KLAMATH NATIONAL FOREST

FIRE MANAGEMENT PLAN

Reviewed and Updated by _____/S/ Clint Isbell_____ Date ____April, 11, 2012_____

Interagency Federal fire policy requires that every area with burnable vegetation must have a Fire Management Plan (FMP). This FMP provides information about the fire management planning process for the Klamath National Forest and compiles guidance from existing sources such as but not limited to, the Klamath National Forest Land and Resource Management Plan (LRMP), national policy, and national and regional directives.

The potential consequences to firefighter and public safety and welfare, natural and cultural resources, and values to be protected help determine the appropriate management response (AMR) during a fire. Firefighter and public safety are the first consideration and are always the priority during every AMR.

The following chapters discuss broad forest and specific Fire Management Unit (FMU) characteristics and guidance.

Chapter 1 introduces the area covered by the FMP, includes a map of the Klamath National Forest, addresses the agencies involved, and states why the forest is developing the FMP.

Chapter 2 establishes the link between higher-level planning documents, legislation, and policies and the actions described in FMP.

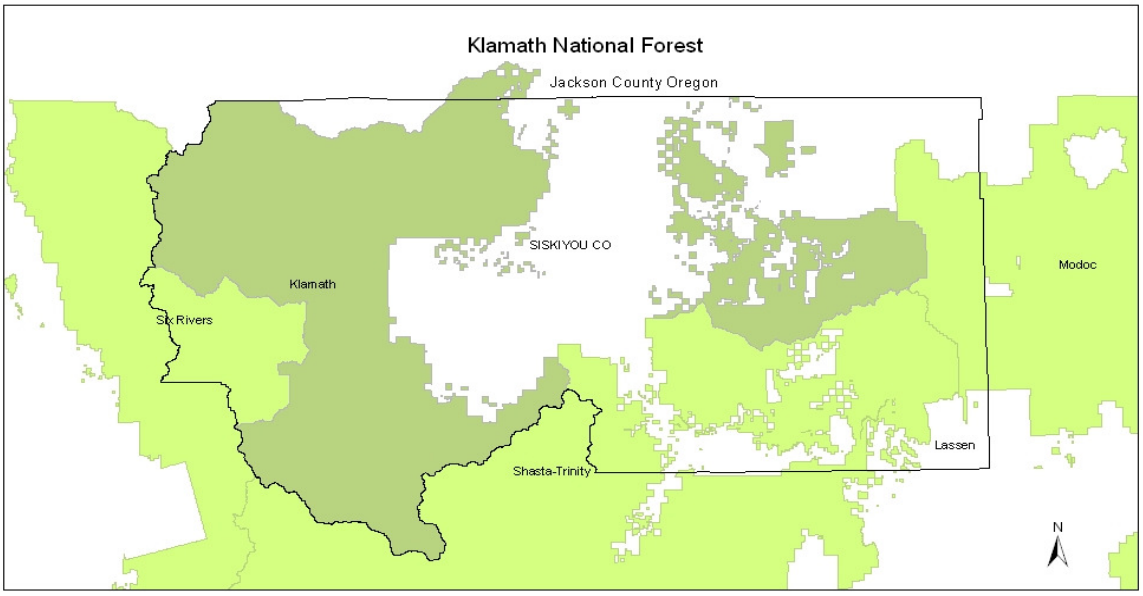
Chapter 3 articulates specific goals, objectives, standards, guidelines, and/or desired future condition(s), as established in the forest's LRMP, which apply to all the forest's FMUs and those that are unique to the forest's individual FMUs.

Chapter 1. INTRODUCTION

The Klamath National Forest developed this FMP as a decision support tool to help fire personnel and decision makers determine the AMR to an unplanned ignition. FMPs do not make decisions. Instead, they provide information, organized by FMUs, which provides a finer scale summarization of information than is possible at the forest level. These descriptions bring specific detail about the identifiable areas on the ground. FMPs are not static documents. They will evolve and be revised as conditions change on the ground and as modifications are made to the unit's LRMP.

Direction for the Klamath National Forest was developed based on an ecosystem approach. Emphasis is on maintaining and restoring ecosystem health for the great variety of terrestrial and aquatic species that use the Forest. Fire has been a dominant force on the Forest in shaping vegetative patterns, in natural regeneration, in arresting succession and in controlling stand density. Lightning is the most common source of wildfire starts on the Forest. It has accounted for nearly 75% of the starts and 95% of the total area burned. Large fires can be attributed to a relatively high number of ground strikes during lightning storms, coupled with dry fuels on steep rugged forest terrain.

The Forest manages about 1,680,000 acres of NFS land. In addition, there are over 200,000 acres of land within the Forest boundaries that are in other ownership. Most of the private land is in a "checkerboard" ownership pattern (every other section in private ownership) across the Oak Knoll, Scott River and Goosenest Ranger Districts. This checkerboard pattern resulted from the railroad land grants of the late 1800s. Most of the remaining private lands are a result of homestead patents and mining patents.



Chapter 2. Policy, Land Management Planning, and Partnerships

The regulations and policy in the following documents guide the fire management as outlined in this FMP.

2.1. National and Regional Fire Management Policy

Forest Service policy and direction that are relevant to this plan include:

- 1995 Federal Wildland Fire Management Policy and Program Review (January 2001)
- National Fire Plan
- Forest Service Manual 5100
- Forest Service Handbook 5109
- Nationwide Aerial Application of Fire Retardant on National Forest System Land, Record of Decision (December 2011).
- Guidance for Implementation of Federal Wildland Fire Management Policy. (February 13, 2009)
- Updated Guidance for Implementation of Federal Wildland Fire Management Policy (April 9, 2009)

2.2. Klamath Land and Resource Management Plan

Klamath National Forest Land and Resource Management Plan and Record of Decision (July 1995)

2.3. Partnership

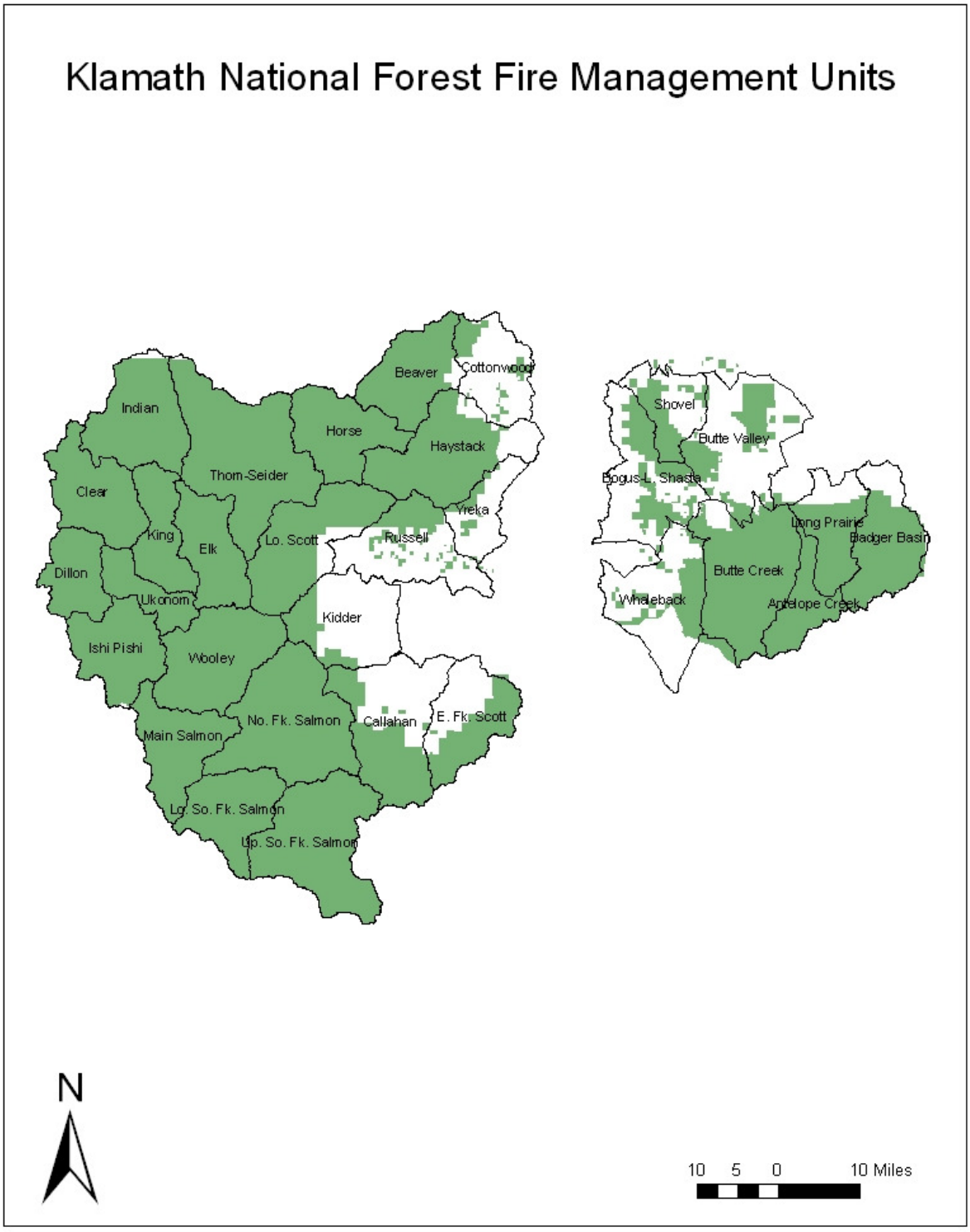
Klamath National Forest personnel, representing a variety of natural resource disciplines in addition to fire management, have provided the information in this document.

Chapter 3. Fire Management Unit Descriptions

The primary purpose of developing FMUs in fire management planning is to assist in organizing information in complex landscapes. FMUs divide the landscape into smaller geographic areas to easily describe safety considerations, physical, biological, social characteristics and to frame associated planning guidance based on these characteristics.

The following information, including the summaries of fuels conditions, weather and burning patterns, and other conditions in specific FMUs, helps determine the AMR to an unplanned ignition and provides a quick reference to the strategic goals in the forest's LRMP.

The Klamath National Forest FMUs are delineated using fifth field watersheds. The fifth field watershed range in size from roughly 40,000 acres to 150,000 acres in size, with an average size of 80,000 acres. The fifth field watersheds provide a logical boundary for characterizing conditions that influence fire management decisions on the Forest. This is also the scale used for ecosystem (or landscape scale) analyses completed on the forest.


Klamath National Forest Fire Management Units
Beaver
Cottonwood
Indian
Horse
Haystack
Thom-Seider
Clear
Yreka
King
Elk
Lo. Scott
Russell
Dillon
Ukonom
Kidder
Ishi Pishi
Wooley
No. Fk. Salmon
Callahan
E. Fk. Scott
Main Salmon
Lo. So. Fk. Salmon
Up. So. Fk. Salmon
Shovel
Butte Valley
Bogus-L. Shasta
Long Prairie
Badger Basin
Butte Creek
Whaleback
Antelope Creek
N
10 5 0 10 Miles

3.1. Fire Management Considerations Applicable to All Forest Fire Management Units

3.1.1. Klamath Land and Resource Management Plan Guidance

Desired Conditions (LRMP pages 4-15 through 4-16)

- The desired future condition for the Forest is based on the philosophy that land stewardship is the highest priority. The Forest Plan provides management direction and proposes management activities to move the Forest toward the desired future condition and meets our management goals.
- At the end of the first decade, there will be changes in the Forest. In some cases, random ecological processes, independent of Forest management actions, will have shaped the landscape. In other cases, management actions implemented to meet resource objectives will have influenced the outcome.
- Natural and prescribed fires will produce smoke over a longer period of the year than at present. During the summer months, there will be fewer periods of time when high levels of smoke emissions from wildfires fill the air.
- The Forest will continue to be one of the most biologically diverse areas in the Nation. Biological diversity, although variable within natural limits at the stand and landscape levels, will be essentially the same as it is today at the Forest level. There will be a mosaic of vegetative patterns across the Forest. The composition and structure of forest, rangeland, and aquatic ecosystems will be within the natural range of variability. These ecosystems will function in a healthy manner and be resilient to changes, including repeated fires. Quality habitat will be present for aquatic and terrestrial species. Habitat will be conducive to the movement and interaction of species and to movement across landscape and Forest boundaries. The distribution of species will help insure perpetuation of healthy populations.
- Ecological processes will be the primary influence evident in late-successional and “old growth” habitats, specifically in locations where wildfires are no longer suppressed. Over time, a larger portion of terrestrial habitat will favor species dependent on older forest habitats instead of those that thrive in younger, more open forests. However, overall species richness will remain essentially as it is today. Habitat components, such as snags and down logs, will be distributed across the Forest at levels that support species and organisms that depend on these forest attributes for existence. The Forest will be capable of supporting a growing population of Threatened, Endangered, and Sensitive (TE&S) species due to the increase in late-successional habitat and other habitat conditions essential to these species. The population of Roosevelt elk will be large enough to support sport hunting of this reintroduced species.
- High quality aquatic habitat will be capable of supporting abundant populations of anadromous and resident fish and other aquatic species. These ecosystems will be healthy and resilient to change.
- The mixture of seral stages for forest and rangeland cover types will be capable of providing for a diversity of species. Wildfires and vegetative management activities will provide patches of early seral stages in a variety of patch shapes and sizes throughout the landscape.
- The amount of acres burned in high intensity wildfires will have decreased significantly due to the large, aggressive fuel management program reducing fuel loading throughout the Forest. There will be more acres of lower intensity fires similar to conditions prior to 1900. These lower intensity fires will begin to create a more open forested condition in many areas.
- The landscape will appear to be primarily shaped by ecological processes, rather than management activities. Openings in the forest canopy created by vegetation management will not be readily

evident. Existing clear-cut units that are apparent today will blend into the surrounding vegetation in the future, as planted trees mature and visual restoration projects soften sharp contrasts in line, form, and color.

- Wilderness areas and Research Natural Areas (RNAs) will be primarily shaped by ecological processes, although trails, livestock, and other evidence of human use might be noticeable. Management activities, while visible in local areas, would not be obtrusive.

Forest-Wide Goals

- Manage for a diverse and productive environment. Utilize or emulate naturally occurring, dynamic, ecological processes to implement management actions. Manage for the long-tern broad-scale sustainability of local communities (LRMP 4-4)
- Maintain air quality consistent with legal requirements (LRMP 4-5)
- Manage prescribed fire, and prescribed natural fires, to avoid prolonged air quality impacts to local communities (LRMP 4-6)
- Manage for desired compositional, structural and functional attributes of biologically diverse forest, rangeland and aquatic ecosystems consistent with ecological processes in the province. Manage for desired healthy resilient populations commensurate with ecological processes (such as fire), while meeting the multiple use objectives. (LRMP 4-6)
- Reintroduce fire into the environment through prescribed natural fire and prescribed fire, where Forest ecosystems have evolved under the influence of fire. Reduce unacceptable fuel buildups and potential acreage of future high intensity wildfires. Use the appropriate minimum impact suppression methods to control wildfires. Develop management and protection strategies for inter-mixed State and private forest lands. ((LRMP 4-9)

Forest-wide Standards and Guidelines Air Quality

5-1 Manage for air quality consistent with the Clean Air Act. Management activities also shall comply with the air quality standards established by the California Air Resources Board and the Siskiyou County Air Pollution Control District in California or by the Oregon Department of Environmental Quality and the Oregon State Smoke Management Plan in Oregon. (LRMP 4-22)

Biological Diversity/Sensitive Plant Species

6-15 All vegetative management practices should be designed to maintain a healthy forest. Conditions that promote the introduction and spread of disease, increase the risk of insect attack, or promote unacceptable fire risk should be avoided. (LRMP 4-24)

Fire Management (LRMP 4-60 through 4-63)

22-1 Restore fire to its natural role in the ecosystem, to the maximum extent, consistent with the safety of persons, property, and other resources.

22-2 Wildland fires shall receive the appropriate suppression response. Timeliness is essential but safety and cost efficiency, while considering the value of the threatened resource, shall guide the fire suppression response strategy. A range of response tactics may be appropriate. Carefully analyze the current and predicted wildland fire situation when determining the appropriate response.

22-3 Apply the minimum impact suppression method to all lands. Control or manage the spread of fire. The suppression method shall be commensurate with the wildland fire's potential to spread or cause undesirable impacts. Firefighter and public safety shall be the highest priority. Select procedures, tools and equipment that least impact the environment. Use hot spot detection devices whenever possible. These tactics apply to the mop-up of wildland fires also.

22-4 Wildland fire suppression actions (for example, firelines) constructed during suppression activities will be rehabilitated to their pre-fire state or blended in with the burned area.

22-5 On NFS lands with shared fire suppression responsibilities, cooperators should take the necessary steps to assure suppression activities are compatible with these standards and guidelines.

22-6 Design the Forest initial attack suppression organization around the capability to successfully prevent at least 90% of fire starts from becoming escaped fires. This level of organization is the "most efficient while considering land and resource values."

22-7 Identify, locate, and incorporate special resource concerns (for example, cultural sites, Threatened and Endangered (T&E) species and RNAs) into the Automated Dispatch process.

22-8 Emphasize wildland fire prevention and early detection.

22-9 The appropriate line officer shall review the Escaped Fire Situation Analysis for wildland fires that have not exceeded the capabilities of the initial attack resources, but are expected to burn into the next burning period. A "Maximum Allowable Perimeter" should be determined during the initial phases of the preparation of the Escaped Fire Situation Analysis.

22-10 Prescribed fire (prescribed natural fire or management-ignited prescribed fire) is a desirable tool to be used for managing the Forest resources. Consider the long-term role of fire during all project planning phases.

22-11 Site treatments should be prescribed which will minimize intensive burning, unless appropriate for certain specific habitats, communities or stand conditions. Prescribed fires should be planned to consume appropriate volumes and/or size classes of litter and course woody debris (CWD) for the habitat. These provisions apply to regulated (matrix) land and within the Adaptive Management Area.

22-12 Ranger districts, through the Ecosystem Analysis Process at the landscape/watershed level, shall evaluate the need for and prioritize the use of prescribed fire in managing natural fuel beds for the express purpose of reducing fire intensity or increasing fire suppression capabilities

22-13 Do not allow management activities to result in fuel accumulations that increase the risk of high intensity fires that did not typically occur on the Forest before wildland fire suppression activities in the early 1900s began. Manage fuel loadings and the use of prescribe fire on the Forest to maintain ecological processes.

22-14 Using the "Wildfire Susceptibility" matrix (refer to Appendix B of the Environmental Impact Statement for the Forest Plan [EIS]), fuels created through management activities should be treated as follows (see Table II-1).

Table II-1. Treatment of Fuels Created Through Management Activities.

Fire Class	Description	Management Action
Class 4	Very high or quite likely that the stand will be lost to a wildfire.	Unacceptable; treat fuels to a Class 3 level.
Class 3	High likelihood that the stand will be lost to a wildfire.	Fuel buildups at this level may be permitted approximately 25% of the time,, compatible with the natural fire role.
Class 2	Moderate likelihood that the stand will be lost to a wildfire.	Fuel buildups at this level be permitted about 75% of the time.
Class 1	Low likelihood of the stand being lost to wildfire.	Permitted anytime.

22-15 All fuels management planning will analyze the impact of a project within the project's landscape. It also will analyze the cumulative effect of that project on the landscape with respect to wildfire's impact on future fires. The fire and fuels specialist will work with other Interdisciplinary (ID) Team members in analyzing the effect of fire on all resources.

22-16 Fuels analysis of a landscape should address the accumulation of fuels on a site over time (at least to year 40 from project initiation), including the fuels generated from management activities, such as thinning.

22-17 Project-level fuel planning needs to incorporate the areas immediately next to the project boundaries for consideration of fuels treatment.

22-18 For areas in the matrix (regulated land) that are located in the rural interface, fire management activities should be coordinated with local governments, agencies and landowners during watershed analysis to identify additional factors which may affect hazard reduction goals.

22-19 All landscape- or watershed-level fuels analysis should describe the hazard, risk and consequences of a wildfire on a site. It also should describe how that fire will influence the site in the foreseeable future. The analysis also should include the potential effects on the site's fuel loading and the expected fire occurrence and behavior.

22-20 Adhere to applicable State of California and State of Oregon air quality laws and regulations.

22-21 Incorporate a smoke management analysis in all prescribed burning plans. Coordinate these plans with local authorities with responsibilities for managing air quality. The best available predictive methods and models and the most cost-efficient technology should be utilized to minimize the impact of prescribed burning on smoke-sensitive areas and designated Class I wilderness areas, such as the Marble Mountain Wilderness. Smoke from fires, either started from lightning-caused ignitions or prescribed fires based on the fuels management plan for the wilderness occurring inside wilderness, is considered a natural component of the ecosystem and does not constitute a violation of the Class I wilderness area ambient air quality standards.

22-22 The adherence to sound smoke management principles is the key element in mitigating the impacts of smoke on air quality and air-related values. Smoke management approaches the concept of maintaining air quality by avoiding unacceptable combinations of concentration, duration and placement of smoke. Based on this approach, the levels of smoke in the air during the spring and fall will increase to accommodate prescribed fires, in order to lower the amount of smoke in the air during the summer months.

22-23 Public understanding of the prescribed fire program and smoke management will be important during implementation. Some measures that should be employed include:

1) Interact and exchange information with the public about the objectives of the prescribed fire and smoke management programs. Emphasize what role prescribed fire plays in the ecology of the area. Discuss what has occurred historically.

2) Whenever possible, inform the local public about planned fires before their ignition.

22-24 Minimize impacts to communities and Class 1 wilderness areas from prescribed burns. Implement prescribed burns when prevailing winds and smoke mixing heights permit smoke to be dispersed away from mountain communities. Impacts to communities from a single burn may be present for a day or two.

Riparian Reserves

In the Klamath LRMP the Riparian Reserves are identified as a specific management area. The riparian reserve network occurs throughout the Forest. The riparian reserve standards and guidelines apply to all FMUs. The acres of mapped riparian reserves listed for each FMU does not account for all riparian reserves. The mapped acres listed are only for the reserve network within regulated lands.

Description

Riparian Reserves (RRs) generally include an aquatic ecosystem and adjacent upland areas that directly affect it. They can also include unstable and potentially unstable areas that are not associated with a riparian area, but are primary sources for wood and sediment. RRs occur at the margins of standing and flowing water, intermittent stream channels, ephemeral ponds, seeps, springs and wetlands. RRs generally parallel the stream network but also include other areas necessary for maintaining hydrologic, geomorphic, and ecologic processes. These areas encompass a wide range of environmental factors, ecological processes, and ecological communities.

RRs are portions of watersheds where riparian-dependent resources receive primary emphasis and where special standards and guidelines apply. Standards and guidelines prohibit and regulate activities in RRs that retard or prevent attainment of the Aquatic Conservation Strategy (ACS) objectives. (LRMP 4-133)

Management Goals

Maintain and restore riparian-dependent structures and functions of intermittent streams.

Provide benefits to riparian-dependent and associated species other than fish, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for many terrestrial animals and plants and provide for greater connectivity of the watershed. Provide connectivity corridors among the LSRs.(LRMP 4-133)

Desired Future Condition

The vegetative communities within forest and rangeland RRs contain native and desirable non-native species that are in a good ecological condition. A multi-layered, vegetative canopy is present in forested RRs, the exception being where the soils are shallow or unproductive. In meadow areas, overhanging banks with herbaceous and/or shrubby vegetation provide canopy cover. An overstory of conifers provides shade and thermal cover to the streams and lakes. An intermediate layer of deciduous vegetation provides thermal buffering, nutrient cycling, and bank stability. On the ground a mixture of brush, grass, forbs, sedges, etc. provides for bank stability and integrity, sediment filtering and habitat characteristics necessary to contribute to the viability of riparian- dependent species. (LRMP 4-133)

MA10-65 Design fuel treatment and fire suppression strategies, practices and activities to meet ACS objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuels management activities could be damaging to long-term ecosystem function.

MA10-66 Locate incident bases, camps, helibases, staging areas, helispots and other centers for incident activities outside RRs. If the only suitable location for such activities is within the RR, an exemption may be granted following review and recommendation by a resource advisor. The advisor will prescribe the location, use conditions, and rehabilitation requirements. Use an interdisciplinary team to predetermine suitable incident base and helibase locations.

MA10-67 Minimize delivery of chemical retardant, foam, or additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or, following review and recommendation by a resource advisor, when an escape would cause more long-term damage.

MA10-68 Design prescribed burn projects and prescriptions to contribute to attainment of ACS objectives and to maintain ecological processes.

MA10-69 Immediately establish an emergency team to develop a rehabilitation treatment plan needed to attain ACS objectives whenever RRs are significantly damaged by wildfire or a prescribed fire burning outside prescribed parameters.

MA10-70 In RRs, the goal of wildfire suppression is to limit the size of all fires. When watershed and/or landscape analysis, or province-level plans are completed and approved, some natural fires may be allowed to burn under prescribed conditions. Rapidly extinguishing smoldering CWD and duff should be considered to preserve these ecosystem elements. In RRs, water drafting sites should be located and managed to minimize adverse effects on riparian habitat and water quality, as consistent with ACS objectives.

MA10-71 Locate water drafting sites to minimize adverse effects on stream channel stability, sedimentation and in-stream flows needed to maintain riparian resources, channel conditions and fish habitat.

MA10-72 Do not construct dozer lines parallel to stream channels or shorelines within RRs. Extend dozer lines through RRs perpendicular to the channel or shoreline where they are essential to safe control of the fire.

3.1.2. Physical Characteristics that Apply to All Fire Management Units

The Fire Management Units are fifth field watersheds. The boundaries are primary ridge features separating major drainages. Each Fire Management Division has a group of FMUs covering the land base for which that Division has primary responsibility. There are some FMUs, which overlap multiple divisions; the FMU specific information is located in the Division with the majority responsibility. There are a total of 5 Divisions and 31 Fire Management Units.

The far western portion of the Forest includes Happy Camp and Salmon River. These FMUs are in NFDRS Zones 200 and 202. In general, these FMUs consistently have the steepest topography and limited accessibility.

These FMUs are entirely within Federal DPA and tend to have limited private property within their boundaries. The Wildland Urban Interface (WUI) consists mainly of small clusters of residences along the river corridors. There is much more evidence of recent large fire history, with several large fires occurring within the past 10 years. Some FMUs have had repeated large fires occur within recorded history. Three of these FMUs include portions of the Ukonom Ranger district, currently administered by the Six Rivers National Forest

The central portion of the Forest includes Oak Knoll and Scott River. These FMUs are in NFDRS Zones 204 and 208. Although these FMUs also have steep topography, they tend to have more area of gentler topography. These FMUs generally tend to have more road access. Although there is evidence of large fire history in these FMUs, there is far less occurrence of recent large fires.

Some of the FMUs remain entirely within Federal DPA, but the majority has shared fire protection responsibility with the Siskiyou Ranger Unit (CalFire) and, to a lesser degree, with local fire departments. The WUI still tends to be concentrated along the river corridors and valleys, but more residences are located on the upper slopes. These FMUs also tend to be much higher proportions of mixed ownership. Industrial timberland is the majority private property owner within the Forest boundary.

The eastern portion of the Forest is the Goosenest District. The FMUs in NFDRS zone 220. Vegetation and topography on the east side of the Forest is very different from the west side.

These FMUS tend to have gentle topography and are good road access. The ownership pattern is mixed and these FMUs generally have shared fire protection responsibilities. There is little evidence of recent large fire history in these FMUs.

Happy Camp	Salmon River	Oak Knoll	Scott River	Goosenest
Clear	Main Stem	Beaver	Callahan	Antelope Creek
Elk	Lower South Fork	Cottonwood	East Fork Scott	Badger Basin
Indian	North Fork	Haystack	Kidder	Bogus Little Shasta
King	Upper South Fork	Horse	Lower Scott	Butte Creek
Dillon (shared SRF)	Wooley		Russell	Butte Valley
Ukonom (shared SRF)				Long Prairie
Ishi Pishi (SRF)				Shovel
				Whaleback