities without being adversely affected visually)

2. Topographic and vegetative screening should be used as a criterion in the location of trails and camps

3. Remove all unnecessary human-made visual impacts (i.e., Tenas Peak Lookout foundation, improvised camp structures) Note· One properly located and constructed fire ring may be left per camp

4. The visual quality objective for the area is preservation

Air Quality

All wildernesses created by the 1984 Act are automatically designated as Class II for air quality as defined by the Clean Air Act of 1977 They will be reviewed by the State for designation to Class I Class I designation does not allow human-caused activities outside the wilderness to adversely affect air quality within the wilderness. No surveys to determine air quality in the area have been performed.

Assumption

Air quality within the wilderness will primarily be affected by activities occurring outside the wilderness. Prescribed fire to dispose of fuels from timber sale projects outside the wilderness will occasionally affect air quality within the wilderness. Designation of the wilderness as Class I could affect prescribed burning outside the wilderness. Effects from natural fire occurring within the area are not considered when meeting provisions of the Clean Air Act. Only human-caused impacts are of consequence.

Management Direction

1. Identify the air quality related values (AQRV) and their effects on the natural environment. Recommend designation of the area to Class I if needed to protect the area from degradation of AQRV.

2. Establish baseline air quality data.

Fire

Fire occurrence in the area is low with most fires being lightning-caused and under one acre in size During fire season, lookouts on Cinnamon Butte (Umpqua), Odell Butte (Deschutes), and Sugar Pine Mountain (Winema), as well as aerial patrols, provide protection for the area. Forest Supervisor approval is needed to use mechanized equipment such as chainsaws, aircraft or water pumps Regional Forester approval is needed to use heavy equipment such as tractors. In some areas, particularly in the lodgepole pine type, fuel loading is quite heavy.

Assumption

Lightning-caused fire is an integral part of a dynamic natural community.

Management Direction

1. Permit lightning-caused fires to play, as nearly as possible, their natural ecological role within wilderness.

2. Reduce to an acceptable level the risks and consequences of wildfire within wilderness or escaping from wilderness.

3. Manage all wildfires within wilderness in accordance with the direction in FSM 5130 (FSM 2324.2). This will be accomplished using the appropriate suppression response. Direction for use of the appropriate response strategies is contained in the Umpqua NF Wildfire Suppression Response Implementation Plan.

4. A detailed fire management plan will be prepared which will discuss when, where, how or whether prescribed fire will be used The plan will also detail how fires will be suppressed, what techniques and equipment will be used, and what steps, if any, will be taken to rehabilitate the area afterward.

5. Use of prescribed fire in wilderness will not be based on benefits to wildlife, maintenance of vegetative types, improvement in forage production, or enhancement of other resource values.

Scientific Values

The area offers opportunities for scientific study in an environment relatively unaltered by humans. Two reports involved study within the wilderness before its designation: "The Geologic History of the Diamond Lake Area," by William B Purdom and "Mt. Thielsen, a Dissected Cascade Volcano," by Howel Williams.

Assumption

A wide variety of topics for scientific study exists Possible subjects include geology, acid rain and its possible effects on high elevation lakes, study of various plants and animals in a natural environment, and study of wilderness recreationists, to name a few

Management Direction

1. Research projects require Forest Supervisor approval (FSM 2324 04c). Only those applications for research that are wilderness-dependent and compatible with goals and objectives of this plan will be approved.

2 Research that will help solve wilderness management problems will be given highest priority, encouragement, and cooperation, as administrative time and funding permit.

3. All research projects which require public contact, specimen collecting or ground-reference marking, or which require exemption from any regulations, will be conducted under special-use permits.

Cultural and Historic Resources

One archaeological site and no historic sites have been located. The archaeological site is a group of rock cairns located on the western slope of Mount Thielsen. Age and significance of this site have not been established.

Intensive surveys designed to locate cultural resources have not been done. Future cultural resource inventory work will be conducted based on an inventory strategy approved by the State Historic Preservation Officer. The strategy is designed to provide an inventory of the obvious sites that will likely be found in the wilderness. Inventory priorities will be focused on finding and recording those sites threatened by loss or serious deterioration during the next decade.

Assumption

Both historical and archaeological sites occur in the immediate surrounding lands outside the wilderness. It is reasonable to assume that similar sites exist unlocated within the area. As a general rule, standing cabins, shelters, or other structures approaching 50 years of age should be considered eligible for the National Register of Historic Places until such time that they can be evaluated

Management Direction

1. Cultural resource sites will be protected until evaluated. All buildings and structures shall be inventoried and evaluated for their historical significance. After evaluation, any

decision to abandon or remove structures which meet the criteria for the National Register of Historic Places shall be preceded by the process outlined in 36 CFR 800 for comment by the Advisory Council on Historic Preservation Abandoned structures shall be allowed to deteriorate naturally after following procedures outlined in 36 CFR 800, including recordation to Historic American Building Survey or Historic American Engineering Record standards and other suitable mitigation measures. Any maintained structures shall be managed to have minimum impact on the wilderness resource.

2. Sites which are judged to qualify for the National Register of Historic Places are to be nominated

3. Management direction for cultural resources eligible for nomination is subject to compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800.

4. Sites or structures that do not qualify for the register should be removed or allowed to deteriorate naturally unless they are.

   a. Deemed necessary to support the values set forth in Section 4(b) of the Wilderness Act; or,

   b. Serve administrative purposes as necessary for protection of wilderness resources (Section 4[c]); or,

   c. Are essential to cultural resource management. The Regional Forester may approve stabilization or restoration and subsequent maintenance

5. On-site interpretation of sites will not be done. Interpretation may be done off-site through brochures and audio-visual programs.

6. Survey all lands within the area to locate all locatable cultural resources

Insects and Diseases

Aerial surveys have been conducted to determine the presence of harmful insects and diseases. Mountain pine beetle outbreaks were identified on the slopes of Mt. Thielsen, in the Maidu and Lucile Lakes area, and at other locations. *Phellinus weirii* (yellow laminated rot) is affecting mountain hemlock stands in the Maidu and Lucile Lakes area.

Assumption

Insects and plant diseases associated with wildlands are a natural part of the wilderness environment The mountain pine beetle will continue to spread throughout susceptible stands of lodgepole pine. This may result in large areas of this timber type dying.

Management Direction

1 Allow indigenous insect and plant diseases to play, as nearly as possible, their natural ecological role within wilderness.

2 Insect or disease outbreaks will not be artificially controlled unless necessary to protect timber or other valuable vegetation outside the wilderness or to reduce unnatural losses to the wilderness resource due to exotic pests.(FSM 2324 12).

3. If control measures are necessary, they shall be carried out by measures which have the least adverse impacts on the wilderness resource.

4. Insect or disease suppression projects in National Forest wilderness shall be based on the factors set forth in FSM 5234 and be approved by the Chief or the Regional Forester as outlined in FSM 2324.04 a & b.

5. Surveys to monitor insects or disease will be conducted in the same manner as prescribed for unclassified Forest lands.

APPENDIX 4
WILDERNESS AND CASCADE RECREATION AREA PLANS

Administrative Activities and Facilities

Administration

Assumption

When a land allocation such as wilderness lies within several National Forests, it is desirable that all Forests establish consistent management goals, objectives, and standards. The Umpqua National Forest is designated the lead Forest for land management planning involving the wilderness. Each Forest maintains responsibility for on-the-ground management of their portion of the wilderness.

Management Direction

1. All Forests will review and approve the Mt. Thielsen Wilderness Management Plan.

2. Wilderness management personnel from the three Forests shall meet to discuss management of the area, at least annually.

3. An implementation schedule which presents methods, general timeframes, and responsible parties for achieving goals and implementing direction is included as part of this document.

4. The implementation schedule will be annually revised jointly by all Forests involved.

5. Issuance of special-use permits, outfitter-guide permits, and other authorizations for use of the wilderness will be coordinated with all Forests Actual issue of the authorization is the responsibility of the Forest on which the activity will occur. If the permit is on more than one Forest, the first Forest contacted will issue the permit after consulting with the other Forests.

Communication and Education

Printed information about the physical and biological characteristics of the area is limited. However, several publications do exist which contain information about the geology of the area. Pamphlets explaining the Forest Service philosophy of wilderness and recommended visitor behavior and use ethics are available. A Forest Service map of the wilderness is available for sale, and each Forest sells recreation maps *with their portion of the wilderness displayed* and the boundary delineated.

Assumption

Interest by the public will increase. Effective and timely information dissemination and education will be a key tool in gaining public support for management objectives.

Management Direction

1. Studies of the physical and biological characteristics for the area will be encouraged. Information obtained shall be made available to the public.

2. Public involvement programs will be used in solving management problems.

3. Informational and educational materials regarding wilderness regulations and use ethics shall be available at all Forest Service offices.

Transportation System

Access Roads

The area is primarily accessed from the west by Highway 138 and from the east via Highway 97. *Road 4793 goes to within a half mile of the* boundary. On the south boundary, Highway 138 is within a half mile. At Miller Lake on the Winema National Forest, the dirt road which accesses Digit Point Campground comes within a quarter mile. On the Deschutes National Forest one primitive road enters the wilderness. Several other primitive roads come within a quarter mile of the boundary on the Winema near the southeastern portion of the area.

Assumption

Location and standard of access roads, trails to wilderness boundaries, trailheads, and density of trails in the interior exert a strong influence

over the amount and distribution of wilderness use by the public and are prime management tools in administering use to levels compatible with the wilderness resource.

Management Direction

1. Effectively block all roads which enter the wilderness

2. Where economically and physically possible, rehabilitate the roadbed on the Deschutes National Forest to as near a natural state as possible.

3. Where it is desirable, use portions of the old roadbed as nonmotorized access.

Trails

There are approximately 52 miles of maintained trails within the area, about 26 miles of which are the Pacific Crest National Scenic Trail (PCNST). Another seven miles are the Maidu Lake portion of the North Umpqua Trail, a National Recreation Trail. Most of this mileage is on the Umpqua NF with no maintained trails on the Deschutes portion and only 2.5 miles on the Winema NF. Most trails have received Level II maintenance in the past. Maidu Lake Trail 3725-A on the Winema is a National Recreation Trail and has received level III maintenance. (See R-6 Standard Levels of Trail Maintenance in the Glossary.)

At present there is no recognized administrative need to construct additional trails. Any future construction will be designed to meet a specific wilderness objective. Construction and maintenance will produce trails which, as near as possible, appear to be part of the country, rather than an intrusion upon it. An Environmental Assessment will be prepared to document the planning process and rationale for trail construction.

Assumption

Trails are acceptable improvements in wilderness (FSM 2323.13f). Management guidelines for wilderness trails supersede those established for the PCNST. Trails will have sufficient quality to adequately serve, without damage, the mode and volume of traffic for which they are intended. (FSM 2323 11c R6 SUPP 88).

Management Direction

1. Trails will be maintained with a maximum tread width of 24 inches.

2 Trails will be constructed and maintained to a more-difficult to most-difficult standard (FSM 2309 18 Trails Management Handbook).

3 Providing ease of access will not be the primary consideration. Protection of the wilderness resource and meeting the objective of providing a complementary variety of social and managerial settings as well as challenge will be of greater importance. However, the wildest areas of a wilderness must not be changed to a lesser standard of naturalness in order to disperse and accommodate more use (see 36 CFR 293 2).

Table A-4-8 Mt. Thielsen Wilderness Trails [1]

Trail Name and No.	Total Length/Miles	Miles In Wilderness
Six Horse 1411	0.3	0 3
North Umpqua 1414 [2] (Maidu Lake Section)	10.1	7.4

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Trail Name and No.	Total Length/Miles	Miles In Wilderness
Tenas Peak 1445	0 5	0.5
Howlock Mtn 1448	7.0	4.2
Thielsen Creek 1449	2 2	2.2
Mt. Thielsen 1456	3.9	2.0
Lucile Lake 1459	1.2	1.2
Tolo Creek 1466	5.4	3.0
Tipsoo Peak 1472	3 1	2.1
Homer Springs 1473	0.5	0.5
Pacific Crest NST [3] No. 2000	30 0	26 0
Maidu Lake 3725A* (Winema NF)	2.75	2 5
Total Trail Miles	**67.0**	**52.0**

[1] At this time, the Deschutes NF has no maintained trails within the wilderness; the Winema NF has the one listed above.

[2] National Recreation Trail.

[3] National Scenic Trail

Trailheads

Seven designated trailheads access the Mt. Thielsen Wilderness. The Howlock Mountain, North Crater, Miller Lake, Windigo Pass, and Kelsay Valley trailheads are developed. The Mt Thielsen and Tipsoo Peak trailheads are roadside pull-offs with only bulletin boards. The Miller Lake trailhead is located at Digit Point Campground, a 64-unit fee site with piped water, trailer dump station, boat ramp, and various other facilities At the Kelsay Valley Trailhead is a non-fee camp designed to accommodate equestrian use. The Mt. Thielsen Trailhead is the most heavily used and has parking along the shoulder of Highway 138, with much of the use by day hikers climbing Mt Thielsen

Construction of a small paved pullout able to accommodate 10 to 12 vehicles at the Mt Thielsen Trailhead would concentrate the parking, which is now strung out along the highway shoulder. The only improvements at the site would be a bulletin board and a unisex vault toilet. Signs located a quarter mile away in both directions would warn motorists they are approaching a place where vehicles may be entering or leaving the highway. The parking area would also provide a safer location removed from the highway shoulder This trailhead would be about two miles from the wilderness boundary It is believed that this limited development will not result in a significant increase in use. The toilet will be so placed as to not attract use off of the highway.

Assumption

Increased use of the area will result in increased use of all trailheads Specialized trailheads with a variety of facilities such as Kelsay Valley and Miller Lake may receive even greater use increases The Mt Thielsen Trailhead will not be able to accommodate increased use safely due to the lack of space and its proximity to the highway.

Management Direction

1. If overuse causes environmental degradation at any trailhead, or within the wilderness, it may be closed, relocated, site hardened, or use rerouted through user education to other sites.
2. Construct a new trailhead at the Mt Thielsen Trail
3. Maintain bulletin boards with wilderness regulations and other information pertinent to wilderness at all trailheads.

Signing

A few of the signs within the wilderness are smooth cut, white oak, routed signs. They have destination mileages and often more than two lines per sign. A few plastic and metal PCNST signs and blazers also are present. This level of signing was installed to provide a high degree of visitor orientation. The majority of the signs in the wilderness are rough sawn, white oak and in conformance with wilderness standards The majority of all signs are in good condition.

Standard white oak, wilderness entry signs are posted on all trails where they enter wilderness.

Assumptions

Most signs present conform to established wilderness standards The few that do not are not appropriate in a wilderness setting.

Management Direction

1 All signing will conform to Region Six standards (FSH 7109 11, Sign Handbook and FSH 2309 18, Trails Management Handbook). Metal and plastic blazers will be removed.
2. The sign plan for the area should be reviewed and updated to conform with wilderness standards. After review, any signs deemed unnecessary will be removed
3. Administrative or regulatory signing will be used only when absolutely necessary and will be of the minimum size feasible and whenever possible positively worded (i.e.,"Sensitive Area Please Camp Elsewhere" rather than "No Camping").
4. Nordic trail routes will not be marked with the common blue plastic diamonds within the wilderness. Trail clearing limits are

generally wide enough to make the trail followable without plastic blazers.

Other Facilities

A three-sided log trail shelter and two Wallowa-type pit toilets are located at Maidu Lake. A similar shelter and one toilet are at Lucile Lake Thielsen Creek Camp, a dispersed campsite, has one Wallowa toilet Some improved camp structures occur occasionally (i.e. tables, tent frames, seats, lean-tos, fire rings)

The trail shelters at Maidu and Lucile Lakes were constructed by Boy Scouts during the summers of 1961 and 1962 and therefore have no historic significance. The main beam in the front of the Maidu shelter was broken by a heavy snow load in the winter of 1983-84 and the roof collapsed partially, the second time this has happened. The shelter was repaired by unknown parties again in 1987.

The shelters at Maidu and Lucile Lakes are within 50 feet of the water. Concentrated activity around the shelters is causing soil compaction and unacceptable damage to vegetation. At Maidu Lake about a quarter acre is affected, roots are exposed, there is no ground vegetation and tree boles are damaged. At Lucile Lake an area about half the size is affected similarly.

This degree of impact, along with the location of the camp within 200 feet of a lake, is contrary to direction in FSM 2322, SUPP 81. An examination of the toilet at Maidu Lake indicated it was being used more for a trash pit than a latrine.

Assumption

Trail shelters are causing a concentration of use resulting in unacceptable damage to the wilderness resource Toilets may only remain where absolutely necessary for protection of the wilderness resource.

Management Direction

1. Remove the shelters at Maidu and Lucile Lakes.

2. The toilets at Lucile and Maidu Lakes should be removed after the shelters are removed.

3. The toilet at Thielsen Creek Camp should be examined. If it is being used primarily as a trash pit, it should be removed. Thielsen Creek Camp is a fairly heavily-used area. Thielsen Creek flows through a meadow with an excellent view of Mt. Thielsen. To avoid human waste contamination of this stream it may be desirable to maintain the toilet if it is being used as such.

4 Improvised camp structures should be removed as they are found. Some small properly-located rock fire rings may be left, to avoid a preponderance of fire scars in the same area.

Military Overflights and Ground Training Exercises

There are currently no established military overflight routes over the wilderness and there have been no ground training exercises in the area in the past.

Management Direction

1. Low-level military air routes are inconsistent with the maintenance of wilderness solitude and will not be permitted over the area.

2. Ground training exercises are inconsistent with maintenance of solitude and other wilderness attributes and will not be permitted.

Monitoring Plan

Below is a basic monitoring plan designed to assess human-caused impacts on the wilderness resource. The indicators are related to criteria in FSM 2322, R-6 SUPP 81.

Table A-4-9 Mt. Thielsen Wilderness Monitoring Plan

Indicator	Standard	Inventory Method	Sampling Procedure	Frequency
Party Size Maximum	Pristine 6 people Primitive 12 people Semi-primitive 12 people	Visual count	Count and record on patrols	Each patrol
Encounters	Pristine 1 group Primitive >7 groups Semi-primitive >10 groups	Visual count	Count and record on patrols	Each patrol
Campsite Density	Pristine 0 visible Primitive visible Semi-primitive 2 visible	Visual count	Count and record on patrols	Each patrol
Campsite Location	200 feet from lakes, trails	Visual observation	Count and record on patrols	Each patrol
Soil Compaction	Per specific WRS in SUPP 81	Square ft. measurement	View and photograph selected campsites	Annually
Air Quality	See 120 miles	Visual observation	View and photograph selected locations	3 times per year July-November-March
Water Quality	+/- 0.1% deviation PH	Establish baseline	Standard techniques	Annually Maidu and Lucile Lake
General Use	LAC	Use counts	Trail counters	Biannually

APPENDIX 4
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Implementation Schedule

This management plan identifies management direction for the various resources. The following list identifies some of the necessary actions, the responsible party and the target date for completion in order to achieve the management objectives. This schedule will be revised annually by all Forests involved.

Table A-4-10 Mt. Thielsen Wilderness Implementation Plan

Action	Responsibility	Target Date
Recreation 1. Collect and analyze monitoring plan data. Disseminate information to the three Forests. Revise monitoring plan if necessary.	Districts	Annually by Oct. 31
Vegetation 1. All projects where vegetation may be affected will be surveyed for sensitive plants prior to implementation.	Districts	Ongoing
2. Rehabilitate impacted areas Maidu and Lucile Lakes, and Thielsen Creek Camp.	Districts	Begin summer
Fisheries 1. Continue present stocking program.	ODF & W	Ongoing
2. Examine using fish stocking level as a means of controlling use of the Maidu-Lucile Lakes area.	Districts	When necessary
Soil 1. Close, block, and rehabilitate the old Mt. Thielsen Trail	Districts	Summer 1989
2 Rehabilitate gullies on Howlock trail, examine methods to prevent future problems.	Districts	Summer 1989
Visual Quality 1. Remove all unnecessary visual intrusion (Tenas Peak debris, improvised camp structures.	Districts	Ongoing
Fire 1. Develop a fire management plan for the area.	Districts, SO	FY 1989
Cultural and Historic Resources 1. All project areas such as trail construction, trailhead development, and campsites will be inventoried before project implementation	District	Ongoing

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Action	Responsibility	Target Date
2 Eligible sites will be nominated to the Nat'l Reg of Historic Places.	SO	As discovered
3. Develop management plans for significant sites in consultation with State Historic Preservation Officer	Districts, SO, SHPO	As needed
Access Roads 1. Need for rehabilitation of blocked roads will be analyzed.	Districts	Summer 1989
Trails 1. Maintain trails at more-difficult to most-difficult levels	Districts	Ongoing
Trailheads 1. Construct a trailhead at the beginning of the new Mt.Thielsen Trail. 2. Monitor trailheads for use and environmental impacts.	Districts, SO Districts	FY 1989 Ongoing
Signing 1 Signs will be replaced with ones which conform to wilderness standards as they become unservicable.	Districts	FY 1989
Other Facilities 1. Remove the Maidu and Lucile Lake shelters	Districts	FY 1989
2. Remove toilets after shelters are removed.	Districts	FY 1989
3. The toilet at Thielsen Creek Camp will be examined and removed if not needed.	Districts	FY 1989
Administration 1. Wilderness management personnel from three Forests will meet to discuss management goals and objectives for the area, and prepare annual implementation schedule.	Districts, SO	Annually
Communication and Education 1 Make informational and educational materials regarding wilderness available to the public.	Districts, SO	Ongoing

APPENDIX 4
WILDERNESS AND CASCADE RECREATION AREA PLANS

Oregon Cascades Recreation Area Management Plan

January, 1989

Foreword

The attached plan represents management direction for the nonwilderness portion of the Oregon Cascades Recreation Area (OCRA). It is the intent of this plan to increase opportunities for both motorized and nonmotorized recreation, as well as to facilitate wildlife and other resource enhancement. It is anticipated that minor deviations from this plan may be necessary in the future; these decisions should be fully supported by Environmental Analyses.

Introduction

The Oregon Cascades Recreation Area (OCRA), which was established as part of the Oregon Wilderness Act of 1984 (Public Law 98-328), extends along the crest of the Cascade Mountain Range from the Diamond Peak Wilderness to within a quarter mile of the northern boundary of Crater Lake National Park. It encompasses 157,000 acres on three National Forests: the Deschutes, Willamette, and Umpqua. It is an area exhibiting rich diversity in landform and wildlife, and also provides for a variety of recreational experiences.

Within the southern portion of the Recreation Area, the Mt. Thielsen Wilderness covers 55,100 acres surrounding Mt. Thielsen. This 9,182-foot peak, named about 1872 in honor of prominent railroad engineer and builder Hans Thielsen, is often referred to as the "Lightning Rod of the Cascades." The 52,337-acre Diamond Peak Wilderness forms the northern boundary of the recreation area. Dominated by an 8,744-foot volcanic peak, named in 1852 after John Diamond who was searching for an emigrant wagon road through the mountains, this wilderness includes dozens of lakes formed as the result of glacial action. Nonwilderness lands in the OCRA account for 86,200 acres. The area in total contains a variety of landforms, ranging from mountain desert to lush canyon meadows and to high peaks. Headwaters for four rivers are located within the area: the North Umpqua, Klamath, Deschutes, and Willamette. Many lakes, ponds, rivers, and streams offer a rich recreational experience to day users as well as those who spend more time in this diverse area.

The Oregon Wilderness Act of 1984 lists the OCRA as 157,000 total acres. However, included in that acreage is 55,000 acres for the Mt. Thielsen Wilderness, and 15,700 acres designated as additions to the Diamond Peak Wilderness. These acreages will be managed under direction from the 1964 Wilderness Act. This OCRA Plan, therefore, is directed at the management of the remaining 86,200 acres, which are the nonwilderness portions of the OCRA.

The roadless character of much of the area has long been recognized as providing a variety of resource values including watershed, wildlife habitat, scenery, and recreation. The popular Pacific Crest National Scenic Trail passes through the area, accessed by a number of secondary trails, many of which originate at heavily used and developed recreation complexes such as Diamond, Crescent, and Odell Lakes.

The OCRA is divided into seven zones:

Zone 1 - Summit Lake/Crescent Lake - Deschutes National Forest

Zone 2 - Timpanogas Basin - Willamette National Forest

Zone 3 - Calamut Lake - Umpqua National Forest

Zone 4 - Little Deschutes/Big Marsh - Deschutes National Forest

Zone 5 - North Umpqua - Umpqua National Forest

Zone 6 - Thirsty Point - Umpqua National Forest

Zone 7 - West Thielsen - Umpqua National Forest

The Umpqua National Forest is the lead Forest for planning purposes. The OCRA will be managed

as a single unit. Coordination meetings will be periodically scheduled between Forests and Ranger Districts to review management of the area.

OCRA Legislative Summary

The following information was extracted from the Oregon Wilderness Act (Act) of 1984 and Subcommittee Report (Report).

Overall Direction

Act: "The area shall be managed in accordance with plans prepared to:

1. Provide a range of recreation opportunities from primitive to full-service developed campgrounds.
2. Provide access for use by the public
3. .. maintain the natural scenic characteristics....
4. Provide for use of motorized recreation vehicles."

"In order to conserve, protect, and manage, in a substantially undeveloped condition, certain...lands in Oregon...there is hereby established, the Oregon Cascades Recreation Area."

Report: "The purpose of the . designation is to provide management options which are not permitted or feasible under the Wilderness Act . Generally, the committee expects that the Forest Service will manage the area so as to maintain a near-natural state while providing for a wide range of recreation opportunities "

Planning

Act: "Management direction .shall be developed in...Forest Plans...as in an integrated management plan...."

Report: "IT IS HOPED THAT...planning can be prepared as a part of initial Forest planning."

Timber

Act: ".. the Secretary may permit...those limited activities and facilities which he determines necessary for resource protection and management and for visitor safety and comfort, including (1) those necessary to prevent and control wildfire, insects, disease, soil erosion, and other damaging agents including timber harvesting activities necessary to prevent catastrophic mortality from insects, diseases, or fire. (2) Salvage of major timber mortality caused by fire, insects, disease, blowdown, or other causes when the scenic characteristics of the Recreation Area are significantly affected, as the health and safety of the public is threatened, versus the overall protection of the forested area inside or outside the Recreation Area might be adversely affected by failure to remove the dead or damaged timber."

Report: "It is the intention of the committee that management activities, including timber harvesting, be allowed in very limited circumstances to prevent the spread of insect, disease, or to reduce the threat of fire. It is the intention of the committee that only a minimum amount of timber be cut in these instances that is necessary to accomplish the specific objective. Management of the timber resource will be planned in the overall...plan for the area "

Motorized Recreation

Act: "Any plan developed by the Secretary...shall identify and designate specific and appropriate areas and routes for the use of motorized recreation vehicles within the Recreation Area "

Report: "...the excellent potential and future demand for motorized recreation...should be accommodated...the committee hopes that the Secretary will designate certain areas, if appropriate, for snowmobiling use."

Access

Act: "Provide developments or facilities necessary for the public enjoyment and use of the Recreation Area, when such development or facilities do not detract from the purposes of the Recreation Area."

Report: "...new roads should not be constructed unless...necessary to accomplish the purposes for which the...area is established. Roads should be managed to maximize scenic and natural characteristics.... Road management should be developed to assure that a variety of access is available to the public."

Water, Wildlife, and Recreation

Act: "...provide for those activities necessary to maintain or improve wildlife habitat, water yield and quality, forage production, and dispersed outdoor recreation opportunities."

Grazing

Act: "Provide for livestock grazing, to the extent that such use will not significantly adversely affect the resources of the Recreation Area."

Land Occupancy

Act: "Provide for public service land occupancies, including power transmission lines, provided there is not feasible alternative location and the Secretary finds that it is in the public interest to locate such facilities within the Recreation Area "

Mining

Act: "Subject to valid existing rights, all mining claims located within the Recreation Area shall be subject to such reasonable regulations.. to insure that mining activities will. .be consistent with the purposes for which the Recreation Area is established. Any patent issued after the date of enactment of this Act shall convey title only to the minerals together with the right to use the surface of lands.... Effective January 1, 1989, and subject to valid existing rights, the lands located within the recreation area are hereby withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to the mineral leasing and geothermal leasing and all amendments thereto "

Management Direction by Zone

Summit Lake/Crescent Lake Zone - Zone 1

General Description: This zone is bounded by the Cascade Crest, Diamond Peak Wilderness, the Crescent Lake area, and the Windigo Pass road. Elevations range from 7,664 feet at Cowhorn Mountain to approximately 5,000 feet near Crescent Lake. The bulk of the zone has relatively gentle topography, although steep and rugged near Cowhorn Mountain and along the Cascades. There are numerous small pothole "lakes" and approximately a dozen small lakes of 10 acres or so in size.

Summit Lake, on the west edge of the zone, is accessed from the west by a fairly high standard gravel road. The road to Summit Lake from the east side is of considerably lower standard. The boundary of this zone, as well as the southern boundary of Diamond Peak Wilderness, is 200 feet north of the Summit Lake Road No. 6010. The small campground at Summit Lake receives about 1,000 visitor days use during the July-through-October season. Mosquitoes are the most significant deterrent to use of the site.

Use of the zone radiates from the Crescent Lake area. Users include resort customers, day hikers, campers, equestrians, summer home owners, and Boy Scouts from Camp Mukualla. Winter use includes snowmobiles, ATV's, and cross-country skiers

Management Direction

Goal: To feature wildlife, fish, and undeveloped recreation resources.

> **Recreation Management:** The recreation setting, activity, and experience opportunities for the Recreation Opportunity Spectrum category of semi-primitive motorized will be provided (see Glossary).
>
> Use of motorized vehicles will be restricted to designated roads and trails. Over-the-snow vehicles will be allowed when the depth of continuous snow cover is adequate

to protect other resources from adverse impacts.

That area in the OCRA classified as wilderness will be managed in accordance with the Wilderness Act and wilderness management plans

Visual Resource Management: Management activities will meet retention visual quality objectives (see Glossary) The visual resources can be enhanced by opening up vistas from roads and trails. Also, opening vistas into the area from lands adjacent to the OCRA should be considered. A visual quality objective of partial retention may be applied where timber is harvested to meet management objectives for the area

Wildlife and Fish: Wildlife habitat improvement should be designed to be natural in appearance and should enhance the recreation experience Creating small openings, use of salt, blinds, or interpretive trails are acceptable Fish stocking and fish habitat improvement are permissible but must result in natural-appearing end products.

Range: Grazing of domestic livestock may be permitted if necessary to utilize excess forage not needed to meet wildlife objectives. Structural range improvements such as fences and water may be allowed and will be constructed of native materials whenever possible. Livestock will be managed to minimize conflicts with recreation, wildlife, fish and natural watershed values In cases of conflict, range outputs will be secondary to recreation, wildlife, fish or watershed values

Timber: There will be no scheduled timber harvest. Timber harvesting will be allowed in catastrophic situations such as fire or insect salvage to prevent the spread of insects and disease to areas managed for other purposes or to meet the management area objectives. Restoration of such an area will be designed to return it to a natural state. Timber harvesting can also be used to manipulate vegetation for wildlife habitat improvement or to enhance recreation opportunities It may also be used as a management tool to protect certain areas from the risk of fire.

Commercial or personal use fuelwood gathering may be permitted when needed to meet the recreation and wildlife objectives.

Watershed: Wildlife and fish habitat will be enhanced where possible through management of hydrologic conditions

Minerals: Effective January 1, 1989, and subject to valid prior existing rights, the lands located within the OCRA are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to the mineral leasing and geothermal leasing and all amendments thereto.

Lands: New permits for small devices and structures may be allowed where necessary for resource protection and management or visitor safety and comfort

Transmission corridors are not compatible with the objectives of the OCRA and normally will not be permitted unless there is no feasible alternative location.

Special-use permits may be authorized if they are needed to meet management objectives and do not detract from the values of the Oregon Cascade Recreation Area.

Facilities: Trails and any roads will be designed, constructed, and maintained to the minimum standard needed to achieve objectives and goals of the Recreation Area A limited number of helispots may be constructed where natural openings are unavailable, if they are needed to meet management needs.

Any sites with facilities will be managed to Development Level 1 (primitive) or 2 (near primitive) standards with most sites at

APPENDIX 4
WILDERNESS AND CASCADE RECREATION AREA PLANS

*Development Level 1. More highly-*developed support facilities for the OCRA will be provided through existing and new development on the periphery or in other zones of the OCRA. Development within OCRA will be limited to that necessary to manage use within the area.

Primitive facilities may be provided to protect resources, provide for visitor safety, and distribute use throughout the area. Facilities *will be constructed of native materials* whenever possible.

Recreation facilities will primarily be primitive toilets, shelters, recreation stock control devices and enclosures, trailheads, vehicle control devices, primitive campsites for motorized vehicles, and minimum directional and safety signing. Existing recreation developments will be maintained

Fire Management: Normally, low-impact appropriate suppression methods and natural barriers will be used in case of wildfire Heavy equipment should be avoided unless an Escaped Fire Situation Analysis indicates that the resource damage from equipment would be more than offset by reducing fire damage.

Prescribed burning may be used to meet recreation and wildlife objectives. Prescribed fire is the preferred fuel treatment Fuel accumulations resulting from wildlife or recreational enhancement activities may also be treated by other methods if necessary to meet project objectives

Fuel loadings will consist of natural accumulations except as modified by prescribed burnings.

Integrated Pest Management: Monitor pest populations so that threats to adjacent areas can be detected early. If adjacent areas are threatened, suppression techniques favoring biological control should be used if available.

Timpanogas Basin Zone - Zone 2

General Description: The Timpanogas basin portion of the OCRA as described by the Oregon Wilderness Act of 1984 is located about 45 miles southeast of the City of Oakridge. The area forms the headwaters of the Middle Fork of the Willamette River ranging from 5,200 feet to 7,664 feet in elevation, and consisting of 6,270 acres. Most of the area is a true fir-mountain hemlock forest type, dotted with numerous small lakes. The western boundary of this zone is 200 feet from Road No. 2154.

Both dispersed and developed recreation use exist in the basin, consisting of two nonfee campgrounds and 22 miles of developed hiking trails.

Both developed campgrounds, Indigo Lake, and Timpanogas Lake have a use season of June 15 to October 15, with peak use occurring in August and September. Timpanogas Lake, a 10-unit campground, is accessed by a high-standard, gravel-surface system road. Indigo Lake, 5 units, requires a 1.9 mile walk.

Dispersed recreation is primarily confined to the trail system, consisting of both hiker and off-road vehicle users. However, the larger lakes not accessed by the trail system receive a moderate amount of day and overnight use. Most of the use originates from either Timpanogas Lake Campground or the Pacific Crest Trail.

Management Direction

The Timpanogas Zone of the Oregon Cascades Recreation Area is divided into four management areas which provide management objectives and management prescriptions. They are narrative descriptions which specify practices, and standards/guidelines that provide direction for resource management and plan implementation.

Management Area 2a provides for semi-primitive motorized recreation which includes the existing trail system. Management Area 2b provides for semi-primitive nonmotorized recreation opportunities and involves the remainder of the area, excluding the developed campgrounds. This is all

of the nontrailed portion of the Timpanogas Zone. The only motorized use activity is over-the-snow use. Management Area 12a is Indigo Lake Campground at Indigo Lake, which is maintained at a less-than-standard service level. Management Area 12b is Timpanogas Lake Campground at Timpanogas Lake, which will be maintained at a standard service level during the recreation season.

Management Area 2a - Trails: This direction applies to trails within Zone 2:

Goal: Provide the opportunity for users to experience a moderate degree of isolation from the sights and sounds of human activity, establish some sense of independence and closeness to nature, and develop a moderate feeling of self-reliance through the application of outdoor skills. These experiences are provided in an environment that offers some challenge and risk to both motorized and nonmotorized use.

Recreation Management: The area shall be made available for maximum use for a range of activities that are consistent with maintaining area conditions and providing semi-primitive motorized recreation experiences.

The setting for this class of recreation is characterized by an environment where alterations of the natural landscape are subtle and would not draw the attention of motorized users within the area In addition, the OCRA is managed to minimize the presence of on-site controls and use restrictions There is often evidence of other users, but concentration of use is low.

Activities associated with this area are both motorized and nonmotorized in nature. Specific activities are centered around nonconsumptive use of land and water areas including hiking, use of motorcycles and trail bikes, canoeing, rafting, nature study, camping, fishing, hunting, snowmobiling.

Group sizes should not exceed more than 25 persons, or any combination of people and livestock which equals 25. Larger groups may be accommodated by permit.

Campsites: Dispersed camp areas should be located to take advantage of topographic and vegetation screening and placed outside of foreground view (100 feet) from lakes, streams, trails, and key interest features. Campfires: Open campfires may be limited to designated sites.

Visitor contact shall be for the purposes of informing users of area management goals and objectives: Information and educational materials should be provided to prospective users through the media and at administrative headquarters; encourage user behavior that is respectful of area resources; ensure that visitor activities are in compliance with established management standards. Forest officers or resource technicians, on an average, should visit 50 percent of the dispersed sites annually.

Access by motorized vehicles is limited to snowmobiles, trailbikes, and ATV's not greater than 42 inches in width. Area and trail closures or restrictions should be based upon the mandatory and discretionary planning criteria listed in Forest Service Manual 2355 12.

The Forest Service will assist within its capacity and as requested by the County Sheriff in search-and-rescue and evacuation operations.

Visual Resource Management: Area management practices shall be commensurate with the retention visual quality objective. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a visual quality objective of partial retention.

Wildlife and Fish: For specific direction refer to Chapter 4 of the Willamette National Forest Land and Resource Management Plan.

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Timber: No programmed harvest Unregulated harvest for the purpose of salvaging mortality from catastrophic losses due to insects, disease, fire, or windthrow may be permitted on approval by the Forest Supervisor. For more specific direction, refer to the Willamette National Forest Land and Resource Management Plan, Chapter 4 - Timber Management section.

All available aerial logging systems may be used. Give preference to those systems having the least effect on recreation values. Flush-cut stumps in road and trailside zones. Shape landings and re-establish ground cover.

Watershed: For more specific direction, refer to the Willamette National Forest Land and Resource Management Plan, Chapter 4 - Soil, Water, and Riparian Areas

Facilities: No new road development is permitted. Roads serving developed sites will remain open. All other existing roads are closed to motorized use and access, except off-road vehicles

Structures and improvements shall be provided to facilitate use, protect resource values, and for administration Trail management should be consistent with the semi-primitive motorized ROS Class requirements for construction and maintenance. Reconstruction, relocation, and maintenance of the Pacific Crest National Scenic Trail shall comply with the requirements of the National Trail System Act. Toilet facilities may be provided for the protection of area resources and for the purpose of health and safety. Bridges and culverts may be provided to enhance visitor use, protect resource values, and for user safety. Dimensional and non-native materials may be utilized but should remain subtle to area users Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.

Future Development: Planned future trail construction includes a trail to tie the Timpanogas Lake Trail to the Windy Pass Trail, thus providing a loop trail of 12 miles that would originate and terminate at Timpanogas Lake Campground. Extension of the Indigo Lake Trail to the Windy Pass South Trail to a point east of Sawtooth Mountain will provide a loop of approximately six miles.

Development of any type will need to consider the Recreation Opportunity Spectrum classification of the area. Classification of future trails will include both semi-primitive motorized and semi-primitive nonmotorized.

Other development proposals include the following:

A series of ATV trails that might be a combination of existing hiking trails or new construction. Any trails will need to take into consideration other resource impacts, compatibility of recreational uses, and compatibility with wildlife. Coordinate trail feasibility with adjacent managing Forests.

Develop cross-country ski trails.

Develop snowmobile activities separate from cross-country ski trails. Tie these activities with the Summit Lake/Crescent Lake/Diamond Lake Snowmobile Route.

Develop the native and introduced fisheries resources.

Encourage mountain bike use on existing trails

Fire Management: Give preference to appropriate wildfire suppression methods resulting in the smallest practicable area burned and having the least effect on recreation values.

Management Area 2b - Dispersed Areas: This direction applies to areas off trails and roads, and outside of developed recreation sites. The direction

is identical to that for trails, with the following exceptions:

Goal: Provide the opportunity for users to experience a high degree of isolation from the sights and sounds of human activity, establish a sense of independence and closeness to nature, and develop some feelings of tranquility and self-reliance. These experiences are provided through the applications of outdoor skills in an environment that offers challenge and risk.

Recreation Management: The setting is characterized by an environment where the natural landscape may have been subtly modified but where alterations would not draw the attention of most users In addition, the area is managed to minimize the presence of on-site controls and use restrictions The areas provided for the semi-primitive nonmotorized recreation opportunity are moderate in size and may be separated by motorized access corridors. There is moderate evidence of other users, but interaction between users is low.

Recreation activities associated with this area are exclusively nonmotorized and nonmechanical in nature, except for permitted over-the-snow use Specific activities are oriented toward both consumptive and nonconsumptive use of the land and water resources of the area, such as hunting, fishing, hiking, camping, nature study, mountain climbing, cross-country skiing, snowmobiling.

The area shall be made available for maximum use for a range of activities that are consistent with maintaining area conditions and providing semi-primitive nonmotorized recreation experiences. Group sizes should not exceed more than 25 persons, or any combination of people and livestock which equals 25 Larger groups may be accommodated by permit

Campsites: Dispersed camp areas should be located to take advantage of topographic and vegetation screening and placed outside of foreground view (100 feet) from lakes, streams, trails, and key interest features. Open campfires may be limited to designated sites.

Recreation stock should be held overnight outside the foreground areas of lakes, streams, camp areas, and trailsides.

Visitor contact shall be for the purposes of informing users of area management goals and objectives; to provide information and educational material to prospective users through the media and at administrative headquarters; to encourage user behavior that is respectful of area resources; to ensure that visitor activities are in compliance with established management standards. Forest officers or resource technicians may visit an average 50 percent of the dispersed sites annually.

The general area is closed to off-road and off-trail vehicles, except for over-the-snow use. Area and trail closures or restrictions should be based upon the mandatory and discretionary planning criteria listed in Forest Service Manual 2355 12

Facilities: Roads serving developed sites will remain open. All other existing roads are closed to motorized use and access, except off-road vehicles.

Structures and improvements shall be provided to facilitate use, protect resource values, and for administration. Trail management should be consistent with the semi-primitive nonmotorized ROS Class requirements for construction and maintenance. Reconstruction, relocation, and maintenance of the Pacific Crest National Scenic Trail shall comply with the requirements of the National Trail System Act. Toilet facilities may be provided for the protection of area resources and for the purpose of health and safety. Bridges and culverts may be provided to enhance visitor use, protect resource values, and for user safety. Dimensional and non-native materials may be utilized but should remain subtle to area users. Soil compaction should not

exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.

Future Development: Construct a winter shelter at Timpanogas Lake to be the center of a winter dispersed recreation area. Activities would include cross-country ski trails and groomed snowmachine trails

Promote Sawtooth Mountain as a climbing "scramble" area.

Develop the native and introduced fisheries resources.

Management Area 12a - Less-than-Standard Service Level Developed Sites:

Goal: This management area includes areas of land where physical improvements have been provided for a range of developed recreation opportunities These existing developed sites will be maintained at a less-than-standard service level to provide a setting for a variety of recreation activities and experiences including canoeing, picnicking, hiking, skiing, and boating

Recreation Management: Occupancy and use of recreation sites shall be regulated to the extent necessary to protect the resources and to ensure safe, enjoyable recreation experiences for the maximum number of visitors at the experience level for which the sites were designed. Utilize regulations contained in 36 CFR 261 as necessary to ensure full public enjoyment of recreation sites. Clearly notify the public of the conditions of occupancy of the recreation sites. Ensure that personnel who perform operation and maintenance (O&M) functions are familiar with O&M service levels of O&M plans

A vegetative management prescription and plan of management should be prepared and implemented for each site or group of sites. Each site should be analyzed periodically to determine whether its intended function is being served and if it requires alteration, replacement, closure, or elimination. Provide periodic patrols and site supervision utilizing volunteer hosts where appropriate. Sites at this service level will not be operated on the Land and Water Conservation Fund Act (LWCFA) fee system.

An operation and maintenance plan at the less-than-standard service level shall be prepared and updated annually. Cleaning and policing should be performed regularly to ensure that sites are clean and sanitary, free of litter, and neat in appearance. Each site shall be inspected annually and all known safety hazards should be eliminated to the extent practical. Vaults, septic tanks, and wastewater systems shall be inspected at regular intervals to ensure appropriate operation. Garbage services will not be provided on a regular basis and only for the protection of health and safety. Maintenance of improvements will be for the protection of capital investments with priority given to health and safety-related items.

A detailed site plan will be developed prior to site rehabilitation. Rehabilitate sites only for the protection of capital investments and resource values. Rehabilitation work shall conform to an approved site plan. Soil compaction should not exceed established limits except as necessary for rehabilitation of sites.

Visual Resource Management: Management practices shall be at least commensurate with the partial retention visual quality objective for developed sites and areas.

Range: Use of developed sites for commercial livestock grazing is not permitted.

Timber: No programmed timber yield Salvage activities should be specified in the vegetation management plan for the site.

Minerals: Removal of common variety minerals will not be permitted. Sites not previously withdrawn shall be recommended

for withdrawal from mineral entry. Recommend denial of application for leasable minerals.

Lands: Developed sites are not available for other uses provided by special permit. Exceptions may be made for short-term uses such as weddings, reunions, or special services related to the administration, operation, and maintenance of sites.

Fire Management: All fires will be suppressed to minimize size and impacts, using appropriate suppression response.

Management Area 12b - Standard Service Level Developed Sites:

Goal: This management area includes areas of land where physical improvements have been provided for a range of developed recreation opportunities. These existing developed sites will be maintained at a standard service level to provide a setting for a variety of recreation activities and experiences, including canoeing, picnicking, hiking, skiing, and boating

Recreation Management: Occupancy and use of recreation sites shall be regulated to the extent necessary to protect the resources and to ensure safe, enjoyable recreation experiences for the maximum number of visitors at the experience level for which the sites were designed Utilize regulations contained in 36 CFR 261 as necessary to ensure full public enjoyment of recreation sites. Clearly notify the public of the conditions of occupancy and use of the recreation sites. Ensure that personnel who perform operation and maintenance (O&M) functions are familiar with O&M service levels of O&M plans.

A vegetation management prescription and plan of management should be prepared and implemented for each site or group of sites. Each site should be analyzed periodically to determine whether its intended function is being served and if it requires alteration, replacement, closure, or elimination. Collect fees for those sites that meet LWCFA fee site designation criteria.

An operation and maintenance plan at the standard service level shall be prepared and updated annually. Each site shall be inspected annually and all known safety hazards should be eliminated to the extent practical. Potable water sources shall be operated and maintained in accord with FSM 7420 and Federal, state, and local regulations. Water supply systems will be closed if testing indicates a hazard to human health. Vaults, septic tanks, and waste-water systems shall be inspected at regular intervals to ensure appropriate operation. Garbage disposal will be accomplished at intervals sufficient to minimize odors, prevent pollution of water supplies, and to avoid attracting disease-spreading insects and rodents. Maintain all site improvements to their design standards, with priority given to health and safety-related items.

A detailed site plan will be developed prior to site rehabilitation. Rehabilitation work shall conform to an approved site plan. Soil compaction should not exceed established limits except as necessary to accommodate rehabilitation of sites.

Visual Resource Management: For more specific direction, refer to the Willamette National Forest Land and Resource Management Plan, Chapter IV, Forest Management Direction, Section B, Management Area 12a

Range: For more specific direction, refer to the Willamette National Forest Land and Resource Management Plan, Chapter IV, Forest Management Direction, Section B, Management Area 12a.

Timber: For more specific direction, refer to the Willamette National Forest Land and Resource Management Plan, Chapter IV, Forest Management Direction, Section B, Management Area 12a

Minerals: For more specific direction, refer to the Willamette National Forest Land and Resource Management Plan, Chapter IV, Forest Management Direction, Section B, Management Area 12a.

Lands: For more specific direction, refer to the Willamette National Forest Land and Resource Management Plan, Chapter IV, Forest Management Direction, Section B, Management Area 12a.

Fire Management: For more specific direction, refer to the Willamette National Forest Land and Resource Management Plan, Chapter IV, Forest Management Direction, Section B, Management Area 12a

Calamut Lake Zone - Zone 3

General Description: The Calamut Lake Zone is a predominantly flat to gently rolling landform dominated by Calamut, Charline, and Linda Lakes These lakes are presently stocked by the Oregon Department of Fish and Wildlife. These three lakes are accessed by a single trail beginning at Linda Lake and ending at Calamut Lake, with parking for six to ten cars at the Lake Linda Trailhead There are Wallowa-style pit toilets at Linda and Calamut Lakes. The Windy Pass Trail passes through the crest of the Calapooya Divide on the north side of the zone

The southern edge of this zone is 500 feet north of the Windigo Pass Road No 60 and 200 feet east of the Kelsay-Calamut Road No. 60-700. Road No. 60-630 is open to Connie Lake and receives some dispersed camping, primarily during hunting season in the fall. All other roads which enter this zone have been blocked with earth berms. Annual recreation use for the zone is less than 500 visits per year and occurs between May and November

There have been timber harvest activities in the southern part of the zone in past years, but there are presently no active timber sales within this zone and none are planned.

Management Direction

Goal: Emphasize opportunities for semi-primitive motorized recreation.

Recreation Management: ROS direction is semi-primitive motorized (SPM). Moderate opportunity for solitude, tranquility, and closeness to nature. High degree of self reliance, challenge, and risk in using motorized equipment. Predominantly natural-appearing environment. Low concentration of users but often evidence of other users on trails. Minimum on-site controls and restriction present but subtle.

Motorized use on and off roads and trails may be allowed in designated areas Trails should be located to meet established objectives, and will not necessarily follow existing roads or trails. Trail Maintenance Levels 1 through 3 are typical Trail length and difficulty will vary.

Search and rescue with motorized equipment is allowed. Law enforcement visibility at low level

Visual Resource Management: VQO is Retention. All interior trails, roads, waterbodies, and use areas shall be inventoried as Sensitivity Level 1 A VQO of partial retention will be applied where timber is harvested to meet management objectives for the area.

Wildlife and Fish: May provide habitat for old growth species Actions necessary to maintain or improve wildlife habitat are compatible. Installation of structures to provide water for wildlife are encouraged.

Range: Livestock grazing is compatible to the extent that such use will not significantly adversely affect the resources of the recreation area.

Timber: No scheduled regeneration harvest activities. No scheduled salvage harvest. Harvest is allowed to prevent and control insects, diseases and other damaging agents and to prevent catastrophic mortality

from insects, disease, or fire. Salvage of major timber mortality caused by fire, insects, disease, blowdown, or other causes is allowed when the scenic characteristics of the Recreation Area are significantly affected, or the health and safety of the public are threatened, or the overall protection of the forested area inside or outside the recreation area might be adversely affected by failure to remove the dead or damaged timber. Timber harvest is also allowed to maintain or improve wildlife habitat, water yield and quality, forage production, and dispersed outdoor recreation opportunities.

Watershed: Structural improvements shall be compatible with zone goals

Minerals: Extraction of common variety minerals shall be discouraged, unless needed for construction projects within the area. Effective January 1, 1989, and subject to valid prior existing rights, the lands located within the OCRA are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to the mineral leasing and geothermal leasing and all amendments thereto.

Lands: Issue special-use permits consistent with zone goal. The location of any new utility corridors within the boundaries of this management area will be discouraged. When they must be located within the area, lines will be put underground, or cross the area at its narrowest or least-impacted portion as determined in the EA process. Land sales, land transfers, and land exchanges will be discouraged pending review through the EA process Mitigating measures for construction activities will be explored in the EA process.

Facilities: The design and construction of facilities must be consistent with visual and ROS direction. Existing roads will be managed to Maintenance Level 2 (high clearance), or they may be improved to access new recreation facilities. No new roads will be constructed unless needed to access recreation facilities.

Compatible recreation facilities include winter- and summer-use trails, bridges, trailheads, campgrounds, shelters, signs, staging areas for motorized uses, parking areas, play areas, skill trails, toilets, and viewpoints. Compatible facilities to enhance wildlife habitat include guzzlers and other water developments. Design trails for multiple uses including, but not limited to, ATV use, trail biking, mountain bicycling, snowmobiling, hiking, horse riding, nordic skiing, and use by the physically challenged. Emphasize construction and maintenance of trails for motorized use Emphasize construction of loop trails for day use.

Future Development: Specific projects to be completed are: Development of a staging area in the vicinity of Lake Linda for use by ATV's and motorized trail bikes (a route for motorized access by such vehicles would then be opened to Calamut Lake). Some restrictions would be placed on use of motorized vehicles at Calamut Lake to minimize impacts on associated resource values.

Fire Management: On wildfires, use appropriate suppression methods which minimize impacts to use areas, waterbodies, and travel routes Heavy equipment should be avoided unless an Escaped Fire Situation Analysis indicates that the resource damage from equipment would be more than offset by reducing fire damage An appropriate suppression response will be utilized on all wildfires Prescribed burning of natural fuels permitted to the extent needed to meet this goal

Little Deschutes - Big Marsh Zone - Zone 4

General Description: This zone includes the headwaters of the Big Marsh Creek Watershed; the expanse of "Big Marsh" itself; the headwaters of Spruce, Rabbit, Basin, Hemlock, and Swamp Creeks; and a reach of the Little Deschutes River immediately downstream from its headwaters on

the Deschutes National Forest portion of the Mt. Thielsen Wilderness. The north boundary of this zone is 500 feet south of the Windigo Pass Road No. 60.

Elevations range from nearly 7,500 feet at the summit of Burn Butte to approximately 7,000 feet at the bottom of Big Marsh and 4,960 feet on the Little Deschutes. Topography is generally steep, with mountainous lands bisected by narrow stringer riparian meadowland associated with Big Marsh Creek and the Little Deschutes River. Big Marsh itself is unique because it is a relatively large wet meadow/marsh at fairly high elevation.

Big Marsh Creek was designated in 1988 as a Wild and Scenic River (recreation classification). A management plan for this river will be developed within three years of the date of designation. Any activity within the wild and scenic boundaries will include appropriate mitigation to ensure the preservation of the river's special qualities and characteristic The Deschutes National Forest will be the lead Forest on developing the management plan for this designated river.
Resource values and concerns for the area are wildlife habitat, dispersed recreation (hunting), water quality, and forage production. The predominant historical uses of the area include deer and elk hunting and domestic livestock grazing. The past use of Big Marsh, when in private ownership, was as a forage area of domestic livestock, and is being continued as the Big Marsh Cattle Allotment. The Little Deschutes and Big Marsh Cattle Grazing Allotments are partially within the OCRA.

In recent years, the high mortality of lodgepole pine due to the mountain pine beetle has generated more attention to silvicultural systems implementation in the lodgepole forest. Past timber harvests and timber sales under contract affect this zone.

The zone is lightly roaded, but some system roads do exist. Except for these roads and the minimally developed roads into the upper reaches of Big Marsh Creek and up the Little Deschutes River, most of the area is unroaded. Stream crossing in the form of culverts and bridges are found along existing roads. Bridges on Big Marsh and across the Little Deschutes River facilitate cattle distribution. Barbed wire fences for allotment boundary control and stock distribution are in existence on both cattle allotments in this zone.

Existing channels along both sides of the Big Marsh carry the bulk of the flow of Big Marsh Creek and from springs on the periphery around the marsh. These channels were constructed over 40 years ago for the purpose of allowing the marsh to dry out earlier in the year to provide more forage for domestic livestock.

Goal: To feature wildlife, fish, and undeveloped recreation resources.

Management Direction

Recreation Management: The recreation setting, activity, and experience opportunities for the Recreation Opportunity Spectrum category of semi-primitive motorized will be provided.

Use of motorized vehicles will be restricted to designated roads and trails. Over-the-snow vehicles will be allowed when the depth of continuous snow cover is adequate to protect other resources from adverse impacts

Visual Resource Management: Management activities will meet retention visual quality objectives. The visual resources can be enhanced by opening up vistas from roads and trails Also, opening vistas into the area from lands adjacent to the OCRA should be considered. A visual quality objective of partial retention will be applied where timber is harvested to meet management objectives for the area.

Wildlife and Fish: Wildlife habitat improvement should be designed to be natural in appearance and should enhance the recreation experience. Creating small openings, use of salt, blinds, or interpretive trails are acceptable. Fish stocking and fish habitat improvement are permissible but must result in natural-appearing end products.

Range: Grazing of domestic livestock will gradually be phased out Structural range improvements such as fences and water may be allowed and will be constructed of native materials whenever possible Livestock will be managed to minimize conflicts with recreation, wildlife, fish and natural watershed values. In cases of conflict, range outputs will be secondary to recreation, wildlife, fish or watershed values

Timber: There will be no scheduled timber harvest. Timber harvesting will be allowed in catastrophic situations such as fire or insect salvage to prevent the spread of insects and disease to areas managed for other purposes or to meet the management area objectives Restoration of such an area will be designed to return it to a natural state. Timber harvesting can also be used to manipulate vegetation for wildlife habitat improvement or to enhance recreation opportunities. It may also be used as a management tool to protect certain areas from the risk of fire

Commercial or personal use fuelwood gathering may be permitted when needed to meet the recreation and wildlife objectives.

Watershed: The stream flow and the hydrologic setting of Big Marsh Creek and meadow will be managed to feature natural vegetative communities associated with the marsh prior to diversion of Big Marsh Creek. Wildlife and fish habitat will be enhanced where possible through management of hydrologic conditions.

Minerals: Effective January 1, 1989, and subject to valid prior existing rights, the lands located within the OCRA are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to the mineral leasing and geothermal leasing and all amendments thereto

Lands: New permits for small devices and structures may be allowed where necessary for resource protection and management or visitor safety and comfort.

Transmission/utility corridors are not compatible with the objectives of the OCRA and normally will not be permitted unless there is no feasible alternative location.

Special uses may be authorized if they do not detract from the values of the Oregon Cascade Recreation Area

Facilities: Trails and any roads will be designed, constructed, and maintained to the minimum standard needed to achieve objectives and goals of the Recreation Area. A limited number of helispots may be constructed where natural openings are unavailable

Any sites with facilities will be managed to Development Level 1 (primitive) or 2 (near primitive) standards with most sites at Development Level 1. More highly developed support facilities for the OCRA will be provided through existing and new development on the periphery or in other zones of the OCRA. Development within OCRA will be limited to that necessary to manage use within the area.

Primitive facilities may be provided to protect resources, provide for visitor safety, and distribute use throughout the area. Facilities will be constructed of native materials whenever possible

Recreation facilities will primarily be primitive toilets, shelters, recreation stock control devices and enclosures, trailheads, vehicle control devices, primitive campsites for motorized vehicles, and minimum directional and safety signing Existing recreation developments will be maintained.

Fire Management: Normally, low-impact suppression methods and natural barriers will be used. Heavy equipment should be avoided unless an Escaped Fire Situation Analysis indicates that the resource damage

from equipment would be more than offset by reducing fire damage.

Prescribed burning may be used to meet the recreation and wildlife objectives. Prescribed fire is the preferred fuel treatment. Fuel accumulations resulting from wildlife or recreational enhancement activities may be treated by other methods if necessary to meet project objectives.

Fuel loadings will consist of natural accumulations except as modified by prescribed burnings.

Integrated Pest Management: Monitor pest populations so that threats to adjacent areas can be detected early. If adjacent areas are threatened, suppression techniques favoring biological control should be used if available.

North Umpqua Zone - Zone 5

General Description: The North Umpqua Zone borders the northern end of the Mt. Thielsen Wilderness and includes three significant creeks and rivers: the North Umpqua River, Bradley Creek, and Warrior Creek. Both Bradley and Warrior Creeks are tributary to the North Umpqua River within this zone, the north boundary of which is 500 feet south of the Windigo Pass Road No. 60.

The Windigo Pass Trailhead and the Bradley Creek Trailhead Camp are the only developed sites within this zone. Both trailheads have sanitation facilities and are designed to accommodate horse use. The Pacific Crest National Scenic Trail follows the eastern side of this zone and the North Umpqua Trail leads to Miller Lake via Maidu and Lucile Lakes. Both trails provide important access to the Mt. Thielsen Wilderness. The Warrior Creek Trail is no longer maintained Recreation use is less than 5,000 visits per year. The Windigo Way road has been blocked at Bradley Creek and Windigo Pass and is not open to motorized travel. The North Umpqua Zone is utilized by elk migrating between Big Marsh (Zone 4) and Kelsay Valley.

Management Direction

Goal: Improve wildlife habitat. Improve opportunities for nonmotorized summer use, and both motorized and nonmotorized winter use. Redistribute existing nonconforming motorized use to Zones 3 and 6.

Recreation Management: ROS direction is semi-primitive nonmotorized (SPNM). High probability of experiencing solitude, closeness to nature, tranquility, self reliance, challenge, and risk. Natural-appearing environment with a low interaction between users, but some evidence of other users, and a minimum of subtle on-site controls. Motorized use is prohibited, with the exception of over-the-snow use. Special orders will specify the terms of area and seasonal closures to motorized use.

Trails provide the primary access into this zone, and their length and difficulty vary. Emphasize construction of loop trails for day use. Maintenance levels are generally 1 through 3.

Search and rescue with motorized equipment is allowed. Law enforcement visibility at low level.

Visual Resource Management: The visual quality objective within the area is retention. All interior trails, roads, waterbodies, and use areas shall be inventoried as Sensitivity Level 1. A VQO of partial retention will be applied where timber is harvested to meet management objectives for the area.

Wildlife and Fish: May provide habitat for old growth species. Actions necessary to maintain or improve wildlife habitat are compatible. Installation of structures to provide water for wildlife is encouraged.

Range: Livestock grazing is compatible to the extent that such use will not significantly adversely affect the resources of the recreation area.

Timber: Harvest of catastrophic timber loss is consistent with management prescription. *No regeneration harvest programmed* No scheduled salvage harvest activities Harvest is allowed to prevent and control insects, diseases and other damaging agents and to prevent catastrophic mortality from insects, disease, or fire Salvage of major timber mortality caused by fire, insects, disease, blowdown, or other causes is allowed when the scenic characteristics of the Recreation Area are significantly affected, or the health and safety of the public is threatened, or the overall protection of the forested area inside or outside the recreation area might be adversely affected by failure to remove the dead or damaged timber. Timber harvest is also allowed to maintain or improve wildlife habitat, water yield and quality, forage production, and dispersed outdoor recreation opportunities.

Watershed: Structural improvements shall be compatible with ROS goals and prescribed visual quality objectives

Minerals: Extraction of common variety minerals shall be discouraged, unless needed for construction projects within the area. Effective January 1, 1989, and subject to valid prior existing rights, the lands located within the OCRA are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to the mineral leasing and geothermal leasing and all amendments thereto.

Lands: Issue special-use permits consistent with the prescription goal. The location of any new utility corridors within the boundaries of this management area will be discouraged When they must be located within the area, lines will be put underground, or cross the area at its narrowest or least impacted, portion as determined in the EA process. Land sales, land transfers, and land exchanges will be discouraged pending review through the EA process Mitigating measures for construction activities will be explored in the EA

Facilities: The design and construction of facilities must be consistent with visual and ROS direction. Compatible recreation facilities would include winter and summer use trails, bridges, trailheads, shelters, signs, and toilets Compatible wildlife facilities would include guzzlers and other water developments. Design trails for multiple uses including, but not limited to, nordic skiing, hiking, mountain bicycle riding, winter motorized use, horse riding, and physically challenged users. Emphasize construction of loop trails for day use.

Future Development: Development of a loop trail in the Warrior Creek and Bradley Creek drainages for hiking and mountain bicycle use (if terrain allows). Reconstruction of Bradley Creek Trailhead Camp.

Fire Management: On wildfires, use methods which minimize impacts to use areas, waterbodies, and travel routes. Heavy equipment should be avoided unless an Escaped Fire Situation Analysis indicates that the resource damage from equipment would be more than offset by reducing fire damage An appropriate suppression response will be utilized on all wildfires. Prescribed burning of natural fuels permitted to the extent needed to meet this goal.

Thirsty Point Zone - Zone 6

General Description: The Thirsty Point Zone borders the west side of Mt. Thielsen Wilderness and is characterized by stands of lodgepole pine on dry pumice slopes. The only significant water is Thirsty Creek The western boundary of this zone is 200 feet east of the Thirsty Point Road No. 60-990 The southern boundary of the zone lies 500 feet north of the centerline of the north fork of Thielsen Creek Most of the use is by hunters during the fall, with less than 50 visits per year.

Management Direction

Goal: Emphasize opportunities for semi-primitive motorized recreation. Improve wildlife habitat

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Recreation Management: ROS direction is semi-primitive motorized (SPM). Moderate opportunity for solitude, tranquility, and closeness to nature. High degree of self reliance, challenge, and risk in using motorized equipment. Predominantly natural-appearing environment. Low concentration of users but often evidence of other users on trails. Minimum on-site controls and restriction present but subtle.

Motorized use on and off roads and trails may be allowed in designated areas. Winter vehicle use may be allowed on and off roads and trails. Trails should be located to meet established objectives, and will not necessarily follow existing roads or trails. Trail Maintenance Levels 1 through 3 are typical. Trail length and difficulty will vary.

Search and rescue with motorized equipment is allowed. Law enforcement visibility at low level.

Visual Resource Management: VQO is retention. All interior trails, roads, waterbodies, and use areas shall be inventoried as Sensitivity Level 1. A VQO of partial retention will be applied where timber is harvested to meet management objectives for the area.

Wildlife and Fish: May provide habitat for old growth species. Actions necessary to maintain or improve wildlife habitat are compatible. Installation of structures to provide water for wildlife are encouraged

Range: Livestock grazing is compatible to the extent that such use will not significantly adversely affect the resources of the recreation area.

Timber: Harvest of catastrophic timber loss consistent with management prescription. No scheduled regeneration harvest activities. No scheduled salvage harvest. Harvest is allowed to prevent and control insects, diseases and other damaging agents and to prevent catastrophic mortality from insects, disease, or fire. Salvage of major timber mortality caused by fire, insects, disease, blowdown, or other causes is allowed when the scenic characteristics of the Recreation Area are significantly affected, or the health and safety of the public is threatened, or the overall protection of the forested area inside or outside the recreation area might be adversely affected by failure to remove the dead or damaged timber. Timber harvest is also allowed to maintain or improve wildlife habitat, water yield and quality, forage production, and dispersed outdoor recreation opportunities.

Watershed: Structural improvements shall be compatible with prescription goals and selected visual quality objectives.

Minerals: Extraction of common variety minerals shall be discouraged, unless needed for construction projects within the area Effective January 1, 1989, and subject to valid prior existing rights, the lands located within the OCRA are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to the mineral leasing and geothermal leasing and all amendments thereto.

Lands: Issue special-use permits consistent with prescription goal. The location of any new utility corridors within the boundaries of this management area will be discouraged. When they must be located within the area, lines will be put underground, or cross the area at its narrowest or least impacted portion as determined in the EA process. Land sales, land transfers, and land exchanges will be discouraged pending review through the EA process. Mitigating measures for construction activities will be explored in the EA.

Facilities: The design and construction of facilities must be consistent with visual and ROS direction. Existing roads will be managed to Maintenance Level 2 (high clearance), or may be improved to access new recreation facilities. No new roads will be constructed unless needed to access new recreation facilities.

Compatible recreation facilities include winter and summer use trails, bridges, trailheads, campgrounds, shelters, signs, staging areas for motorized uses, parking areas, play areas, skill trails, toilets, and viewpoints. Compatible wildlife habitat improvement facilities include guzzlers and other water developments. Design trails for multiple uses including, but are not limited to, ATV use, trail biking, mountain bicycling, snowmobiling, hiking, horse riding, nordic skiing, and use by the physically challenged. Emphasize construction and maintenance of trails for motorized use. Emphasize construction of loop trails for day use.

Future Development: Development of a motorized loop route between Thielsen Creek and Thirsty Creek, for use by ATV's and motorized trail bikes Development of a motorized trail from Diamond Lake to this zone, also for use by ATV's and motorized trail bikes.

Fire Management: On wildfires, use methods which minimize impacts to use areas, waterbodies, and travel routes. Heavy equipment should be avoided unless an Escaped Fire Situation Analysis indicates that the resource damage from equipment would be more than offset by reducing fire damage. An appropriate suppression response will be utilized on all wildfires. Prescribed burning of natural fuels permitted to the extent needed to meet this goal.

West Thielsen Zone - Zone 7

General Description: The West Thielsen Zone borders the west boundary of the Mt Thielsen Wilderness and is in close proximity to Diamond Lake. This zone includes several trails Tipsoo Peak, Howlock, Spruce Ridge, Mt. Thielsen, and Pacific Crest National Scenic Trails. All of these trails except Spruce Ridge provide important access to the Mt. Thielsen Wilderness. Other than trails, there are no recreation facilities within this zone, which receives a relatively high amount of summer hiking, horseback, and nordic ski use. Recreation use is approximately 2,500 recreation visitor days per year The west boundary of this zone is 500 feet east of Highway 138 and 200 feet east of the Summit Rock Road.

Management Direction

Goal: Provide a variety of opportunities for nonmotorized uses, in close proximity to the Diamond Lake Composite. Serve as a transition between the concentrated developed recreation use at Diamond Lake and the Mt Thielsen Wilderness.

Recreation Management: ROS direction is semi-primitive nonmotorized (SPNM). High probability of experiencing solitude, closeness to nature, tranquility, self reliance, challenge, and risk Natural-appearing environment with a low interaction between users, but some evidence of other users, and a minimum of subtle on-site controls. Motorized use is prohibited year-round, and the zone will be closed to such use by special order

Mountain bicycle use is allowed only on Trail 1448 from its junction with Highway 138 to its junction with Trail 1458, and on Trail 1458 from the previous junction to the junction with Trail 1456, and on Trail 1456 from the previous junction to Highway 138.

Trails are the primary access into the zone, and their length and difficulty vary. Emphasize construction of loop trails for day use. Maintenance levels are generally 1 through 3.

Search and rescue with motorized equipment is allowed Law enforcement visibility at low level.

Visual Resource Management: The VQO is retention All interior trails, roads, waterbodies, and use areas are Sensitivity Level 1. A VQO of partial retention will be applied where timber is harvested to meet management objectives for the area.

Wildlife and Fish: May provide habitat for old growth species. Actions necessary to maintain or improve wildlife habitat are

compatible. Installation of structures to provide water for wildlife is encouraged.

Range: Livestock grazing is compatible to the extent that such use will not significantly adversely affect the resources of the recreation area.

Timber: Harvest of catastrophic timber loss is consistent with management prescription. No regeneration harvest programmed. No scheduled salvage harvest activities. Harvest is allowed to prevent and control insects, diseases and other damaging agents and to prevent catastrophic mortality from insects, disease, or fire. Salvage of major timber mortality caused by fire, insects, disease, blowdown, or other causes is allowed when the scenic characteristics of the Recreation Area are significantly affected, or the health and safety of the public is threatened, or the overall protection of the forested area inside or outside the recreation area might be adversely affected by failure to remove the dead or damaged timber. Timber harvest is also allowed to maintain or improve wildlife habitat, water yield and quality, forage production, and dispersed outdoor recreation opportunities.

Watershed: Structural improvements shall be compatible with ROS goals and prescribed visual quality objective.

Minerals: Extraction of common variety minerals shall be discouraged, unless *needed for construction projects within the* area. Effective January 1, 1989, and subject to valid prior existing rights, the lands located within the OCRA are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to the mineral leasing and geothermal leasing and all amendments thereto.

Lands: Issue special-use permits consistent with the Act. The location of any new utility corridors within the boundaries of this management area will be discouraged. When they must be located within the area, lines will be put underground, or cross the area at its narrowest or least impacted portion, as determined in the EA process. Land sales, land transfers, and land exchanges will be discouraged pending review through the EA process. Mitigating measures for construction activities will be explored in the EA.

Facilities: The design and construction of facilities must be consistent with visual and ROS direction. Compatible recreation facilities include winter and summer use trails, bridges, trailheads, shelters, signs, and toilets. Compatible wildlife habitat improvement facilities include guzzlers and other water developments. Trails should be designed for multiple uses including, but not limited to, nordic skiing, hiking, mountain bike riding, horse riding, and physically challenged users. Emphasize construction of loop trails for day use.

Fire Management: On wildfires, use methods which minimize impacts to use areas, waterbodies, and travel routes. Heavy equipment should be avoided unless an *Escaped Fire Situation Analysis indicates* that the resource damage from equipment would be more than offset by reducing fire damage. An appropriate suppression response will be utilized on all wildfires Prescribed burning of natural fuels permitted to the extent needed to meet this goal.

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Table A-4-11 Summary of Management Direction by Zone

Management Direction	Zones: Summit/ Crescent L	Timpan-ogas	Calamut	Lil Deschutes Big Marsh	N. Umpqua	Thirsty Point	West Thielsen
AREA ROS	SPNM	SPNM	SPM	SPNM	SPNM	SPM	SPNM
TRAIL ROS	SPM/NM 2	SPM	SPM	SPM/NM 2	SPNM	SPM	SPNM
WINTER ORV	Yes 1	Yes 1	Yes	Yes 1	Yes	Yes	No
Summer ORV	Yes 1	Yes 1	Yes	Yes 1	No	Yes	No
Mountain Bikes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New Rec Facilities	Yes	Yes	Yes	Yes	No	Yes	No
New Trails	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wildlife and Fish	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Legend

ROS - Recreation opportunity spectrum classification

SPM - Semi-primitive motorized

SPNM - Semi-primitive nonmotorized

Notes

1) Restricted to designated trails

2) Manage designated existing trails for motorized use; new trails would be nonmotorized

Winter ORV - Snowmobile and Class 1 ATV allowed when posted
Summer ORV - Class 1 ATV and two-wheeled motorized use allowed, unless posted closed
New Rec Facilities - Includes new campgrounds, water systems and picnic areas
Wildlife and Fish - Wildlife and fish enhancement projects

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Other Management Considerations

Windigo Pass Corridor

Windigo Pass Transportation Corridor: The OCRA borders the Windigo Pass Road 500 feet from centerline on both sides. This road is utilized both by summer recreationists and by snowmobiles traveling between Diamond and Crescent Lakes.

Windigo Pass Road (No. 60), from its junction with Forest Development Road (FDR) 6020 on the Deschutes National Forest south to its junction with FDR 6000-700 on the Umpqua National Forest will be managed as follows:

> There is no immediate need to improve this road since it is adequate to handle the existing low volume of traffic use The Windigo Pass Road will be managed at its current design and maintenance standards for the foreseeable future
>
> The road may be improved in the future as needed to accommodate increased traffic demands. Any future upgrading of the road or improvement in road standards will be undertaken only after further NEPA documentation and public involvement, and will include both *the Umpqua and the Deschutes* National Forests Although most reconstruction would occur outside the OCRA, reconstruction inside the OCRA would not be precluded under the Act.

The Windigo Pass Road will be left unplowed and will be available as a snowmobile route in winter

Windigo Pass Utility Corridor: The possibility for a utility corridor exists through Windigo Pass outside of the OCRA. As the boundary of the OCRA follows the curvature of Forest Road No. 60, the construction of a power transmission line totally within the boundary of this window may not be practical. However, Section 4 (e) of the Oregon Wilderness Act of 1984, which established the OCRA, states, "Within the recreation area, the Secretary may permit, under appropriate regulations, those limited activities and facilities which he determines necessary for resource protection and management and for visitor safety and comfort, including . . . (6) public services land occupancies, including power transmission lines, provided there is no feasible alternative location, and, the Secretary finds that it is in the public interest to locate such facilities within the recreation area."

Cinnamon Butte

The OCRA borders Cinnamon Butte within 200 feet of the road accessing the summit of the butte This site contains an active Forest Service lookout, an electronics site operated by Douglas County, a TV translator operated by Diamond Lake Lodge, and a helispot. This site provides the best view of the OCRA and Mt Thielsen Wilderness accessible by automobile. The upper portion of the Cinnamon Butte road should be reconstructed for safety reasons before it is advertised as a viewpoint to the general public.

Pacific Crest National Scenic Trail

The Pacific Crest National Scenic Trail (PCNST) is located on the crest of the Cascade Range and traverses the entire length of the OCRA, approximately 45 miles. Direction for managing the PCNST is provided in the National Trails System Act and the Comprehensive Management Plan for the Pacific Crest National Scenic Trail of 1982. The plan characterizes the entire trail using the five Recreation Opportunity Spectrum (ROS) classes That portion of the trail within the OCRA is described by only three classes: 1) primitive, 2) semi-primitive nonmotorized, and 3) semi-primitive motorized, with stated objectives for each ROS class. Motorized use is not permitted on the PCNST.

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Wilderness

Within the OCRA, portions of the Diamond Peak Wilderness and the entire Mt. Thielsen Wilderness lie, totalling 70,800 acres, located such that they comprise the northern and southeastern boundaries of the OCRA. Use in the two wildernesses is primarily from early July through October with snowpack conditions limiting the use season. The Oregon Wilderness Act of 1984 is very specific as to the management of these areas, stating that new or existing wilderness will continue to be managed in accordance with the Wilderness Act of 1964, and in accordance with appropriate wilderness management plans.

Appendix 5

Planned Timber Sales Program 1991 - 1994

This Appendix is intended to provide some information on individual planned timber sales for the next three years. The information is based on current conditions and information available at the time of Forest Plan development. If conditions change or new information becomes available, the timber sales program may be modified during the implementation of the Plan. The total of the proposed sales that are listed in this Appendix do not add up to the Allowable Sale Quantity for the Forest for the years covered. The degree of modification will determine whether or not the Plan needs amendment, in accordance with the required process.

Note: The column on the following tables labelled "sawtimber" is the volume that is chargeable against the Allowable Sale Quantity (ASQ). The column labelled "converted" includes the ASQ volume as well as some additional volume that is not chargeable against the ASQ, such as dead lodgepole pine.

PROPOSED TIMBER SALE SCHEDULE
FISCAL YEARS 91-93

DISTRICT: 01 BEND

FY	SALE NAME	LOCATION	MBF SAWTIMBER	MBF CONVERTED	MILES CONST	MILES RECON	ACRES	MGMT AREA	ANAL AREA	HARVEST METHOD	HARVEST ACRES
91	BENCH	T20S R8E	7,000	7,000			400	GF	16	150 SELECTION	400
91	LAST RESORT	T19S,R8E	2,500	2,500			726	GF	14	150 SELECTION	726
91	MISC SALVAGE	BEND RD	1,500	1,500			150	GF		150 SELECTION	150
91	S-H PINE	BEND RD	3,000	3,000			1,000	GF	4	220 COMMER THIN	1,000
	FY TOTALS		14,000	14,000			2,276				
92	FALL	T20S R9E	500	500			38	GF	5	150 SELECTION	38
92	LABRIDGE	T19SR R8E	2,100	2,100			451	GF	14	150 SELECTION	451
92	LOOKUP	T20S R8E	2,400	2,400			220	GF	20	150 SELECTION	220
92	MISC SALVAGE	BEND RD	1,500	1,500			100	GF		150 SELECTION	100
92	SIAH	T.19,20S ,R9E	6,630	6,710			663	500	12	150 SELECTION	663
92	TIE	BEND RD	900	900			150	GF	4	220 COMMER THIN	150
92	TWINS	T21S R7E	3,000	3,000			186	GF	18	150 SELECTION	186
	FY TOTALS		17,030	17,110			1,808				
93	COLT	T20S R10E	3,200	3,200			288	GF	11	150 SELECTION	288
93	MAGMA	T20S R10E	6,100	6,100			227	GF	13	150 SELECTION	227
93	MISC SALVAGE	BEND RD	1,500	1,500			100	GF		150 SELECTION	100
93	OUTCROP	BEND RD	7,400	7,400			472	GF	12	150 SELECTION	472
93	SNOWCONE	T20S R9E	3,700	3,700			269	GF	12	150 SELECTION	269
	FY TOTALS		21,900	21,900			1,356				
	DISTRICT TOTALS		52,930	53,010			5,440				

PROPOSED TIMBER SALE SCHEDULE
FISCAL YEARS 91-93

DISTRICT: 02 CRESCENT

FY	SALE NAME	LOCATION	MBF SAWTIMBER	MBF CONVERTED	MILES CONST	MILES RECON	ACRES	MGMT AREA	ANAL AREA	HARVEST METHOD	HARVEST ACRES
91	BITTERSWEET LP SALVAGE	T25S R9E	300	5,870	2 3		1,345	GF	35	132 SD TR SEED	1,345
91	BLOCK	T25S,R8E,SEC12,13	1,640	1,640			330	SV	35	151 TREE SELECT	330
91	CAVITY LP SALVAGE	T25S 49E S 16		108			41	GF	35	230 SANITATION	41
91	HIKER LP SALVAGE	T25&26S R9E	200	3,490	1 0	3 0	741	GF	35	132 SD TR SEED	741
91	ICY LP SALVAGE	T24S R10-11E	1,400	4,000			800	GF	34	132 SD TR SEED	800
91	MUTTONCHOP	T25S 26S R7E	6,900	7,400	5 9	6.4	2,984	GF	43	132 SD TR SEED	2,984
91	POWERLINE LP SALVAGE	T25S R7E	3,900	4,000	1 0	6.0	1,413	GF	37	132 SD TR SEED	800
								GF	37	143 OVERS REMOV	100
								GF	37	113 STAND	513
								SV	37	132 SD TR SEED	
91	SWEETTOOTH LP SALVAGE	T25S R9E SEC 17		90			18	GF	35	230 SANITATION	18
91	THUMB LP SALVAGE	T25S R9E SEC 20,29		132			33	GF	44	230 SANITATION	33
91	TRANSPIRE LP SALVAGE	T26S R7E	5,000	5,500	1.0	3 0	1,873	GF	41	132 SD TR SEED	600
								SV	41	132 SD TR SEED	100
								GF	41	131 SHELT SEED	1,173
91	UNCLAIMED LAVA	T22S R7E	4,000	6,000	1 0	1.0	1,180	GF	25	132 SD TR SEED	870
								SV	25	132 SD TR SEED	80
								GF	25	151 TREE SELECT	230
	FY TOTALS		23,340	38,230	12 2	19 4	10,758				
92	CABLES & BITS	T26S R8E	2,300	2,760			530	GF	44	113 STAND	30
								GF	44	220 COMMER THIN	500
92	JUNIOR LP SALVAGE	T22S R7E	1,520	2,976	5	1 0	640	GF	27	132 SD TR SEED	600
								GF	30	151 TREE SELECT	10
								REFG	20	151 TREE SELECT	30
92	NORTH LP SALVAGE	T24S R8E	6,822	11,062		5 0	2,555	GF	36	132 SD TR SEED	700
								GF	43	132 SD TR SEED	1,250
								GF	36	151 TREE SELECT	5

PROPOSED TIMBER SALE SCHEDULE
FISCAL YEARS 91-93

DISTRICT: 02 CRESCENT

FY	SALE NAME	LOCATION	MBF SAWTIMBER	MBF CONVERTED	MILES CONST	MILES RECON	ACRES	MGMT AREA	ANAL AREA	HARVEST METHOD	HARVEST ACRES
								GF	43	151 TREE SELECT	265
								PRFG	43	132 SD TR SEED	120
								PRFG	36	132 SD TR SEED	150
								PRFG	43	151 TREE SELECT	65
92	SPRINGAIRE LP SALVAGE	T24S R7E	2,250	4,290		1 0	955	GF	31	132 SD TR SEED	60
								GF	36	132 SD TR SEED	380
								GF	30	132 SD TR SEED	280
								GF	31	151 TREE SELECT	105
								PRFG	31	132 SD TR SEED	30
								PRFG	30	132 SD TR SEED	80
								REFG	31	132 SD TR SEED	20
	FY TOTALS		12,892	21,088	5	7 0	4,680				
93	BLACK ROCK	T23S R8E	2,792	2,792	1.4	6 0	292	GF	31	132 SD TR SEED	60
								GF	31	152 GROUP SELEC	162
								GF	31	151 TREE SELECT	30
								GF	35	151 TREE SELECT	40
93	PAWN LP SALVAGE	T26S R8E	3,067	4,963			1,630	GF	42	132 SD TR SEED	970
								GF	44	132 SD TR SEED	40
								GF	42	151 TREE SELECT	525
								GF	44	151 TREE SELECT	5
								PRFG	42	132 SD TR SEED	10
								PRFG	44	132 SD TR SEED	50
								PRFG	42	151 TREE SELECT	20
								PRFG	44	151 TREE SELECT	10
	FY TOTALS		5,859	7,755	1 4	6 0	1,922				
	DISTRICT TOTALS		42,091	67,073	14.1	32 4	17,360				

PROPOSED TIMBER SALE SCHEDULE
FISCAL YEARS 91-93

DISTRICT. 03 FORT ROCK

FY	SALE NAME	LOCATION	MBF SAWTIMBER	MBF CONVERTED	MILES CONST	MILES RECON	ACRES	MGMT AREA	ANAL AREA	HARVEST METHOD	HARVEST ACRES
91	FISHHOOK - 91	T21S,R12E,S29	500	3,500	2 0	9 0	3,736	SV	54	113 STAND	369
								GF	54	132 SD TR SEED	2,279
								SV	54	132 SD TR SEED	315
								GF	54	113 STAND	579
								SV	54	143 OVERS REMOV	53
								GF	48	143 OVERS REMOV	141
91	KATATI LP SALVAGE	T24S R12E SEC 19		11,000	3 0	4 0	4,254	GF	67	113 STAND	519
								GF	67	143 OVERS REMOV	161
								GF	67	132 SD TR SEED	2,858
								SV	67	113 STAND	358
								SV	67		358
91	KO	T23,R16E,S6	3,700	4,100	1 0	13 0	2,000	GF	63	150 SELECTION	2,000
91	ROWDY	T24S,R12E,SEC20		11,000			3,000	GF	67	132 SD TR SEED	3,000
91	SMALL SALES 1991		1,100	4,000			2,100	GF		230 SANITATION	2,100
91	TOPSO	T22S,R13E,S20	1,500	4,000			2,000	GF	60	132 SD TR SEED	2,000
	FY TOTALS		6,800	37,600	6.0	26 0	17,090				
92	COWPATH - 92	T23S,R14E,S29	8,000	8,000	1 0	33 2	4,200	GF	66	150 SELECTION	3,050
								SV	66	131 SHELT SEED	150
								SV	66	143 OVERS REMOV	150
								DH	66	150 SELECTION	300
								GF	66	143 OVERS REMOV	550
92	EAST SIDE BUTTE	T22S R14E SEC 13	2,000	2,000	2 0	5 4	200	SV	61	143 OVERS REMOV	200
92	N END BUTTES -92	T20S R12E SEC 15	2,000	2,000			539	SV	47	143 OVERS REMOV	539
92	SMALL SALES 1992	T21S,R13E	1,700	3,000			1	GF		230 SANITATION	1
										132 SD TR SEED	
92	SOUTH PAULINA CREEK - 92	T22S R11E SEC 13	2,300	4,300	1 0	6 5	2,910	GF	54	143 OVERS REMOV	1,530
								GF		132 SD TR SEED	1,180
								SV	54	143 OVERS REMOV	200
92	WOOF LP SALVAGE	T 23 S , R 11 E , SEC 11	1,000	4,000			2,000	GF	58	132 SD TR SEED	2,000
	FY TOTALS		17,000	23,300	4 0	45 1	9,850				

PROPOSED TIMBER SALE SCHEDULE
FISCAL YEARS 91-93

DISTRICT. 03 FORT ROCK

FY	SALE NAME	LOCATION	MBF SAWTIMBER	MBF CONVERTED	MILES CONST	MILES RECON	ACRES	MGMT AREA	ANAL AREA	HARVEST METHOD	HARVEST ACRES
93	BEASEL	T.22 S , R 13 E , SEC 14	800	1,000	3 0	6.0	300	GF	60	143 OVERS REMOV	200
								GF		132 SD TR SEED	100
93	EMERALD SALVAGE	T 23 S., R.12 E., SEC 10	1,800	2,800			1,400	GF	59	143 OVERS REMOV	700
								GF		132 SD TR SEED	700
93	SMALL SALES - 93		1,150	1,500				GF		230 SANITATION	
93	SOUTH CENTRAL BUTTES	T.23 S., R 13 E., SEC.5	2,000	2,000			576	SV	60	143 OVERS REMOV	576
	FY TOTALS		5,750	7,300	3.0	6.0	2,276				
	DISTRICT TOTALS		29,550	68,200	13 0	77 1	29,216				

PROPOSED TIMBER SALE SCHEDULE
FISCAL YEARS 91-93

DISTRICT. 05 SISTERS

FY	SALE NAME	LOCATION	MBF SAWTIMBER	MBF CONVERTED	MILES CONST	MILES RECON	ACRES	MGMT AREA	ANAL AREA	HARVEST METHOD	HARVEST ACRES
91	COLD BEAR	T12S R8E	4,000	4,000	5		395	MSF	71	113 STAND	395
91	LEFT FIELD	ENTIRE DISTRICT	2,000	2,000			461	SV	82	141 SHELT REMOV	461
91	MAINLINE	T14S R9E	7,500	7,500			625	GF	79	121 SHELT PREP	625
91	MISC SALVAGE	ENTIRE DISTRICT	2,500	2,500				GF	79	230 SANITATION	
91	UNDERPASS		3,000	3,000			350	GF	82	121 SHELT PREP	350
	FY TOTALS		19,000	19,000	5		1,831				
92	BLACK BEAUTY	T15S R09E	6,000	6,000			350	FC	79	131 SHELT SEED	350
92	DJ	T14S R8E SEC 2,3,8-10,14	11,970	11,970		8 8	493	GF	79	121 SHELT PREP	25
								GF	79	151 TREE SELECT	124
								GF	79	113 STAND	201
								GF	79	220 COMMER THIN	38
								GF	79	143 OVERS REMOV	46
								GF	78	113 STAND	36
								GF	78	143 OVERS REMOV	23
92	FALL	T13S R9E	6,000	6,000			450	GF	74	121 SHELT PREP	450
92	FLAPJACK	T12S R9E	3,000	3,000			600	MHA	72	113 STAND	600
92	KIDNEY	T11S R10E	7,500	7,500	5	5	480	GF	73	113 STAND	480
92	LOWER BUTTE	T13S R9E	6,200	6,200			834	GF	76	113 STAND	834
92	NOVA ONE	T16S R09E	6,000	6,000			675	FC	82	131 SHELT SEED	675
92	ROBO	T15S R09E	5,000	5,000			600	GF	82	150 SELECTION	600
92	TIC-TAC-TOE	T14S R9E	3,500	3,500			600	GF	78	113 STAND	600
	FY TOTALS		55,170	55,170	5	9.3	5,082				
93	GAMBLER	T13S R9E	5,500	5,500			550	MHA	78	150 SELECTION	350

PROPOSED TIMBER SALE SCHEDULE
FISCAL YEARS 91-93

DISTRICT 05 SISTERS

FY	SALE NAME	LOCATION	MBF SAWTIMBER	MBF CONVERTED	MILES CONST	MILES RECON	ACRES	MGMT AREA	ANAL AREA	HARVEST METHOD	HARVEST ACRES
								MHA	78	220 COMMER THIN	200
93	GATEWAY	T15S R9E	2,500	2,500		1 0	350	GF	79	131 SHELT SEED	350
93	GORGE	T13S R09E	2,500	2,500			300	MHA	72	160 PARTIAL REM	300
93	KNAPSACK	T14S R9E	3,500	3,500	9	1 0	300	GF	79	150 SELECTION	300
93	LITTLE Z	T11S R9E	4,000	4,000		5	330	MHA	73	113 STAND	330
93	MIDWAY	T14S R9E	3,500	3,500		1 5	350	DH	76	150 SELECTION	350
93	QUEST	T13S R09E	7,000	7,000			650	MBB	77	150 SELECTION	650
93	SPROUT	T16S R8E	4,000	4,000		1 0	450	FC	84	131 SHELT SEED	450
	FY TOTALS		32,500	32,500	9	5.0	3,280				
	DISTRICT TOTALS		106,670	106,670	1 9	14 3	10,193				
	FOREST TOTALS		231,241	294,953	29 0	123 8	62,209				

APPENDIX 6
MONITORING WORKSHEETS

Monitoring Worksheets

The following worksheets include all the items that are listed on the Monitoring Matrix (see Chapter 5, Forest Plan). They include additional information than in the Matrix and should be referred to when monitoring is accomplished.

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MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Management Area.

AREA OF CONSIDERATION: Integrated Resource Areas (IRA).

RISK INDEX: Low.

MONITORING QUESTIONS:

Are the standards/guidelines in the Forest Plan being adhered to?

Are the standards/guidelines in Management Areas being adhered to?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Review by District/SO Review Team and Forest Planning Staff.

Review team conducts a TROA for one IRA per District per year.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $1,500.

REMARKS:

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MONITORING WORKSHEET

MONITORING ELEMENT: Soils and Water S&GS/Best Management Practices (BMP's).

GOAL: Incorporation of effective soil and water practices into project work.

AREA OF CONSIDERATION: All Management Areas.

RISK INDEX: High.

MONITORING QUESTIONS:

Are soil and water management practices being used?

Are soil and water management practices effective?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

IRA Review Team and Forest Planning Staff evaluation of project work

Review one IRA per District per year.

District review of each project

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $14,500 (80 person days at $180 per day).

REMARKS:

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MONITORING WORKSHEET

MONITORING ELEMENT: Riparian Area Practices.

GOAL: Implementation of effective practices in the management of riparian areas.

AREA OF CONSIDERATION: Management Areas 2,3,5,6,7,8,9,10,11,12,13,14,15,16.

RISK INDEX: High.

MONITORING QUESTIONS:

Are riparian management practices being met?

Are riparian management practices effective?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

IRA review team evaluation of project work

Review one IRA per District per year.

District review of each project.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $5,100 (30 person days at $170/day) .

REMARKS:

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MONITORING WORKSHEET

MONITORING ELEMENT: Open Road Density

GOAL: Achieve open road densities needed to achieve resource objectives as described in Forest Plan standards/guidelines.

AREA OF CONSIDERATION: All roaded Management Areas.

RISK INDEX: Low.

MONITORING QUESTIONS:

Are the Forest-wide standards/guidelines being met?

Are the Management Area standards/guidelines being met?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

IRA Team review of one IRA per District per year

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $3,100 (18 person days at $170/day).

REMARKS:

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MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT. Snag Habitat.

AREA OF CONSIDERATION: All forested areas will have habitat capability objective levels prescribed, but only those where timber harvest or fuelwood gathering is permitted will be significantly affected.

GOAL: Maintain number, size and distribution of snags and future snags to meet habitat capability objectives as shown by Management Area in the Forest Plan.

RISK INDEX: High.

MONITORING QUESTIONS:

1. Are snags and replacement trees being left in the right numbers, sizes and distribution on lands available for timber removal?

2. Are snags and replacement trees being maintained as planned on all other lands?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

IRA Review Team conducts TROA of one IRA per District per year.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: Variable, but less than $5,000 per year.

REMARKS:

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MONITORING WORKSHEET

MONITORING ELEMENT: Dead and Down Logs.

AREA OF CONSIDERATION: All Management Areas.

GOAL: Provide levels of dead and down woody material identified in the Forest Plan standards/guidelines

RISK INDEX: Low

MONITORING QUESTIONS:

1. Are the standards/guidelines in the Forest Plan being implemented, and are they adequate?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

IRA Review Team conducts TROA on one IRA per District per year.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $2,500.

REMARKS:

Further study needed on wildlife use/need for down logs on drier, east-side forest ecosystems.

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Timber Management S&Gs (Includes Vegetative Diversity).

AREA OF CONSIDERATION: Management Areas 3,7,8,9,11,16,18.

RISK INDEX: High.

MONITORING QUESTIONS:

Are the relevant Forest Plan standards/guidelines being met?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

IRA Team review of each project and all activities in one IRA per District per year.

Individual projects to be monitored by District ID Team and/or RDMA Staff through project EAs, appraisal and contract review, field reviews, and formal surveys (i.e transects, plots).

Action Threshold: Consistent, or significant deviation from the practices, policies or results, described in the standards/guidelines.

Action: Assemble a monitoring team (could be an existing ID Team, the District RDMA Team, SO Planning Team, or an ad hoc team) to analyze the problem and suggest remedial action. Remedial action may consist of changing the standards/guidelines (through the NEPA process), changing technical practices, or sorting out some structural organizational or management problem. Institute the remedial action.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $8,000.

REMARKS:

MONITORING WORKSHEET

MONITORING ELEMENT: Soil Restoration Targets.

GOAL: Achievement of 400 acres of soil restoration per year.

AREA OF CONSIDERATION: Management Areas 7,8, and 9.

RISK INDEX: High.

MONITORING QUESTIONS:

Are the Forest Plan soil restoration targets being achieved?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Annual Accomplishment Report.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $200 (1 person day at $170/day).

REMARKS:

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Detrimental Soil Disturbance.

GOAL: Enhancing or maintaining soil productivity and controlling erosion on the Forest

AREA OF CONSIDERATION: All Management Areas.

RISK INDEX: High.

MONITORING QUESTIONS:

1 Is soil productivity being adequately protected (at least 80 percent of an activity area is not in a detrimental impacted condition)?

2. Have soil restoration methods (tillage, smoothing, fertilizing or spreading biologically-rich soil materials) been effective in returning detrimental damaged areas to a productive state?

3 Are particular management activities or machinery types accounting for the majority of the detrimental soil impacts in the sensitive soil areas?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Question 1. Quantitative sampling (see FSM 2520 R-6 SUPP 50) on 50 activity units annually using statistically accurate procedures. At least 75 percent of the sampled units must be on soils considered sensitive to management. These are considered to be the best timber growing sites, slopes over 30 percent, soils with seasonal high water table, with a high compaction hazard, and with a high or extreme water or wind erosion hazard. Reporting Years: Biennially 2,4,6 etc.

Question 2. Measure soil conditions before and after restoration activities are conducted on areas that have been detrimentally impacted during management Reporting Years· Annually

Question 3. Measure soil conditions resulting from at least two commonly accepted machinery types or objectives a year (pre and post activity) to measure their impacts in sensitive soil areas Reporting Years Annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. Administrative costs = $2,000
Cost of data collection = $5,000.

REMARKS: All monitoring is in accordance with Forest Service Manual direction as well as 36CFR 219 12(k) and (k)2, 219.27.

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Water Temperature.

AREA OF CONSIDERATION: Any project with potential to affect stream/lake temperatures.

GOAL: No management induced changes in water temperature outside the desired range of a benefiting resource (domestic water supply, fish)

RISK INDEX: High.

MONITORING QUESTIONS:

Are management induced changes in stream temperature negatively affecting benefiting resources?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Pre-project evaluations.

2. Field monitoring prior to and for at least three consecutive years after project implementation.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $7,800 (40 days at $170/day and $1000)

REMARKS:

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Channel Morphology and Low Flows.

GOAL: Management activities will not negatively affect channel structure or reduce low flows.

AREA OF CONSIDERATION: Management Areas 3,4,5,7,8,9,10,11,12,13, and 16.

RISK INDEX: High.

MONITORING QUESTIONS:

Are the cumulative or individual effects of management projects significantly affecting channel structure or low flows?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Field sampling of indicator stream channel stability and low flows affected by timber harvest and roading activities. Stream width, depth and residual pool volume will be measured during low flow periods. Report every two years.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $19,000 (30 Stations/year at 4 days/stream at $150/day plus $1,000 for equipment).

REMARKS:

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Riparian Allotment Bank Conditions.

AREA OF CONSIDERATION: Management Areas 7 and 8.

GOAL: Livestock damage to stream channels maintained at levels which will not degrade water resources and fish habitat

RISK INDEX: Low.

MONITORING QUESTIONS:

Is livestock grazing detrimentally affecting stream channels and fish habitat?

Are channel standards defined in allotment management plans being achieved?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Survey channel conditions for streams within allotments once every five years. More frequent monitoring may be needed if unacceptable conditions are encountered.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $8,000 (10 miles of stream/year at $500/mile and $3,000 for equipment and analysis).

REMARKS:

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Bald Eagle Population Trends and Habitat Capacity.

GOAL: Meet recovery levels established in Pacific States Bald Eagle Recovery Plan.

AREA OF CONSIDERATION: Bald Eagle Management Areas with existing nest sites, potential nest sites and winter roost sites.

RISK INDEX: High

MONITORING QUESTIONS:

1. Are 20 suitable bald eagle nest sites being maintained on the Forest?

2. Are Management Areas (includes winter roost sites) being managed as required by the standards/ guidelines?

3. Is the population trend of bald eagles level?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Field survey of potential sites. Each site reviewed at five year intervals.

2. Review of project plans to ensure standards/guidelines have been included. As projects occur.

3. Annual interagency survey of nest sites. Winter survey as done.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $3,000.

REMARKS:

(Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.).

Nest site surveys currently are coordinated with the state agencies. Surveys to locate winter roost sites are needed.

MONITORING WORKSHEET

MONITORING ELEMENT: Osprey Population Trends.

GOAL: Nesting habitat and foraging areas will be protected and enhanced on a continuing basis.

AREA OF CONSIDERATION Management Area 5 Osprey.

RISK INDEX: High

MONITORING QUESTIONS:

1. Are the standards/guidelines in the Plan being implemented, and are they adequate?

2 Are desired nesting population levels being reached?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Review project plans to determine if standards/guidelines are being implemented. Review annually. Report every five years.

2. Nest occupancy surveys in Osprey Management Areas - Annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES $2,500

REMARKS.

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Three-Toed Woodpecker Population Trends and Nesting Habitat Capacity.

GOAL: Maintain habitat effectiveness of three-toed woodpecker habitat identified in the Forest Plan.

AREA OF CONSIDERATION: Old Growth Management Areas and MR stands containing lodgepole pine forest or mixed conifer forest with lodgepole pine.

RISK INDEX: High.

MONITORING QUESTIONS:

1. Are the areas identified as woodpecker habitat in the Forest Plan being maintained?

2. Are the standards/guidelines in the Plan being implemented?

3. What is the population trend of three-toed woodpeckers?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. (a) Track all areas by examining those that are, or may be, affected by management of other resources (as projects occur) or mountain pine beetle infestations. Annual review, with report every five years.
(b) Examine five percent of habitat areas every year to sample for mountain pine beetle infestation. Report every five years.

2. TROA Review.

3. Conduct systematic surveys to identify population trends (every two years).

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $6,000.

REMARKS:

Use annual regional entomological data maps Continued research is needed on habitat relationships.

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Northern Spotted Owl Population Trends and Nesting Habitat Capacity.

AREA OF CONSIDERATION: Management Areas 2,3,6,8,9,10,11,12,13,14,15,16.

RISK INDEX: High.

MONITORING QUESTIONS:

1. Is the Forest's spotted owl habitat capacity objective being achieved?

2. Are management activities incorporating suitable measures to protect spotted owl nest sites?

3. *Are anticipated spotted owl population trends being achieved?*

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Habitat surveys of spotted owl nest areas once every five years.

2. IRA Reviews - Annually.

3. Trend Counts - Annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $15,000.

REMARKS:

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Peregrine Falcon and Wolverine Population Trends.

GOAL: Meet recovery goals for the peregrine falcon, and protect occupied wolverine essential habitat found to occur on Forest.

AREA OF CONSIDERATION: All Management Areas where suitable habitat exists.

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Are existing (or potential) peregrine nest sites or wolverine habitat being used, and are they as productive as planned?

2. Are the standards/guidelines in the Recovery Plan and Forest Plan being followed?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Annual survey of occupied sites in cooperation with USDI Fish and Wildlife Service and Oregon Department of Fish and Wildlife.

2. Periodic surveys (every other year) of potential sites in cooperation with USDI Fish and Wildlife Service and Oregon Department of Fish and Wildlife

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $1,000.

REMARKS:

Further studies are needed to determine distribution of both species.

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Pine Marten Population Trends and Habitat Capacity

GOAL: Provide habitat areas that meet or exceed the standards given in the Forest Plan for marten habitat.

AREA OF CONSIDERATION: All Management Areas west of Highway 97 with mountain hemlock, mixed conifer, or lodgepole pine forest.

RISK INDEX: High.

MONITORING QUESTIONS:

1. Are the areas identified as marten habitat being managed as described in the standards/guidelines, i.e., size, spacing and age of timber stands?

2. What is the trend of marten population?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. TROA Review.

2. Examine ten percent of areas each five years to determine habitat effectiveness. Report each ten years.

3. Establish systematic survey to determine trends. Survey every two years.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $5,000.

REMARKS:

Need to develop habitat relationships for the area being monitored Encourage ODFW to develop census methods.

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Deer and Elk Population Trends and Habitat Capacity.

GOAL: Maintain habitat capability to support populations identified in the Forest Plan.

AREA OF CONSIDERATION: Deer Habitat Management Area, and all other Management Areas with identified deer or elk habitat.

RISK INDEX: High.

MONITORING QUESTIONS:

1. Are the populations being maintained as predicted in the Plan?
2. Are the standards/guidelines being followed as required to meet habitat capability levels established for the Management Area?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. State agency census records.
2. Habitat relationship modeling for projects affecting habitat capability.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $6,000.

REMARKS:

Will rely on State for census data. Need additional research on habitat relationships, and elk distribution.

MONITORING WORKSHEET

MONITORING ELEMENT: Townsend's Big-Eared Bat Habitat.

GOAL: Protect the species by (1) restricting human disturbance and habitat alteration at key habitats, (2) restricting public knowledge of these locations, (3) habitat enhancement.

AREA OF CONSIDERATION: Specific caves identified in working paper records.

RISK INDEX: High.

MONITORING QUESTIONS.

1. Are the standards/guidelines in the Plan being implemented, and are they adequate?

2. Are desired population levels being reached, and is reproductive success adequate to maintain the population over time?

3 Is human activity reducing or eliminating the suitability of occupied habitat?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Review all appropriate project plans to determine if standards/guidelines are being implemented. Annually - Report every fifth year.

2. Nursery colony reproduction surveys Annually - Report every fifth year.

3. Measure human presence in nursery colonies and hibernacula - and prepare a report, during the first year.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES· $7,000.

REMARKS·

Further studies needed to determine distribution of species on Forest.

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MONITORING WORKSHEET

MONITORING ELEMENT: Wildlife Habitat Improvement.

GOAL: Achievement of targets in the Forest Plan.

AREA OF CONSIDERATION: Forest-wide.

RISK INDEX: Low.

MONITORING QUESTIONS:

Are the Forest's wildlife targets being achieved?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Accomplishment Reports - Annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $100.

REMARKS:

MONITORING WORKSHEET

MONITORING ELEMENT: Threatened & Endangered or Sensitive Plants.

AREA OF CONSIDERATION. All Management Areas.

RISK INDEX: High.

MONITORING QUESTIONS:

1. Are the standards/guidelines in the Plan being implemented, and are they adequate?

2. Are plant density and distribution being maintained or increased?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. IRA Review.

2. Plant density surveys. Annually for two consecutive years out of every five years. Report at conclusion of second survey year.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $30,000.

REMARKS:

Further studies are needed to determine distribution of species on Forest.

APPENDIX 6
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MONITORING WORKSHEET

MONITORING ELEMENT: Fish Resource Habitat, Type of Fishery and Capacity, Improvements

AREA OF CONSIDERATION: All Management Areas.

RISK INDEX: High.

MONITORING QUESTIONS:

Are fish habitat objectives being achieved? (See Appendix 13 of the Forest Plan).

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Oregon Fish and Wildlife Creel Census Data

2. Public interviews.

3. Habitat surveys (once every ten years).

4. Pre-project assessments

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $20,000 - 30 miles of stream/year at $500/mile + $4,000 for interviews + $1,000 for analysis.

REMARKS:

MONITORING WORKSHEET

MONITORING ELEMENT: Fish Habitat/Sedimentation

GOAL: No management related increases in stream sedimentation which will have a detectable negative effect on fish habitat.

AREA OF CONSIDERATION: Management areas 3,4,5,7,8,9,10,11,12,13,15

RISK INDEX: High.

MONITORING QUESTIONS

Are management related increases in stream sedimentation having a detrimental effect on fish habitat?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Core and sieve analysis of potential spawning sites every two years.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $13,000 - 2 days collection of samples, 2 days of analysis, 1 day of evaluation for each station and 20 stations per year at $120/day +$1,000 for equipment.

REMARKS:

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MONITORING WORKSHEET

MONITORING ELEMENT: Indicator Fish Populations.

GOAL: A stable to rising trend.

AREA OF CONSIDERATION: Management areas 2,3,4,5,8,9,11,12,13,14,15.

RISK INDEX: Low.

MONITORING QUESTIONS:

What are the trends of indicator fish populations in response to management activities?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Survey of indicator segments on streams/lakes. Biennially for each indicator transect.

2. Oregon Department of Fish and Wildlife Fish Population Data.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $5,600 - 15 segments/year (10 snorkel + 5 shock [snorkel = 1/day/station, shock = 4 days/station]) at $120/day + $1,000 Data Analysis.

REMARKS:

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MONITORING ELEMENT: Forage Utilization - Utilization of upland and riparian forage by livestock.

AREA OF CONSIDERATION: Management areas 7,8,11,12,13,14,15,16.

RISK INDEX: Low.

MONITORING QUESTIONS:

Are forage utilization levels consistent with applicable standards/guidelines?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Sample key allotment areas with transects and/or photographs every two years

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $7,000 - 10 allotments/year and 5 days/allotment at $120/day + $1,000 for summary and materials.

REMARKS.

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MONITORING WORKSHEET

MONITORING ELEMENT. Range Condition and Trend.

GOAL: Achievement of predicted range condition and trend.

AREA OF CONSIDERATION: Management areas 7,8,11,12,13,14,15,16.

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Are range conditions and trends being maintained or improved in riparian areas and upland areas to meet Forest Plan objectives?

2. Have unsatisfactory conditions improved to satisfactory?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Transects and Photographs.

Sample allotments with unsatisfactory conditions once every five years and at least one allotment each year.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $45,000.

REMARKS:

MONITORING WORKSHEET

MONITORING ELEMENT: Permitted Grazing.

GOAL: Achievement of permitted grazing outputs

AREA OF CONSIDERATION. Management areas 7,8,11,12,13,14,15,16.

RISK INDEX. Low.

MONITORING QUESTIONS.

Are the annual outputs for commercial livestock use being achieved?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Review of annual grazing reports.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $100.

REMARKS:

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MONITORING WORKSHEET

MONITORING ELEMENT: Summer and Winter Trails Construction/Reconstruction.

AREA OF CONSIDERATION. All Management Areas.

RISK INDEX: Low

MONITORING QUESTIONS:

1. Are the amounts and types of trails meeting the needs of users?

2. Are trails being adequately maintained?

3. Is the Forest accomplishing its scheduled outputs for miles of trails per decade?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Survey user groups annually to see if trails program is providing for the needs of users.

2. Periodic monitoring, during each year, of trailhead counts to see if trails are being used.

3. Districts will conduct on the ground trail surveys to check trail conditions annually.

4. For monitoring question 3 above collect data annually and review every five years.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $3,000.

REMARKS:

The average annual miles of trails totals 85 miles (60 miles for summer and 25 for winter). These figures could change depending on user demands.

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MONITORING WORKSHEET

MONITORING ELEMENT: Semi-Primitive (Dispersed) Recreation.

Dispersed recreation includes all of the outdoor recreation activities that occur on the forest outside developed sites. It includes driving for pleasure, trail use in both summer and winter, fishing, hunting, camping and OHV riding.

AREA OF CONSIDERATION: All Management Areas.

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Is the Forest supplying semi-primitive recreation opportunities consistent with planned direction? Are planned ROS objectives being met?

2. Are standards/guidelines for dispersed recreation, trails and winter sports being met?

3. Is an adequate level of marketing being conducted to quantify and provide for the changing needs of Forest visitors.

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Annual field observations.

2 Activity reviews in trails, OHV use, road management and winter trail management. Conduct one review in each area during the ten year period.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES· $2,500.

REMARKS:

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MONITORING WORKSHEET

MONITORING ELEMENT: Wilderness Use and Impacts.

AREA OF CONSIDERATION. Management Area 6

RISK INDEX: High.

MONITORING QUESTIONS:

1. Are the standards/guidelines for this Management Area being met? Is the direction in Wilderness management plans being met?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Conduct annual field observations on limits of acceptable change standards and on in-depth analysis every three years

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES· $2,500.

REMARKS:

MONITORING WORKSHEET

MONITORING ELEMENT. Developed Recreation (Sites-construction/reconstruction; Use).

AREA OF CONSIDERATION· Management Area 11.

RISK INDEX: Low.

MONITORING QUESTIONS·

1. Is an adequate level of monitoring occurring to insure development is keeping pace with demand and resource capabilities?

2. Are resorts and other recreation special uses providing quality services and in compliance with their permits?

3. Are the vegetation and scenic qualities of developed sites being managed to maintain or enhance the appropriate recreation experiences?

4. Are marketing activities adequate to show changing user needs?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

A variety of monitoring methods will be employed·

1. Annual health and safety inspections of developed sites

2 Interdisciplinary field reviews Every three, six, nine years.

3. Developed sites activity reviews. One per decade

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES· $2,000 annually; $5,000/activity review.

REMARKS:

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MONITORING ELEMENT: Cultural Resource Management.

AREA OF CONSIDERATION: All Management Areas

RISK INDEX: For standards/guidelines - low; for site destruction - high.

MONITORING QUESTIONS:

1. Are the National Register characteristics of unevaluated and significant cultural resource properties being protected as stated in the Forest Plan and project EA's?

2 What percentage of recorded sites are being disturbed through illegal collecting/excavation activities?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. (a) Annually monitor ten percent of all significant sites in active project areas
   (b) Complete one cultural resources activity review during the planning period Every five and ten years.
   (c) Conduct interdisciplinary field review. Every five and ten years

2. Annually monitor ten percent of all recorded sites, concentrating on high-risk areas

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $10,000

REMARKS:

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MONITORING ELEMENT: Retention/Partial Retention (Visuals).

The visual quality of the Deschutes NF is extremely important to Forest visitors, the Central Oregon Tourism Industry, and to the 150 residential and recreational subdivisions within and adjacent to the Forest. Providing for other uses of the Forest, such as timber harvest and utility corridors, may affect the scenic quality of the viewsheds which are visible from travelways and recreation sites.

AREA OF CONSIDERATION. All Management Areas

RISK INDEX: High.

MONITORING QUESTIONS:

1. Are the standards/guidelines being met for each Management Area?

2. Are overall visual quality objectives being met?

3 What effect is visual management having on timber harvest?

4. Is the harvest +/- 20 percent of projected yield?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Question 1: Interdisciplinary field review. Complete one visual resource activity review within the ten year planning period. Every three, six and nine years.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $2,000 per IRA Review.

REMARKS:

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MONITORING ELEMENT: Congressionally Classified Areas (Other than Wilderness).

AREA OF CONSIDERATION: Oregon Cascades Recreation Area and Potential Wild and Scenic Rivers.

RISK INDEX: High.

MONITORING QUESTIONS:

1. Is the protection and management of these areas consistent with the standards/guidelines of the Forest Plan?

2. Is management meeting legislative intent?

3. Is management meeting direction in the area management plan?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

1. Interdisciplinary Reviews. Every 3 years.

2. Annual project field reviews.

3. Development of annual action plans with end of year critiques.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $2,000.

REMARKS:

This element does not appear on the matrix due to the multi-area involvement, varied emphasis, and potential for change in the near future.

MONITORING WORKSHEET

MONITORING ELEMENT: Fuelwood

AREA OF CONSIDERATION: Management Areas 7,8,9

RISK INDEX: Low.

MONITORING QUESTIONS·

Is the Forest supplying enough personal-use and commercial fuelwood?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Measure· Cords

When: Annually.

Who: District and Forest Timber Management Staff

How· Quarterly Personal-Use Firewood Sold Summary, STARS, contacts with vendors, TMA's, District Receptionists and field contacts.

Action Threshold· (a) When demand appears to exceed offerings.
(b) When negative public responses are received.

Action: If (a) - Increase offerings.
If (b) - Make the bureaucratics more user-friendly.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES $800

REMARKS:

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MONITORING WORKSHEET

MONITORING ELEMENT: Timber Management Standards/Guidelines (including Vegetative Diversity)

AREA OF CONSIDERATION: Management Areas 3,7,8,9,11,16,18

RISK INDEX: High.

MONITORING QUESTIONS:

Are the relevant standards/guidelines in the Forest Plan being followed?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Measure: The relevant standards/guidelines

When: Each project and all activities in one IRA on each District every year.

Who: *Individual projects monitored by District ID Team and/or RDMA Staff IRA reviews performed by* Forest Planning Staff with assistance from other Staffs and specialists as needed.

How: Project EA, appraisal and contract reviews, field reviews, formal surveys (i.e. transects, plots).

Action Threshold: Consistent, or significant deviation from the practices, policies or results, described in the standards/guidelines.

Action: Assemble a team (could be an existing ID Team, the District RDMA Team, SO Planning Team, or an ad hoc team) to analyze the problem and suggest remedial action. Remedial action may consist of changing the standards/guidelines (through the NEPA process), changing technical practices, or sorting out some structural organizational or management problem Institute the remedial action.

AVERAGE ANNUAL COST OF MONITORING: $8,000.

REMARKS:

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MONITORING ELEMENT: Timber Harvest Levels-MCF Offered-Chargeable.

AREA OF CONSIDERATION: Management Areas 3,7,8,9,11,16,18.

RISK INDEX: High.

MONITORING QUESTIONS:

What is the chargeable-regulated (ASQ) volume?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Measure: MCF.

When: Annually.

Who: Forest Timber Management Staff.

How: STARS.

Action Threshold: +/- ten percent of ASQ over the Planning Period.

Action: Prepare a report for files (1920 and 2400) explaining reasons for variance. If a trend is detected indicating the ASQ will not average out within +/- ten percent over the planning period institute proceedings to either modify management practices, in order to attain the average, or change the expected output level. Either action shall be done through the NEPA process, and be made an amendment to the Plan.

AVERAGE ANNUAL COST OF MONITORING: $2,000

REMARKS:

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MONITORING ELEMENT: Lands Suitable for Timber Management.

AREA OF CONSIDERATION: Management Areas 3,7,8,9,11,16,18.

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Have the lands that were identified in the Plan as not being suitable for timber management now become suitable for timber management due to a change in technology?

2. Are there lands identified as suitable for timber management which should be classified as unsuitable for timber management?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Measure: Acres.

When: As discovered or determined.

Who:
1. Specialist's field studies.

2. District ID Teams identify and document.

3. Forest Staff review.

4. Forest LMP Staff makes GIS change.

How: Same as 1-4 above.

Action Threshold: As discovered or determined.

Action: Make the change. Eventually the cumulative effect of such changes may reach the point where a change in the ASQ during the planning period is inevitable (see "Timber Harvest Levels" worksheet). In this case, both the change in suitability acreage and ASQ will be done through the NEPA process, and be made amendments to the Plan.

AVERAGE ANNUAL COST OF MONITORING: $5,000.

REMARKS:

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MONITORING ELEMENT Timber - Sivicultural Practices

AREA OF CONSIDERATION Management Areas 3,7,8,9,11,16,18.

RISK INDEX: High.

MONITORING QUESTIONS:

1. How many acres of each planned silvicultural practice (natural regeneration, artificial regeneration, reforestation with genetically improved trees, precommercial thinning, uneven-aged management, etc) have been accomplished for each Management Area?

2. Is the harvest type (clearcut, overwood removal, etc.), volume and acreage for each species group as planned for in each Management Area?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Measure: Acres.

When: Annually

Who: District and Timber Management Staff

How: Field exams, SILVE, TSI, and Reforestation accomplishment reports (TRACS Data Base) and STARS.

Action Threshold When acres treated deviate +/- 20 percent from planned.

Action: TM Staff analyzes problems through formal report. Analysis focuses on determining implication, and whether the acreage estimates should be changed, or the silvicultural prescriptions should be modified or changed. Appropriate actions are carried through.

AVERAGE ANNUAL COST OF MONITORING: $5,000.

REMARKS:

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MONITORING ELEMENT: Cumulative Changes in Assumptions Affecting the Forest Plan (With Regard to Timber Management).

AREA OF CONSIDERATION: Management Areas 3,7,8,9,11,16,18.

RISK INDEX: High.

MONITORING QUESTIONS:

Are (or to what extent) these assumptions correct? The Forest Plan is replete with assumptions about the effects of maintaining, or enhancing, desired forest characteristics on various outputs, i.e. timber production, domestic stock forage, and conversely, the efficiency of certain management practices (standards/ guidelines) on maintaining, or creating, desired Forest characteristics.

SUGGESTED METHODS/INFORMATION SOURCES

Measure: Assumptions in the Forest Plan

When: Ongoing.

Who: Forest TM Planning Staff, District personnel, Bend Silviculture Lab.

How: Review of outputs, Forest characteristics, growth, yield, etc.

Action Threshold: Consistent (trend), or significant (catastrophic), falldown in stated outputs, or maintenance of desired Forest characteristics, i.e. vegetative diversity.

Action: Re-examine assumptions to determine if they were factually wrong or not realized because of faulty management practices. If the former, change the expected outputs, or desired Forest characteristics (through the NEPA process); if the latter, change the management practices.

AVERAGE ANNUAL COST OF MONITORING: $5,000.

REMARKS:

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MONITORING ELEMENT: Insects and Diseases.

AREA OF CONSIDERATION: All Management Areas except Wilderness.

RISK INDEX: High.

MONITORING QUESTIONS.

1. What effect are Forest management practices having on insect and disease activities.

2. When should an Integrated Pest Management program be initiated, or expected outputs be reduced because of insect or disease depredation?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Measure: Amount of depredation as related to various outputs and resources--i.e., loss of timber value, reduction of growth, habitat deterioration, degradation of scenery or recreational opportunities, etc.

When. Annually, or as needed.

Who: District and Forest TM Staff

How: Aerial surveys, field exams

Action Threshold. Decided by professional judgement.

Action: Do a formal analysis of situation to - (1) determine damage--economic, resource, or otherwise, and possible control actions and their costs; (2) decide yes or no on the desirability of instituting an IPM program; and (3) if "yes" to (2) above, design and institute an IPM program.

AVERAGE ANNUAL COST OF MONITORING: $13,000.

REMARKS:

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MONITORING ELEMENT: Slash Abatement.

AREA OF CONSIDERATION: All project areas.

RISK INDEX: High.

MONITORING QUESTIONS: Are fuel loadings generated by management activities, maintained at +/- of the levels defined in the Forest Plan?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Compare on-the-ground fuels loading to photo series identified in the Forest Plan. Comparison should be made on each fuel reduction project.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES:

REMARKS:

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MONITORING ELEMENT: Old Growth

AREA OF CONSIDERATION (a) Management Area 15, (b) All Other Management Areas.

RISK INDEX: (a) High, (b) Low.

MONITORING QUESTIONS:

(a) Are the management objectives, and standards/guidelines relevant to Management Area 15 being met?

(b) How are old-growth stands in other Management Areas, particularly in General Forest and Deer Habitat, being affected by management objectives and practices relevant to those Management Areas?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

TROA Reviews Annually.

Reviews of Project Environmental Assessments (Ongoing)

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $500.

REMARKS:

(b) The Forest Plan does contain a projection of how many years it will take before the old-growth stands outside of MA 15 are all brought into a managed condition, i.e., no longer old growth The rate at which these stands are actually being converted will be tracked on a project-by-project basis.

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MONITORING ELEMENT: Payments to Counties.

AREA OF CONSIDERATION: All Management Areas.

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Are the payments to counties, based on timber receipts, different than the estimates made in the Forest Plan?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Payments to counties reports. Annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $100.

REMARKS:

If the annual payments to counties are different from the estimates made in the Plan, the counties will be notified of foreseen differences.

MONITORING WORKSHEET

MONITORING ELEMENT: Jobs in the Local Economy.

AREA OF CONSIDERATION: All Management Areas

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Are the effects of the Forest Plan on jobs in local communities different than those estimated?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

U.S. Census data, state publications, county and local agency reports, etc. will be used and reviewed annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $250.

REMARKS:

If the Forest Plan estimates are found to be inaccurate, an evaluation will be made to determine if the projection techniques need revision or if it is the result of the management plan.

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MONITORING ELEMENT: Personal Income in the Local Economy.

AREA OF CONSIDERATION: All Management Areas.

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Are the effects of the Forest Plan on Personal income in local communities different than those estimated?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

U.S. Census data, state publications, county and local agency reports, etc. will be used and reviewed annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $250.

REMARKS:

If the Forest Plan estimates show to be inaccurate, an evaluation will be made to determine if the projection techniques need revision or if it is the result of the management plan.

MONITORING WORKSHEET

MONITORING ELEMENT: Local Population Changes and Composition.

AREA OF CONSIDERATION: All Management Areas

RISK INDEX: Low.

MONITORING QUESTIONS:

1 What population changes, including composition, have taken place since the Forest Plan has been implemented?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

U.S. Census data, state publications, county and local agency reports, etc. will be used and reviewed annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $100.

REMARKS:

If significant population changes occur over the life of the Forest Plan, an evaluation will be made in terms of how this might influence management of the Deschutes National Forest.

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MONITORING ELEMENT: Changes in Lifestyles, Attitudes, Beliefs, or Values Among Local Affected Communities.

AREA OF CONSIDERATION: All Management Areas.

RISK INDEX: Low.

MONITORING QUESTIONS:

1. What changes are occurring in lifestyles, attitudes, beliefs or values among local affected communities which would influence decisions made in the Forest Plan?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Interviews with key publics and opinion leaders in local communities, observations, etc., which will be monitored quarterly and reported on biennially.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $2500.

REMARKS:

If significant social changes are detected, these will be evaluated in light of assumptions and decisions made in the Forest Plan.

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MONITORING ELEMENT: Deschutes National Forests Contribution to Area Forest Products Industries.

AREA OF CONSIDERATION: All Management Areas.

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Are the contributions of the Deschutes NF to area forest products industries different or changing, over time, than those estimated in the Forest Plan?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Tracking of raw material flow to mills and industry mix on an annual basis

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $1,000.

REMARKS:

Accumulate monitoring information for use in subsequent socio-economic analysis.

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MONITORING WORKSHEET

MONITORING ELEMENT: Costs, Values and Other Major Analytical Assumptions.

AREA OF CONSIDERATION: Management Areas 3 (Bald Eagle), 5 (Osprey), 7 (Deer Habitat), 8 (General Forest), 9 (Scenic Views), 18 (Front Country).

RISK INDEX: Low.

MONITORING QUESTIONS:

1. Are experienced costs and values significantly different than those used in Forest Plan analysis?

2. Are observed spatial constraints experienced when implementing Forest Plan standards/guidelines site specifically different from the modeling assumptions used?

3. Are the modeled outputs estimated to occur when implementing the Forest Plan being realized?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Tracking of Forest financial records, accomplishment reports, Timber Cut and Sold Reports, and IRA reviews, along with future resource inventories and project level/site specific analysis, which will be reviewed annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $10,000.

REMARKS:

If the threshold of variability is exceeded, an evaluation will be made for the need to revise or amend the Forest Plan.

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT Lands and Minerals Program

GOAL: The Energy and Minerals program is responsive to the regional and national energy situation.

AREA OF CONSIDERATION: All Management Areas, except Wilderness, Bend Watershed, Intensive Recreation and Oregon Cascades Recreation Area

RISK INDEX: High.

MONITORING QUESTIONS:

1. Are the leasing stipulations in compliance with the Forest-wide and Management Area standards/ guidelines?

2. Are lessees in compliance with stipulations of leases?

3 Are leasing recommendations and developments being made in a timely manner?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Review all leasing and development actions Annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES: $30,000.

REMARKS.

All geothermal operations must be closely monitored Drilling and other development activities must be monitored on a very extensive basis. This is necessary to protect surface resources and to assure that health and safety standards are met.

APPENDIX 6
MONITORING WORKSHEETS

MONITORING WORKSHEET

MONITORING ELEMENT: Special-Use Demands/Consistency With Other Forest Documents.

GOAL: The Forest is responsive to the demand for special uses on the Forest, and consistent with other Forest resource goals.

AREA OF CONSIDERATION: The entire Forest.

RISK INDEX: Low.

MONITORING QUESTIONS.

1. Are permit terms consistent with the Forest-wide and Management Area standards/guidelines?

2. Are permittees in compliance with terms of permits?

SUGGESTED METHODS/INFORMATION SOURCES/REPORTING YEARS

Review all permit actions. Annually.

AVERAGE ANNUAL COST OF MONITORING ACTIVITIES. $15,000.

REMARKS: