

FIRE MANAGEMENT PLAN

For the

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA

June 10, 2008

Table of Contents

Introduction	
2 Policy, Land Management Planning & Partnerships	6
2 Fire Policy	7
Authorities	7
2.2 Land & Resource Management Planning	7
2 Partnerships	9
Fire Management Unit Characteristics	
Are Wildfire Management Considerations	
Management Objectives	
Management Constraints	
Fuels	
Fire Regime Attribution	
Condition Classes	
Prevention	
Dispatching	
2 Fire Management Unit Specific Descriptions	6
FM Map	6
FM Condition Characteristics	6
Unit Interface	6
Infrastructure	7
Wildlife	7
Recreation	8
Weather Patterns Influencing Fire Behavior	9
Fire Season Determination	2
Characteristics Specific to the West FM	2
Characteristics Specific to the East FM	2
Historical Fire Occurrence	2
Fire Management Situation	2
Control Processes & Dominant Topographic Features	2
Range of Potential Fire Behavior	2
Fire Prevention, Planning & Community Education	28
Community Risk Assessment	28
Special Orders & Closures	29
Industrial Operations & Fire Precautions	29
Training	29
Fire Season Readiness	
Fire Cache Considerations	
Detection	
Fire Weather & Fire Danger	
Engine Configuration	

Critical Thresholds of Firefighting Resource Needs

Aviation Management

Initial Attack

Extended Attack Transition

2

Large Fire Transition

Equipment Rental Agreements

Fuels & Prescribed Fire

Monitoring & Evaluation

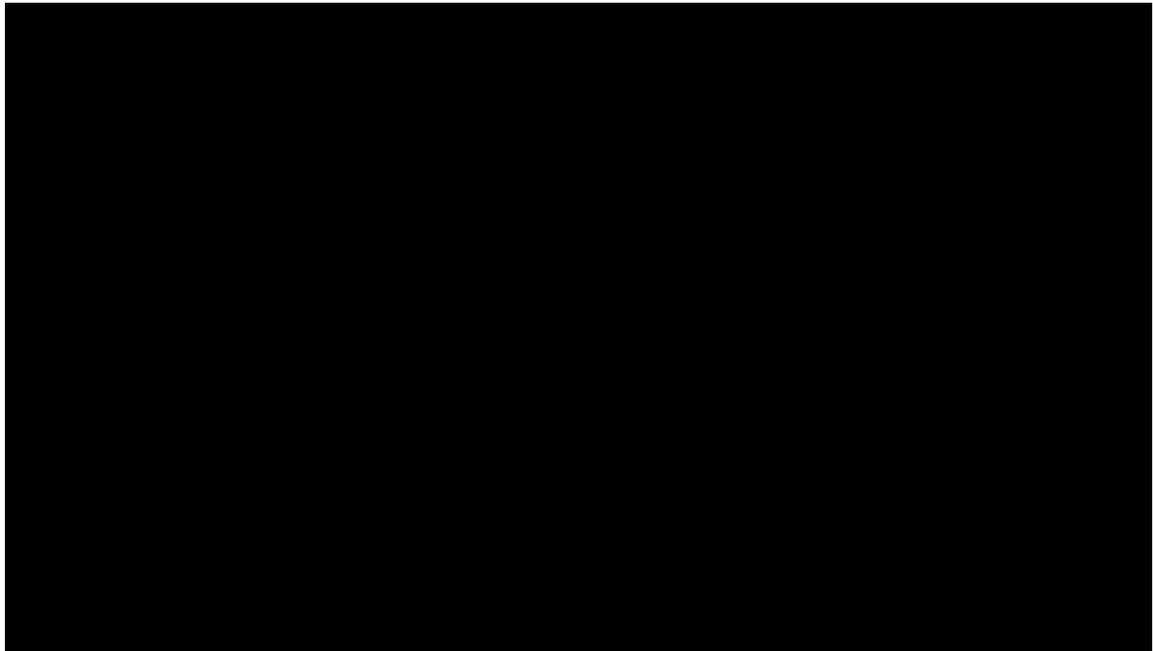
1. Introduction:

Federal wild and fire policy requires that every acre with burnable vegetation must have a fire management plan. This document has been developed to meet that requirement and provide the Coos County River Gorge National Scenic Area with a dynamic Fire Management Plan (FMP) that addresses current policies and provides direction in, program scope, fire prevention, fire readiness, fire suppression, appropriate management response, organization and budget, fuels and smoke management. It will identify how it ties to existing Land and Resource Management Plans, Federal Wild and Fire Policy (99, 2000), existing Operating Plans, and Policy guidance from the Departments of Agriculture

This fire management plan provides specific details of the fire program that meet fire management direction for the planning period, including, organization, facilities, equipment, activities, timing, locations, training, and related costs. This document is intended to be a working reference for fire program information.

This document further defines the Appropriate Management Response (AMR) to wild and fire on lands protected by the Coos County River Gorge National Scenic Area (CGF) Unit Scenic Area within its boundaries and provides the vehicle for cooperating agencies to address the same. This plan provides detailed descriptions of management objectives, fire protection, constraints and the procedures by which the appropriate management response will be implemented.

The Coos County River Gorge National Scenic Area encompasses 292,000 acres of federal, state, county, and private land in north central Oregon and south central Washington. The Scenic Area includes, within its boundaries, portions of 10 states and six counties. It encompasses incorporated communities, unincorporated communities and myriad state parks, National Wildlife Refuges, fish hatcheries and trout brood stocks. The Scenic Area shares boundaries with the Mt. Hood National Forest on the south and the Gifford Pinchot National Forest on the north.



Land ownership patterns in the Scenic Area shall be checked to ensure that those that involve any combination of private, federal, state, county, and tribal ownership. As a result the unit worked in close cooperation with and/or consulted, neighboring forests, local tribes, state, county, and municipal agencies in developing this FMP.

The Coconino River Gorge is nationally recognized for its scenic beauty and abundant recreation opportunities. One of its cultural resources. As a result, congress passed the Coconino River Gorge National Scenic Area Act and President Reagan signed it into law in '98. The Forest Service has since been charged with:

- 1. Protecting and enhancing the scenic, cultural, natural recreation resources and wild and scenic river values of the Coconino River Gorge for the long term benefit of the environment and its people
- 2. Supporting and protecting the economy of the Coconino River Gorge area by encouraging urban re-growth and allowing compatible development. And working in partnership with the public in our atmosphere fostering openness, honesty, understanding and mutual respect.

2. Policy, Land Management Planning and Partnerships: Federal Land Management Agencies and local political authorities have planning levels that tie to the policies and laws, under which they operate. As these laws and policies evolve over time various levels of management plans are written to help define sound and independent decisions on the ground.

Federal Wild and Fire Management Policy and Program Review (SDA SDI '99) and the Wild and Prescribed Fire Management Policy and Implementation Procedures

Reference Guide Forest Service Manual, and 8, require development of Fire Management Plan (FMP) for federal lands subject to wild and fires.

2.1 Fire Policy

The Fire Management Plan responds to goals and objectives of the National Fire Plan and the County River Gorge National Scenic Area Management Plan. The Scenic Area Plan includes the wide goals and objectives, and management the specific goals, and objectives. The Strategic Plan for the County River Gorge National Scenic Area list site specific desired future conditions or Niche Statements for specific locations within the gorge.

The Fire Management Plan is supported by training and operation plans such as preparedness plans, dispatch plans, and prevention plans. The FMP includes discussion of resource management objectives and activities, such as restoring and sustaining ecosystems and protecting communities and public safety. It also addresses public health and environmental issues such as air quality. This Fire Management Plan was developed and is intended to be implemented cross agency boundaries to ensure consistent approaches to similar conditions.

Policy Documents used to develop this Fire Management Plan include:

1. Federal Wild and Prescribed Fire Management Policy, Implementation Procedures and Reference Guide, August 1998
2. Review and update of the 1999 Federal Wild and Fire Management Policy, January 2000
 - SDA Forest Service Manual (FSM)
 - SDA Forest Service Handbook (FSH) 9

The 2000 Federal Wild and Fire Management Policy directs Federal agencies to achieve a range of accepted practices from full response to fire use to protect life, property, resources, and maintain healthy ecosystems. The policy provides nine guiding principles that are fundamental to the success of the Federal Wild and fire management program.

1. Fire Management Plans will be developed for every acre of Federal Land.
2. Firefighter and public safety is the first priority in every fire management action.
 - The role of wild and fire as an essential ecological process and natural change agent will be incorporated into the planning process.
 - Fire management plans, programs, and activities will support and use resources management and their implementation.
 - Sound risk management is a basis for fire management activities.

- 6. Fire management plans and activities incorporate public health and environmental quality considerations.
- 7. Federal, state, tribal, local, inter-agency coordination and cooperation are essential for implementing roadside fire management activities.
- 8. Incorporate standardization of policy and procedures among federal agencies.

Authorities:

FSM describes the authority for fire management activities on National Forest Systems Lands.

FSM lists pertinent references for guidance on the minimum standards and procedures for wildland fire management.

The Area Manager is responsible to the Regional Forester for the safe and efficient implementation of fire management activities within the Columbia River Gorge National Scenic Area including cooperative activities with other agencies or landowners in accordance with delegations of authority. The Area Manager or Acting will meet the required elements outlined in the Management Performance Requirements for Fire Operations.

The Chief, Regional Forester, and Area Manager will personally communicate their expectation of leadership in fire management. This will be completed prior to fire season and in conjunction with National Leadership Team meetings and annual fire schools.

Agency administrators will ensure that items identified in the Thirty Five Accident Prevention Action Plan, and OSHA Hazard Assessment Plan, are reviewed to ensure full compliance.

This Fire Management Plan is a living document, and will be updated as policy or Land and Resource Management Plans change.

2.2 Land and Resource Management Planning

This Fire Management Plan, using federal fire policy as its guide, tiers to the land and resource management plans of each of the administrative units involved to provide clear direction for fire management activities. It describes the Scenic Area's program to manage wildland and prescribed fires as defined by direction in the Columbia River Gorge National Scenic Area Plan, the Mt Hood National Forest Land and Resource Management Plan (LRMP), the Gifford Pinchot National Forest Land and Resource Management Plan, and the Northwest Forest Plan.

The FMP does not make decisions, rather, it provides the operational parameters needed to implement the Land Management and Resource Management Plans. It is a detailed program of action, on how to carry out fire management policies that will help achieve resource management objectives as defined in the Columbia River Gorge National Scenic Area Plan. It will be supported by specific operational plans such as prevention, preparedness, and prepared dispatching of fire suppression resources.

Federal Land Management Agencies and local political authorities have planning levels that tie to the policies and laws, which they operate under. As these laws and policies evolve over time, various levels of management plans are rewritten to help define sound and implementable actions on the ground.

Documents used to develop this Fire Management Plan include:

- The Management Plan for the Columbia River Gorge National Scenic Area approved in 1992 revised 2002
- Land & Resource Management Plan, Mt Hood National Forest, approved in 1999
- Land & Resource Management Plan, Gifford Pinchot National Forest, approved in 1999
- The Record of Decision ended the Mt Hood and Gifford Pinchot National Forests' Land & Resource Management Plans in 1999 within the Range of the Northern Spotted Owl. The Record of Decision is also referred to as the Northwest Forest Plan.

Direction from the Land and Resource Management Plans for Fire Management Activities includes:

- A fire management activities shall comply with Management Area management direction F-218
- Fire management planning should minimize cost plus net value change. Costs and changes to inherent resource values of the activity shall be minimized F-219
- A wildfire shall receive an appropriate suppression response Region 2 Guide for Pacific Northwest Region, 1998 F-221
- Dead, down, woody debris loading events shall be managed to provide for multiple resource objectives Region 2 Guide for Pacific Northwest Region, 1998. An economic analysis shall identify resource benefits and costs to determine appropriate funding F-221, F-222
- The role and potential of fire as an integral part of the forest and range and environment shall be considered in outlining multiple use forest management objectives F-218

- Prescribed burning should be considered for use in meeting management objectives in areas where ecological studies show that natural fire has played a significant role in ecosystem development (Region 2 Guide for Pacific Northwest Region, 1981, F-10)
- Prescribed burning may be used when analysis indicates that it will be effective and feasible. An analysis should include consideration of measures to mitigate impacts on air quality (F-10, F-11)

The Management Plan for the Coquille River Gorge National Scenic Area identifies the goals of the unit as to:

- Protect and enhance the scenic, cultural, natural recreation resources and wild and scenic river values of the Coquille River Gorge for the long-term benefit of the environment and people.
- Support and protect the economy of the Coquille River Gorge by encouraging urban re-growth and allowing compatible development.

In addition the unit has in addition a goal which is to:

- Work in partnership with the public in an atmosphere fostering openness, honesty, understanding and mutual respect.

Specific Desired Future Conditions are found in the unit's Niche Statement which is tiered to the Strategic Plan. The Strategic Plan is in turn tiered to the Land and Resource Management Plans for the Mt. Hood National Forest and the Gifford Pinchot National Forests. As the Management Plan for the Coquille River Gorge National Scenic Area within the Strategic Plan the Scenic Area has been broken into niches where specific desired conditions are addressed in more detail. Specific desired conditions could be summarized as, protecting and enhancing existing natural, cultural, recreation, and cultural resource values.

2.3 Partnerships

This plan is consistent with the Review and Update of the 1999 Federal Wild and Fire Management Policy, Wild and Prescribed Fire Management Policy, and A Collaborative Approach for Reducing Wild and Fire Risks to Communities and the Environment, Year Comprehensive Study. It represents the participating federal agencies and provides local governments the collaboration necessary to address wild and fire management issues in conjunction with federal agencies.

While no formal partnerships were established, the following entities were consulted in the development of this plan and are routinely consulted during the implementation of the unit's detection, readiness, prevention, and suppression programs. Mt. Hood National Forest, Gifford Pinchot National Forest, Oregon

Department of Forestry, Central Oregon and Northern Cascades Districts, the Washington Department of Natural Resources, Pacific Cascades Region and Southern Region, Yreka BIA, Grants Springs BIA, Ridgefield Wildlife Refuge Complex, Mid County Fire & Rescue, The Deschutes Rural Fire Protection Districts, and the Spoone District of the BLM.

The federal and state entities listed above are partners in local operating plans which is tiered to the Master Cooperative Fire Protection Agreement. The unit enters separate cooperative agreements with Mid County Fire & Rescue, Deschutes County Fire District #1, and Deschutes County Fire District #2.

Additionally, the unit participates in a six county wildland fuels coordinating effort through the Columbia River Gorge Local Coordinating Group where fuels reduction and planning projects are reviewed and assessed for effectiveness and continuity.

3. Fire Management Unit Characteristics

The Fire Management program includes activities for the protection of natural resource and other values from wildland fire. In addition, the program provides leadership in the planning and execution of fuel management objectives to meet national, regional and local priorities. Fire management's role is to coordinate, plan and implement the fire protection and fuel programs consistent with the standards and guidelines and management prescriptions.

The fire protection program includes fire prevention, pre suppression cooperation, education, fire danger rating, and training, fire suppression, and fire management analysis and planning activities.

3.1 Area-wide Management Considerations

Consistent with National and Regional Direction Fire suppression and fuel management are top priorities in the Columbia River Gorge National Scenic Area.

The 2001 Federal Wildland Fire Management Policy addresses the role of fire in ecosystems sustainability, the need for restoration and rehabilitation of fire degraded lands and ecosystems, the role of science in developing and implementing fire management programs, the importance of communication and education internally and externally, and the critical need for regular, ongoing evaluation of policies and procedures. Consistent with the intent of this policy the Columbia River Gorge National Scenic Area has identified 2 primary goals:

Achieve a program where firefighter and public safety is the highest priority in every fire management activity.

2. Organize for fighting fire with state, urban, and rural fire departments in the fire through the use of cooperative planning and agreements.
 - Achieve programs that meet fiscal standards including cost containment objectives set forth in the Interagency Incident Business Management Handbook.
 - Develop and maintain cooperative plans for coordinating and prepositioning resources when fire danger is high or imminent, with an objective of protecting communities and municipal watersheds.
 - Achieve programs which meet or exceeds the standards set forth in the Standards for Fire and Aviation Operations.
 - Create defensive space for protection of structures and communities within and adjacent to National Forest System Lands.
7. Achieve a high standard for personnel and organization capabilities to insure a high level of readiness to respond both locally and nationally.
 - Provide for development of fire skills for new employees hired.
8. Achieve forest vegetation management priorities, which are coordinated with the need for landscape fuels management treatments.
9. Place priority on landscape scale fuels management treatments and the accompanying vegetation management treatments along National Forest boundaries — or cooperative work with state and private landowners to provide for fuels management treatment on both sides of the National Forest boundary.
 - Achieve programs that support land and resource management objectives as outlined in Land and Resource Management Plans — or with local city and county governments to improve planning and zoning regulations with respect to fire protection and prevention.
2. Maintain a high profile with the media and public AND carry a conservation message with a fire press releases and media contacts, as well as contacts with the public.

The goals support the standards set forth in the *10-Year Comprehensive Strategy*.

- Emphasizing the protection of communities and other high priority watersheds at risk.
- 2. Collaborating with local governments and locally represented stakeholders.
 - Establishing performance measures and monitoring protocols.

The goals contribute to accomplishing the *Federal Wildland Fire Management Policy*.

- Establishing firefighter and public safety as the first priority in every fire management activity.

2. Assuring that fire management plans, programs, and activities support land and resource management plans and their implementation
 - Implementing sound risk management as a foundation for fire management activities
 - Promoting fire management programs and activities that are economically viable, based upon values to be protected, costs, and land and resource management objectives
 - Assuring that fire management plans and activities incorporate public health and environmental quality considerations
 - Promoting coordination and cooperation with other Federal, State, Tribal, and local inter-agency entities
 - Promoting standardized policies and procedures among Federal agencies for cooperation and integration of fire activities across agency boundaries and to provide leadership for cooperation with State and local fire management organizations

The goals contribute to accomplishing the *Cohesive Strategy* Protecting People and Sustaining Resources in Fire Adapted Ecosystems. A Cohesive Strategy, October 2001.

- Prioritizing hazardous fuels reduction in wildland communities at risk, readily accessible municipal watersheds, threatened and endangered species habitat, and other important local features, where conditions favor uncharacteristic high intensity fires

The Wildland Fire Management Goals of the County of River Gorge National Scenic Area are consistent with *National Fire Plan* goals and objectives in that they:

- Reduce the number of serious fires that occur
2. Restore natural ecosystems to minimize intense fires
- Create employment opportunities in both the private and public sectors
- Improve capabilities for state and volunteer fire organizations
- Reduce the threat to life and property from catastrophic wildfire

The focus of the program to achieve the set of goals is through fire management missions such as wildland fire suppression and wildland fuels reduction. Missions that are carried out by the County of River Gorge National Scenic Area on a daily basis and that affect the health and safety of the employees and public, the character of the land being administered, and the size and type of organization needed to facilitate the program.

The unit's fire management program and strategy is carried out in close cooperation with other federal, state, and local cooperators to set priorities and

to account for the National Interagency Wildland Fire Management Cooperative Agreement, the Regional Operating Plan, and the Central Cascades Wildland Fire Operations Plan for the purpose of this cooperative effort.

All of the lands protected from wildland fire by the unit fall under one of the following categories.

- Wildland-Urban Interface
- Mixed federal & private ownership
- Late Successional Reserve as defined by the Record of Decision and/or Boarder the Port and Municipal Water Shed Run

As a result of the complexities associated with wildland fire burning in one or more of these categories, the **Appropriate Management Response for all wildland fires within the Columbia River Gorge National Scenic Area has been identified as full suppression.**

Management Objectives for all Gorge FMU's:

1. Contain 90% of wildland fires during the initial attack hours or acres in the East FMU and 2 hours or acres in the West FMU
2. Move 20% of high priority condition classes acres to better condition classes within years
3. Conduct prescribed burns in a manner consistent with federal, state and local sovereign requirements
4. Conduct operations consistent with federal, state, and local safety regulations and guidelines with no cost to the accidents.

Management Constraints in all Gorge FMU's:

1. Ensure wildland-urban interface impacts are minimized and other socio-political and economic impacts are considered
2. Given that the protection of human life and property are the first priorities on every fire, ensure that impacts to T&E species and cultural resources are minimized. Where there is no threat to life and/or property, ensure there are no unacceptable impacts to T&E species and cultural resources
3. Do not violate National Ambient Air Quality Standards (NAAQS) during prescribed fire activities

Fuels

In response to the National Fire Plan and Initiative of 2015, the Columbia River Gorge National Scenic Area has focused its hazardous fuels reduction projects in the urban interface through Fuel Treatment projects include assessments, planning, mechanical and hand treatments, as well as prescribed fire and community assistance.

Even though the emphasis of fuel treatment is targeted toward communities at risk and private landowners, the unit has initiated planning initiatives that address ecosystem health, restoration and maintenance.

Fire Regime Alteration: Fire regimes are the sequence of events that describe the historic role of fire in our landscapes. This information is critical to fire planning and vegetation management efforts of the County. River Gorge Fire regimes assist in forming the basis for decisions when prioritizing hazardous fuel treatment projects and guiding the range of appropriateness.

Historic fire frequency, severity, and size are often used to describe fire regimes. Knowledge of the types and distribution of historic fire regimes helps us understand the role of fire in shaping vegetation patterns and stand plant community development.

Fire regimes for the Gorge Fire Management Units were identified using the National Fire Strategy descriptions refined for Region 2. Fire regimes were ranked for the most common severity type, and the frequency of their expression on the landscape.

Seven fire regimes were identified throughout the State of Tennessee. The following table lists the seven fire regimes identified in the Gorge Fire Management Units.

III C. 100-200 years, Mixed Severity

Typical potential plant communities include western hemlock, Pacific silver fir, and white pine for ecoregions degrees latitude and cool, mesic grand fir and Douglas fir. Higher severity fire tends to dominate in any events.

IV B. 100+ years, Stand-replacing, Patchy arrangement

Typical potential communities include subalpine fir and mountain hemlock park and white pine north of degrees latitude.

IV C. 100-200 years, Stand-replacing

Typical potential communities include subalpine mixed conifer spruce fir, western larch, and western white pine. Important potential plant communities include mountain hemlock in the Cascades and Pacific silver fir north of degrees latitude.

V A. 200-400 years, Stand-replacing

Potential communities are the best so far adopted. Typical potential communities include Douglas fir, noble fir, and mountain hemlock on drier sites in parts of western Washington.

Condition Class: There are approximately 2,000 acres of National Forest in the Gorge at risk for losing key ecosystem components. Of this, 200 acres are at high risk, just over 2,000 acres are at moderate risk with the remaining acres being at low risk.

Suppression: The *Interagency Standards for Fire and Fire Aviation Operations*, including appendices, has been adopted by the unit as the minimum standard for fire operations, operation personnel, and equipment.

Prevention: The unit is active in the Mid-Columbia Fire Prevention Cooperative, which includes the Oregon Department of Forestry, The Department, the Washington Department of Natural Resources, Southwest and Southeast Regions, Pacific Rural Fire Protection District, Mid-Columbia Fire & Rescue, The Department, the Mt Hood National Forest and the Gifford Pinchot National Forest.

The prevention strategy, which was developed in 2000 through the use of the Risk Assessment and Mitigation System (RAMS) is consistent with the guiding principles of the 2001 Year Comprehensive Strategy, which includes:

- Setting priorities that emphasize the protection of communities and other high-priority watersheds at risk.
- Coordination among governments and roadway representative stakeholders.
- Accountability through performance measures and monitoring for results.

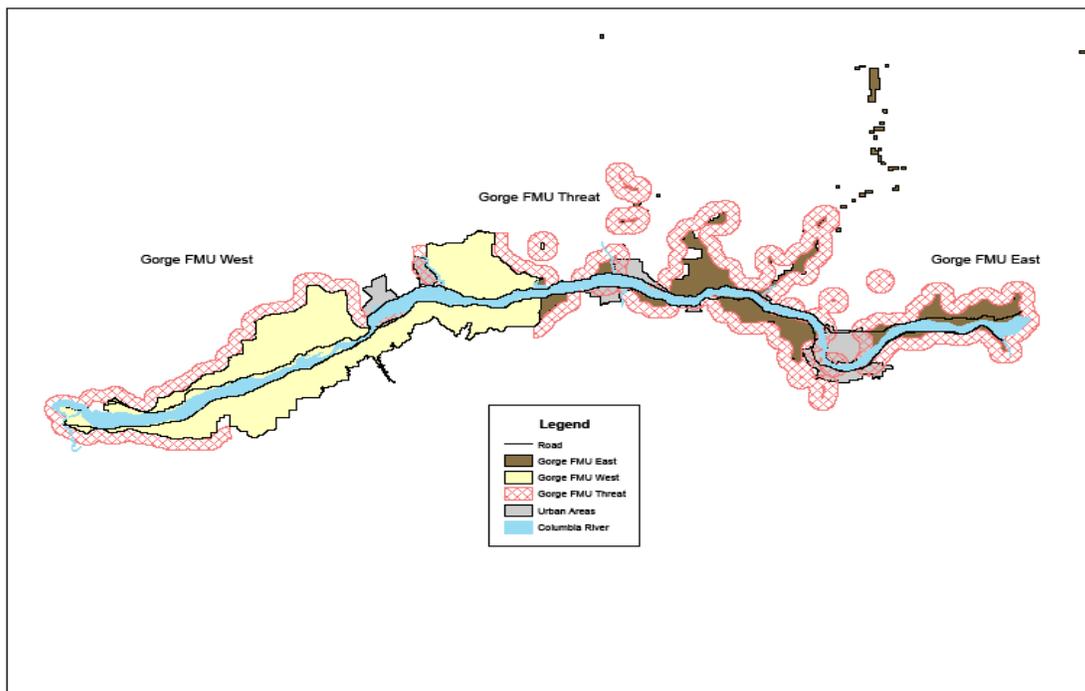
Dispatching

The combined Mt Hood and Gifford Pinchot National Forest Dispatch Center, Cascade County Union Center, provides dispatching services for the unit and their

annual organization guide outlines the roles and responsibilities of the dispatch office, the duty officer, and suppression resources

3.2 Fire Management Unit Specific Descriptions

Based on ownership patterns, fuel and climate conditions and topography, and access, three Fire Management Units (West, East, & Threat) have been identified within the County's River Gorge National Scenic Area. The West-East FMU occurs at the City of Hood River and the Threat FMU extends around the perimeter of the National Forest System lands managed by the unit.



Common FMU Characteristics

Volcanic activity, gullies, gashouts, flooding, and river erosion have been the key forces that formed the County's Gorge landscape. Steep slopes, steep cliffs, talus slopes and sharply defined ridges are present in the three Gorge FMUs. Steep north and south aspects dominate the topography of the Gorge FMUs where elevations range from 1,100 to 2,100 feet and in many areas such as elevation changes occur in three miles or less.

Urban Interface

There are designated Urban Areas within the County's River Gorge National Scenic Area. A total of 10 incorporated communities ranging in population from 100 to 2,000. There are eight unincorporated communities: Murdoc, Rowen, Dodson, Grand, Prindle, Underwood, Corbett, and Siskiyou with a range in

population from 2 to 10. The majority of the private and third parties outside of these urban areas is broken into two categories developed with homes and other structures. As a result, approximately 8% of the lands protected against fire fall into the wildland-urban interface category.

Infrastructure: In the the Columbia Gorge is the only east-west seaway pass through the Cascade Mountain Range it is a significant commercial corridor. Freeways, highways, rail lines, power lines and natural gas pipelines thread the over the elevations of the gorge. Higher elevations are dotted with radio, television, and Federal Aviation Administration and cellular telephone communication sites. In addition, the west end of the Columbia River Gorge borders the Portland Municipal Airport. There are three municipal airports Troutdale, Cascade Locks, & The Dalles within or adjacent to the National Scenic Area. The gorge is a training route for navy aircraft and is a high traffic area both emergency Coast Guard & Life Flight and civilian aircraft wildland fire and suppression activities in the gorge routine support of these services and uses.

Wildlife: A wildlife inventory prepared for the 1992 NSA Management Plan identified the following types of wildlife in the Columbia Gorge, including Rocky Mt. & Roosevelt, deer, elk, cougars, bobcat, mountain goat, it has been reintroduced, coyote, red fox, beaver and other furbearers. Bald eagle, Golden Eagle, Osprey, Peregrine falcon, Northern spotted owl, turkey vulture, raven, sharp-shinned hawk, Red legged and Cascade Frogs, Great blue heron rookeries, Woodpeckers, assorted rodents, Yellow eyed Mergansers, Pine Siskin, Purple Martin, Pileated squirrels, mice, moles, etc., tributary fish habitat, western pond turtle, Larch count in s... under, Ru... and California Mt... King sn...e

Species federally designated as threatened or endangered

<u>Wildlife</u>	<u>Status</u>	<u>Known Sites</u>
Northern spotted owl	Threatened	2 owls, Halfie d wilderness

<u>Fish</u>	<u>Status</u>
Steelhead trout	Threatened
Bull trout	Threatened
Chinook salmon	Threatened
Chum	Threatened
Coho Salmon	Threatened

Species recognized by tribes Cultural and spiritual significance. Tribes in ceremonial, subsistence and commercial treaty fisheries utilize Chinook and coho salmon, and steelhead trout. Pacific halibut are so important for cultural and subsistence purposes. Deer, elk, beaver, cougar, and grouse are used for clothing, shelter, and

Anadromous Salmonids. Four anadromous species are known to spawn within the confines of the Columbia River Gorge. Steelhead trout (*Oncorhynchus mykiss*), Chinook salmon (*O. tshawytscha*), Coho salmon (*O. kisutch*), and chum salmon (*O. tshawytscha*).

Resident Salmonids: Rainbow trout are the predominant resident salmonid present. Cutthroat trout have been observed in Lindsey and Wiento creeks. The possible presence of an introduced species of rainbow trout (*O. mykiss irideus*) is noted above. Further studies in Lindsey Creek but genetic confirmation is not yet completed. Resident rainbow and cutthroat trout occur in several streams above their respective barriers. Foraging or migrating trout are potentially able to use tributary mouths. A 1999 SFS survey found rainbow trout in Heron Creek up to the West River Mile. Cutthroat and rainbow trout have been observed in Phelps Creek above Fremont Road.

Columbia River Tributaries: There are several streams and rivers that drain into the Columbia River within the National Scenic Area. These tributaries provide fish and wildlife habitat, irrigation, and recreation opportunities.

Aquatic Resources: Riparian plants in upper stream elevations within the upper Scenic Area and in the Halfway Wilderness are believed to be in poor condition. These riparian resources were assessed by the SFS meeting ACS riparian project objectives, and showing high future potential to meet the Ties 2 and 2, SFS 1998. The Aquatic Conservation Strategy Objectives ACS are a series of 9 objectives that deal with maintaining or improving the ecological function of watershed.

Recreation: Fire management policies, practices and activities can and do have tremendous impact on recreation users in the gorge every year. The Columbia River Gorge has attracted recreation users for over 100 years with its spectacular scenery, forests and forested cliffs that have attracted visitors since before the turn of the century by steamboat and rail. The completion of the Historic Columbia River Highway ushered in the modern era of recreation. The corresponding increase in recreation use and easy access prompted the Secretary of Agriculture to design the Columbia Gorge Park Division of the Oregon National Forest in 1909. The park stretched from Grandview to Wiento and appears to be the first time the Forest Service designed an area purely for recreation use.

Today the congressionally designed Columbia River Gorge National Scenic Area continues to be one of the most significant tourist destinations in the Pacific Northwest. In a recent visitor use survey about 2 million National Forest visits were estimated with 2 million site visits. Daily users make up the bulk of the visitation to the gorge with 89% of the 1.8 million visits being overnight visitors. Recreation activities that visitors engage in most often on National Forest System lands are

visiting wildlife nature, hiking, fishing, and general recreation, driving for pleasure and visiting historic sites

Parks, Camp Grounds and Day Use: Within in the County River Gorge National Scenic Area there are so many state and federal parks, campgrounds, trails, visitor sites and other day use areas. There are over 20 miles of maintained hiking, fishing and horse riding trails and two national preserves. In addition, there are six national and state fish hatcheries and three wildlife refuges.

Windsurfing/Kite Boarding. The County River Gorge has become a renowned destination for windsurfers and kite boarders bringing thousands of visitors to the area every year.

Weather Patterns Influencing Fire Behavior: The Cascade Mountain Range serves as an effective moisture barrier causing weather systems to dump the majority of their moisture west of the peninsula leaving the east end of the gorge in a rain shadow. As a result, the County River Gorge National Scenic Area has two very distinct climates, east and west.

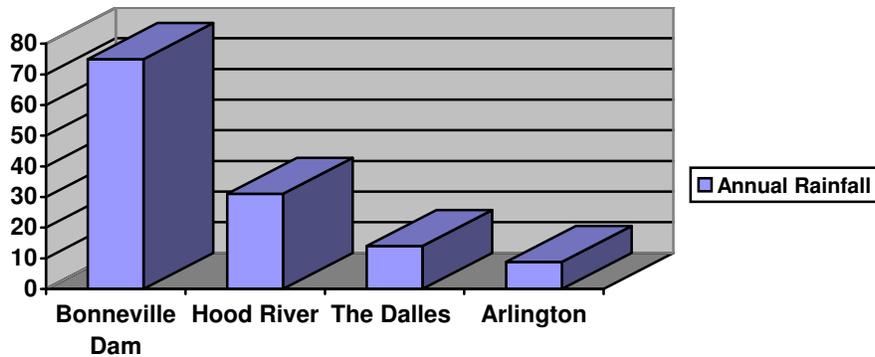
The County River Gorge connects the County Basin with the Willamette Valley and Pacific coastline. As a result, vigorous winds are common year round. In the spring and summer, wind direction is predominantly from the west as the cooler west side air near the Pacific Ocean pushes through the gorge to replace the warmer rising air of the desert interior. In the fall, this pattern begins to fluctuate and gives rise to significant episodic wind events.

East end wind readings recorded at an Air Quality Monitoring Station in Astoria, Oregon for the summer of 2008 show an average wind speed for June through August of 8 MPH, that the wind blows out of the west 88% of the time, and the maximum wind speed is 17 MPH.

Temperature readings measured in The Dalles, Oregon from 1997 through 1999 indicate that the east end of the gorge spends an average of 20 days above 90°F. The average number of days with temperatures between 90°F and an average of nine days are experienced with temperatures exceeding 100°F.

Rainfall totals are collected and averaged at weather stations located throughout the gorge by the Oregon Climate Service (OCS). From 1997-1999 the station at Bonneville Dam recorded an average of 17.99 inches of rain per year. The Hood River weather station averaged 17.5 inches of rain per year. During the same time period the OCS weather station in The Dalles recorded an average of 17.9 inches of rain per year and the station in Astoria recorded an average of 88 inches per year.

29-Year Average Annual Rainfall Amounts in Inches



Cool, wet winters and dry summers characterize the climate in the western half of the gorge. These climatic conditions closely resemble the Mediterranean climates that occur in California.

In early September, easterly wind conditions develop and the directional pattern throughout the gorge begins to fluctuate. Under the right atmospheric conditions, the gorge acts like a chimney and carries the easterly wind directly through the west end of the gorge. Easterly settlers referred to the easterly wind as the "Devi Wind" for the fire problems it created.

From early September through mid-October, the west end of the gorge offers the best of both worlds from a fire's perspective. The tremendous fuel loading of the west side forest coupled with hot and dry wind and incredibly steep terrain make for some of the most spectacular burning conditions the Pacific Northwest has to offer.

Extreme fire behavior associated with the "Devi Wind" has been observed in the west end of the Columbia River Gorge since the late 1800s when the Yacolt Fire burned over 2,000 acres in less than 10 hours.

Like the remainder of western Oregon and Washington, winter rainfall climate predominates in the west end of the gorge. Season ending events usually occur by mid-October and rain generally continues to fall throughout the late fall and winter.

Significant East Wind Fires

Yogo Fire	28,000 acres	1921
Cannon Fire	2,400 acres	1921
Stevenson Fire	1,400 acres	1921
Rock Creek Fire	2,000 acres	1921
Doyle Fire	22,000 acres	1929
Born	1,800 acres	1929
Begon Rock	1,800 acres	1929
Sage Fire	1,400 acres	1929
Mutton Fire	2,000 acres	1929
Heron Creek	1,400 acres	1929

Therefore, the Heron Creek fire is considered significant due to the complexity of the incident. Three structures were lost and many more were threatened, the Oregon State Configuration Act was activated, Interstate 8 and the Union Pacific rail line were shut down for numerous days.

Fire Season Determination: Fires occur in 2 months of the year within the boundaries of Coquille River Gorge National Scenic Area. However, fire season in Coquille River Gorge is defined as the period between May and October.

The climatic conditions that set up the typical fire season in the West FM begin in late April. The season rains begin to taper off and the grass and brush reach maturity. By mid-May the chief grass fire carrier on the east end is typically cured in the over-evolutions and ready to burn. During this same period, temperatures on the east end fluctuate between the mid-sixties and mid-eighties and the strong westerly winds begin their daily migration through the gorge.

Fire season parameters were derived from this combination of decreased live and dead fuel moisture, increased temperatures and strong winds. Consistent with this data, the aforementioned historic fires show that of the fires within the analysis period, 98% occurred between May and November.

For the West FM fire season ending events, defined as 1/2 inch of rain over a 2 day period after October, typically occur in mid to late October within the West FM. Fire season ending events are defined as 1/2 inch of rain over a 2 day period after October, with a forecast long range forecast. Season ending events in the West FM typically occur in mid to late October.

Characteristics Specific to the West FMU

Much of the West FM burned during the turn of the century fires (1898-1900) and

As a result true old growth is rare. Pockets of old growth can be found on the Oregon side in the deeper drainages such as Heron Creek and Eagle Creek. Given the steepness of the slopes timber harvesting has never occurred above the elevation of 5000 feet on most National Forest System lands. Given these factors, most of the lands managed by the unit on the Oregon side in this FM were considered to be late seral forest reserves. River level forest communities include riparian hardwoods such as red alder, bigleaf maple, cottonwood and Oregon ash, and varied wetlands ecosystems. With the elevation rise these forest communities rapidly transition to Douglas fir and then upland western hardwood.

The geology and forest communities on the Washington side of the river are very similar to those found on the Oregon side. The primary difference is that the elevation rise occurs over a greater distance allowing for a greater amount of time. As a result, there is substantially more private and state protected land here than on the Oregon side.

The west FM on the Oregon side, hosts the Historic Columbia River Highway. The highway threads past spectacular views and offers access to some of the most popular hiking trails in the gorge. This, coupled with its proximity to the greater Portland metropolitan area, makes it one of the most heavily visited Forest Service sites in the Pacific Northwest.

Jurisdiction, ownership in the west FM is a checkerboard of state, county, and private. The FM encompasses portions of both Multnomah and Hood River Counties. Cooperating fire agencies on the Oregon side include the Oregon Department of Forestry, the District of the Central Oregon District and the Multnomah District of the North Cascades District, Multnomah County Fire District #1, Forest, Cascade Locks Fire Department, and west Side Fire Department Hood River. To the south the west FM borders the Mt. Hood National Forest along the Burn Run watershed and the Mount Hood High Wilderness Fire Management policies, decisions and practices in the gorge may have a direct impact on some of these agencies and resources.

Cooperating fire protection agencies on the Washington side of the river include the Pacific Cascades and Southeast Regions of the Washington Department of Natural Resources, Skamania County Fire Districts #1, #2, #3, #4, & #5. The Scenic Area shares some views of the gorge with the Gifford Pinchot National Forest some miles north of Hood River. The FM encompasses portions of Clatsop, Skamania and Clallam Counties.

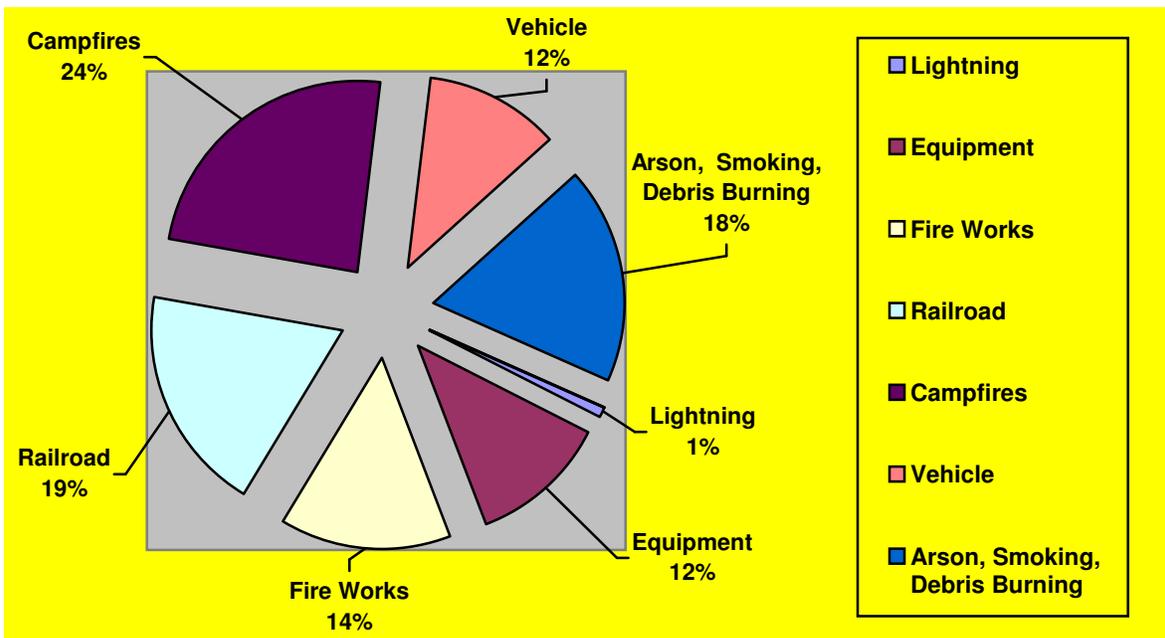
Incorporated communities in the west FM include Cascade Locks and Hood River on the Oregon side and North Bonneville, Stevenson, Carson, Hood River, and White Salmon. Incorporated communities include Dodson, Grandview, OR and Skamania, and Anderson, WA.

Characteristics Specific to the East FMU

Beginning just west of Hood River the forest cover transitions from conifer to Oregon oak and ponderosa pine forests and finally annual grasses, wheat, reed canary, etc with no over story in the East FMU. Additionally, slopes begin to moderate and river tributaries become less frequent here. Moderated slopes and drier climate allow for and invite higher population densities. As a result, outside designated urban areas, the East FMU is a checkerboard of private, state, and federal ownership that affects acre percentages.

Historical Fire Occurrence

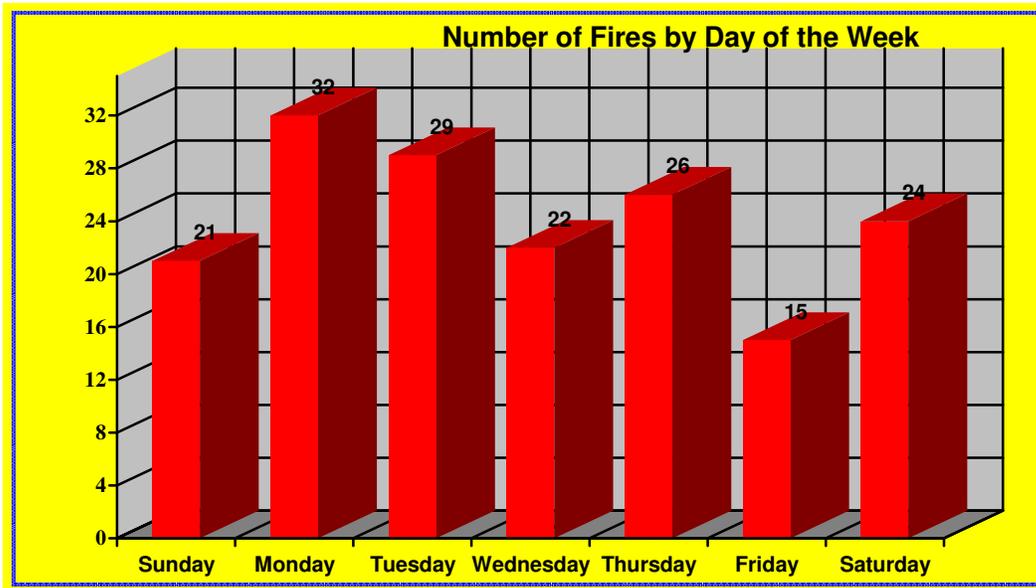
The unit used statistical fire information collected between 1992 and 2002 for analysis. Ignition points from 1,999 fires were analyzed to determine fire locations, cause, and acres burned. The chart below displays the percentage of fires by cause.



From 1992 to 2002 the number of statistical fires was 27 fires in the west FMU and 88 fires in the east FMU. The number and type of starts is relatively even throughout the gorge yet given the fuel types and the consistent wind there is a large discrepancy between the numbers of acres burned in the east and west Fire Management Units.

In the same time period statistical fires burned a total of 1,949 acres within the Scenic Area for an average of 20.5 acres per year. Of those 1,949 acres, 1,202 of them were burned in the East FMU.

The data also reveals that the greatest number of starts occurred on Mondays, Tuesdays and Thursdays. As the chart illustrates, fire starts during the remainder of the week are relatively even.



Fire Management Situation

Fuel conditions that influence fire behavior. Fire has been a dominant and constant presence in the Columbia Gorge influencing vegetation for the last several centuries. Historic fires in the gorge have been a variety of sizes, from small patchy fires to very large burns covering thousands of acres.

On the east end initial fire carriers consist of annual grasses and shrubs, which transport fire into typically overstocked stands of Ponderosa pine, Douglas fir, and white oak. Infestations of spruce beetle, lodgepole pine scale, and mortality due to drought stress and stand density have created pockets of both standing and down and dead fuels.

Given the heavy urban interface and predominant winds, the fuel types and conditions in the east FM where unwanted fires typically occur can accurately be described as, *once annual grasses have cured and five days have passed without significant precipitation*. Recent examples of East FM prone fires include:

- The **Rowena Fire** burned 2,000 acres of grass, pine and oak forcing the evacuation of 100 people on the west end of The Dalles, closed Interstate 8 and the Union Pacific rail line. The Rowena fire started on August 9, 1998.

2 The **Major Creek Fire** consumed 200 acres of grass and scattered Ponderosa pine in mid July of 1999. Fire activity closed Washington State Route 101, forced the evacuation of some residents and a Type II Incident Management Team was assigned.

The **Major II Fire** started in mid August 1999 and burned 200 acres of grass and scattered Ponderosa pine. One primary residence was destroyed and fire activity closed Washington State Route 101, the Burlington Northern Santa Fe rail line and forced the evacuation of some residents. A Type II Incident Management Team was assigned.

The **Murdoc Fire** of July 2002 burned 800 acres of grass. This fire destroyed primary residences, closed Washington State Route 101 and forced resident evacuations.

The **Chip Mill Fire** burned 1000 acres of grass, completely destroyed a chip mill and jumped the Columbia River to threaten the town of Desport. This fire burned in August 2002.

In the best FM fuel types and conditions, here unwanted fires cause problems typically develop with seasonal drying in early August and continue through mid to late October. Wind fuels are dominated by the dry natural logging slash produces high resistance to control. This coupled with the exception of steep terrain, east winds, urban interference and infrastructure translates to wildfires that cause problems whenever they exceed 200 acres in size.

Recent examples of problematic FM fires include:

The **Wauna Point Fire** burned 1000 acres of timber in September of 1999 and forced the evacuation of recreation sites and trails and closed campgrounds. Suppression activity forced modifications in the traffic patterns on Interstate 8. A Type II Incident Management Team was assigned.

2 The **Multnomah Falls Fire** started in early October 1999 and consumed 2000 acres of timber. Fire behavior closed Multnomah Falls, Oregon's most popular tourist attraction, the surrounding recreation trail systems, stopped traffic on Interstate 8 and eventually forced significant resident evacuations. A Type I Incident Management Team was assigned.

The **Eagle Creek Fire** burned 1000 acres of timber in early August of 1999. The fire forced the closure of the Eagle Creek Camp Ground, the Eagle Creek trail and the shut down of Bonneville Power Administration high voltage power line.

4. The **Oneonta Fire** burned acres of timber in September of 2002 and forced the closure of Highway 101 for 10 days, slowed the evacuation and closure of the surrounding trail system.

The **Herman Creek Fire** burned some 170 acres of timber in early September 2002. This fire destroyed primary residences, commercial structure, closed Interstate 8 for 10 days, and shut down the Union Pacific rail line for 10 days.

While the majority of fires within the Scenic Area are stopped at Class A, B and C fires, the entire drainage has a history of large fire activity. A total of 17 Class E & F fires ranging from 2000 to 2002, 17 acres have occurred, with one Class G fire since 1999.

Modernization of Type I or II Incident Management Teams has occurred 17 times since 1999 and State Modernization, Washington and Confederation Act enactments in Oregon some 17 times since 1999.

Between 1992 and 2002 approximately 98 percent of fires in the gorge were human caused, with the highest fire loading in the months of June, July, August and September.

The eleven year annual average for fire causes is 10 fires per year burning an average of 170 acres per year.

Multiple fire days consisting of 2 or more fires per day have occurred 17 times since 1999.

Control Problems and Dominant Topographic Features. A 100 foot deep canyon dominates the gorge and its steep to vertical topography, frequent high winds and flashy to heavy fuel loading present problems on nearly every fire.

As previously mentioned in this document the Gorge FMs are coded with a 1000 Interference. There are 17 designations in the Area some of which encompass incorporated communities ranging in population from 100 to 2,000. There are eight unincorporated communities that range in population from 20 to 100. The majority of the private and that lies outside of these urban areas is broken into 2 acre parcels and is developed with homes and other structures. As a result approximately

the unit and frequently eco factors when setting suppression priorities and objectives

All of the aforementioned elements routinely present fire suppression and mitigation safety hazards and concerns. Such hazards are mitigated through agency standards and policy.

Range of Potential Behavior

The County River Gorge supports a variety of fuel types, including grass, sage grass, oak brush grass, Oregon white oak ponderosa pine, Oregon white oak ponderosa pine mixed conifer, and mixed conifer.

The following table represents the best available information on fuel complexes within the gorge and expected fire behavior during fire season. Include elements were added to the conditions to reflect typical conditions in the gorge.

Fuel Model 2 – Open Ponderosa Pine (Timber/Litter and Grass)			
Wind Speed mph	Rate of Spread (ROS) ch/hr	Flame Lengths ft	Fire Characteristics
			High POI and rapid ROS due to fine heraceous fuel
2	2	2	High POI and rapid ROS due to fine heraceous fuel, torching & spotting
Fuel Model 6 – Decadent white oak with FM 2 ground fuel			
	2	2	High rates of spread due to initial wind resistance associated with white oak
2	2	2	Long range spotting due to leaf characteristics and high POI of grass component

Fuel Model 2 – Grasslands/Sagebrush (Grass Fuel Group)			
1st phase			Rapid ROS through fine herbaceous intermixed brush
2nd phase		1	With fire spread spotting & high POI
Mixed Conifer (Timber Fuel Group)			
1st phase	1/9	8	Stand stability & crowding causes greater insect count that can lead to faster ROS
2nd phase	8	8	Due to abundant ladder fuels this has the highest ROS of the timber group

Fire Prevention, Community Education, Community Risk Assessment and Community Assistance Activities. The annual prevention program includes special events, education programs, outreach, signing and patrol during high probability ignition times (e.g., etc.). The Fire Prevention Program including the unit's Forest Risk Assessment and Mitigation System (FRAMS) is on file at the unit.

Fire prevention activities also include participation in the Mid County Fire Prevention Cooperative and the Western Washington Cooperative. The Scenic Area is an active participant in prevention events and education programs throughout the County. Examples of events include the Spring Safety Fair, Fire Prevention, Emergency Medical Services, Search and Rescue, county fairs, Hood River State Fair & Music Festivals, rodeos and special events. Sooy's birthday, parades, etc. Education programs include Fire Teaching and outreach programs that target fifth and sixth graders. The prevention program also includes a re-sign program and outreach and prevention materials. Munton Falls, which sees approximately 1 million visitors per year.

With the national emphasis on the Wildland Urban Interface the Scenic Area is involved in implementing Firewise Councils and partnerships, Firewise evaluation and risk planning and assessments for communities throughout the gorge.

The Western Governors Association definition of Wildland Urban Interface (WUI) is used to define Wildland and Non-Wildland projects. *Wildland urban interface – The line, area, or zone where structures and other human development meet or*

intermingle with undeveloped wildland or vegetative fuels (Glossary of Wildland Fire Terminology, 1996). This definition includes municipal watersheds.

The priority for both mechanical and prescribed fire hazardous fuels work is intended to be multi such that the fuels are treated or determined to no longer create communities at risk involving the County of River Gorge National Scenic Area.

Special Orders and Closures: The Scenic Area Manager or designated acting has the authority to issue restrictions and closures. Fire restrictions and closures are closely coordinated with local cooperators: ADNR SE, ADNR SW, ODF The Dunes, ODF Mosier & Mid County Fire & Rescue and neighboring forests: Mt Hood NF, & Gifford Pinchot NF. Annual fire closures in Clatsop County go into effect on July 1. In Skamania, Hood River, Wasco and Multnomah Counties fire closures go into effect when state fire jurisdictions institute burns. There are annual fire closures in place for Chenoweth Tule, the Granddame Riverfront, and the Sandy River Delta that take effect on July 1.

Industrial Operations and Fire Precautions: Industrial fire restrictions are closely coordinated with the states of Oregon and Washington as well as the Mt Hood National Forest and the Gifford Pinchot National Forest. The majority of commercial operations on National Forest System lands within the County of River Gorge National Scenic Area are contractors working on Forest Service recreation trails, and fuels projects.

The majority of the counties and communities associated with the County of River Gorge National Scenic Area have completed or initiated Community Wildfire Protection Plans (CWPPs). As of June 9, 2018 the following counties and communities have approved CWPPs: Wasco County, The Dunes, Rowen Mosier, Hood River County, Hood River and Cascade Locks, Skamania County, Carson Home, Clatsop County, Lyell, Astoria, Desport, Hillsboro, and Bingen.

As of June 9, 2018 the following communities in Skamania County have CWPPs that are anticipated to be approved by August 2018: Underwood and Mila.

As of June 9, 2018 the following counties and communities have initiated CWPPs: Stevenson, Skamania and North Bonneville in Skamania County and Multnomah County.

Training: Training and fitness requirements for a person involved in fire suppression and fuels management requiring fire line qualifications can be found in PMS 1000, FSH 1000 and the Interagency Standards for Fire and Aviation Management.

Attendance at annual fire refresher training along with successful completion of the appropriate level of physical fitness test is prerequisite for the issuance of a Red Card. The unit's Incident Qualifications Review Committee meets annually to review and approve fire and aviation qualifications.

Fire Season Readiness: The unit's line officer or acting along with the Fire Staff Officer conduct annual fire readiness reviews consistent with emphasis found in the *Pacific Northwest Fire and Aviation Management Wildland Fire Preparedness* guide. Readiness Reviews are typically conducted in the June or early July once season preparations are completed andatory training. Readiness Review records are maintained in the CGF fire office.

Incident Business Management Guidelines: The unit uses the current Interagency Incident Business Management Handbook for the uniform application of interagency policy and guidelines. Likewise, the unit follows the FSM and FSH direction regarding fire and fire procurement.

Fire Cache Considerations, Stocking Levels and Management: The unit maintains a cache stocked to fully outfit its engine crews, one solo entry person crews and full support crew fire Cache inventory and management, including equipment maintenance and replacement is consistent with Region cache standards. Equipment maintenance and replacement records and schedules can be found at the fire cache, which is located in the Heron Creek Motor Center.

Detection: Fire detection within the County River Gorge relies upon reports from other agencies, the public and employees. Activity patrols at high priority times and in the early season within the gorge are routinely conducted on the ground, with fire detection flights following lightning storms. Aerial detection is closely coordinated for coverage by coordinating flights with local cooperators.

Fire Weather and Fire Danger: There are no Remote Automatic Weather Stations (RAWS) within the County River Gorge National Scenic Area and RAWS stations on neighboring forests are not representative of weather conditions within the gorge. As a result, the CGF uses weather data from METAR stations at The Des Moines Municipal Airport and the Trout Lake Airport.

Forest Service Policy, Manual and Handbook Direction: There are no policies or directions that are strictly unique to the unit.

Engine Configuration: The unit maintains two Mode 1 Type I engines and provides cooperative firefighters for engines managed by the states of Oregon and Washington. Cooperative firefighters are typically assigned to Type I and or Type V

engines, which, under the operating plan, are dispatched resources for fire dispatches within the gorge.

The Forest Service engines are staffed with people, seven days per week and the coop engines are staffed with 2 people five days per week.

The unit adheres to *Safety* guidelines and directions found in Forest Service Manuals and Handbooks, National and Regional support standards such as the *Interagency Standards for Fire and Fire Aviation Operations*.

Critical Thresholds of Firefighting Resource Needs: The unit maintains thorough qualifications records in ICQS and the availability of those resources is routinely updated through the Resource Ordering and Status System (ROSS). In addition, MHF dispatch maintains a list of CGF fire qualified individuals in their Monthly Guide and routinely dispatches them to local, regional and national incidents.

Minimum initial attack resource needs on the unit have been identified as one Type III Incident Commander, one FS Type I engine module, and three coop engine modules.

Aviation Management: The County of River Gorge NSA, the Mt Hood National Forest and the Gifford Pinchot National Forest Tri-Unit share an Aviation Officer. All flights involving CGF employees and/or projects are coordinated through the Tri-Unit Aviation Officer. The unit shares an aviation plan with the Tri-Unit, a copy of which is on file in the fire management office. Local vendors are identified and are ordered through dispatch or acquired through contracting.

Initial Attack: Initial attack is aggressive fire suppression action consistent with firefighter and public safety. Tactics and strategies are based on the current and predicted fire behavior and weather. Through agreement, the Mt Hood National Forest dispatches CGF resources.

Information Used To Set Initial Attack Priorities: The highest priority fires within the County of River Gorge for initial attack are ranked as fires that:

1. Threaten life
2. Threaten real property
3. Threaten natural, cultural, and historic resources

Initial Attack standards are found in the *Interagency Standards for Fire and Fire Aviation Operations*. Initial attack dispatch and fire reporting procedures are located in the MHF Monthly Guide.

Appropriate Initial Attack Response: Criteria that is used to define the appropriate level of initial response is negotiated between federal, state, and local

cooperators annually and documented in the operating plan. See the Prepared Dispatch Book, which are included in the Mt. Hood NF Mobilization Guide.

Confinement as an Initial Strategy: The unit has fire protection responsibility for four islands within the Columbia River. They are Miller, Lewis, Ives, and Sullivan Islands. A confinement strategy is implemented on the islands when current and extended weather and fuel conditions are such that escape from the island is considered impractical. Confinement is also a strategic selection for the islands when resources are limited.

Tracking Type III-V Incidents Including Identification of IC and Transition Process: A person arriving on Type III-V fires is to be contacted with the IC or Operation Section Chief when assigned for completion of briefing. The preferred method of contact is face-to-face; however, there are instances when a radio or cell phone briefing is required. Once resources have been briefed the IC will notify dispatch for documentation in the IA log.

Tracking Work/Rest: Fire Duty Officers will track work or rest via daily monitoring and through the review of time sheets to ensure that agency and regional standards are met.

Response Times: The unit has Type I engines and patrol vehicles stationed at various locations throughout the gorge. Average response times range from ten to twenty-five minutes for lower elevation fires. The vast majority of the unit's fire workload and three to six hours for remote higher elevation fires in the steep topography on the west end, specifically on the Oregon side.

Restrictions and Special Concerns: The Columbia River Gorge National Scenic Area manages wilderness areas. As a result there are no general restrictions on equipment, aircraft, fire retardant or fire line explosives within the unit.

Social and Political Issues: The unit encompasses portions of Washington, six counties and includes incorporated communities. The tribes of Clatsop, Spring, Yacheltan, Nez Perce, and Tillamook have treaty rights to fisheries, fishery habitat and cultural sites in the gorge. At least count there were some 20 special interest groups that monitor and advocate for and against activities in the gorge. As a result, there are frequently competing interests and political concerns. While there are myriad issues, the fire management event, differences have been worked out through cooperative agreements and operating plans.

Extended Attack Fires and Large Fire Suppression: Extended attack operations may or may not be in conjunction with decreasing fire escape. This is dependent upon whether or not tactical objectives can be achieved with on scene and assigned

in coming resources. Consistent with the ISFFA, a fire that has escaped initial attack and is considered in extended attack when it:

- Has not been contained by the initial attack resources dispatched to the fire
- Has not have been contained within the management objectives established for the fire
- Has not been contained within the first full operational period and there is no estimate of containment or control

Impedimentation of extended attack operations denote that either initial attack objectives and/or tactics have failed, or are anticipated to fail based on current information. Impedimentation of extended attack operations may also result from the inability to implement initial attack actions in a timely manner due to priority setting during multiple ignition events.

WFS Development: A Wildland Fire Situation Analysis (WFS) for extended attack and large fire suppression is prepared to evaluate suppression responses that have exceeded initial attack or planned management capability. For multiple jurisdiction fires that exceed initial attack, WFS should be prepared when Forest Service protection exceeds 2% and/or the fire threatens to move onto or continue burning adjacent FS systems lands.

Complexity Process for Incident Transition. Extended Attack fires can be managed as more complex initial attack actions here on going tactical operations, or in transition period between initial attack and large fire management. This occurs when committed resources are unable to meet tactical and control objectives. In either case, a more complex incident requires more planning, oversight and depth in the incident management organization is necessary. Specific Incident Command System organization and hazard mitigation issues must be addressed to support on going operations in order to maintain a proactive management approach. The focus is primarily on firefighter and public safety.

Transition From Initial Attack (IA) When:

- Attempts to contain an IA incident with normal tactics are unsuccessful
- Management complexity increases beyond current capability
- Current and/or predicted resource availability is not achieve tactical objectives
- Information is sporadic, incomplete and not understood
- Crew, Supervisory Control and Management Oversight Levels meet or exceed predetermined levels. Supervisory controls will be implemented that support the expansion of control and qualifications, in which current and expected complexity.

Management oversight is conducted by qualified personnel and should be ordered as fire danger thresholds are potentially met to ensure adequate staffing prior to fire occurrence.

Critical human factors should be considered when planning for and implementing extended attack operations. Objectives, continuous monitoring and evaluation of firefighter actions, quick and decisive decision making on the incident and changes, and anticipation of tactical needs for current and future operation periods are necessary to manage an incident at the extended attack level. Adherence to, or rest guidelines and fatigue management are also essential elements of EA management.

The transition from IA to extended attack operations should be managed systematically to provide for continuous actions. This transition requires strong leadership and positive situational awareness.

Extended attack and large operations on the unit are based on the established protocols set forth in the *Interagency Standards for Fire and Fire Aviation* and are intended to provide for the following:

- Safety of the public and fire fighters is not compromised
- Critical intelligence is gathered
- Communication channels are secure
- Positive command and control structure is in place
- Critical information is well understood by all
- Strong effective leadership is in place
- Work/rest guides for workload and fatigue management is in place
- All personnel are qualified in the positions assigned
- Decisions are regularly reviewed
- Human factors including decision making and situational awareness are monitored

Extended Attack incidents should be continuously evaluated against these criteria to assist in the decision to continue actions or transition to a large fire organization.

Extended Attack positions that are available within the Tri-Unit are such as Incident Commander (Type III ICD), Task Force Leader (TFLD), Strike Team Leader (STR) and support positions are reported to MHF dispatch daily. A standing Type III organization is then formed and available to be dispatched within the Tri-Unit area. These resources can also be ordered, as needed, by initial attack Incident Commanders and Fire Duty Officers.

Additional direction for extended attack operations can be found in the *Interagency Standards for Fire and Fire Aviation Operations*.

Transition to Large Fire Operations: Treat the Extended Attack transition to Large Fire management as an incident within an incident. Established protocols, including the Agency Administrators Briefing found in Interagency Standards for Fire and Fire Aviation Operations, should be used. Communicate intentions, and staff appropriately to manage the transition and continue to stress firefighter and public safety.

Minimize complexity analysis's to assist in the decision to transition to a large fire organization. In that three or more of the items listed in the standard complexity analysis are routinely experienced on CGF incidents the anticipated duration of the incident is also used as part of the decision criteria.

Exceeding Wildland Fire Implementation Plan (WFIP): A WFIP is a progressively developed assessment and operation management plan that documents the analysis and describes the appropriate management response for a wildland fire. Given that the appropriate management response for a fire within the unit has been identified as suppression, the likelihood of exceeding a WFIP virtually nonexistent.

Emergency Rehabilitation and Restoration: The unit has had four fire rehabilitation projects since 1992. The unit does not have a Fire Rehabilitation Plan. Whenever emergency rehabilitation or restoration is needed, an interdisciplinary team of rehabilitation technicians is formed, and plans are developed that take the Emergency fire rehabilitation based on FEMA requirements, and are primarily focused on:

- Slopes of 70% where surface erosion from water is likely
- Temporary fences should be considered in areas where grazing pressure may inhibit reestablishment of native plants for following wildfire
- Reseeding of natural vegetation to restore plant communities
- Road deterioration or restoration

Equipment Rental Agreements: The unit uses emergency rental agreements prepared through a zoned contracting office located on the Mt Hood National Forest. Copies are maintained in Mt Hood NF dispatch and the unit fire office.

Fuels and Prescribed Fire: The Columbia River Gorge National Scenic Area Act created the unit in 1981. In 1992 the Scenic Area initiated its fire management program. Since 1981 the unit has continued to acquire lands, most of which have been under state or private management. As a result, the prescribed fire and fuel management program on the unit is young.

Planning and Documentation: The unit's prescribed fire program is included to the standards outlined in the Area's year plan. The unit projects that its technical

fuel manipulation, including prescribed burning rather than pile burning to begin in 2017.

Fuel Project prioritization is based on fire regime, condition class, location, within and non-contingencies such as community involvement in concurrent projects. Priorities may change due to flexibility in contingency planning.

The project priority and schedule table on page 2 of the five year plan lists each treatment and the planned date of action, planning, implementation, and prescribed maintenance burn years. Planning budget resources are flexible and a variety of implementation methods and creates shelf stock quickly. It also means that most of our environmental documents, including the Environmental Assessments. Each project will be fully monitored and the monitoring results will be applied to the next treatment unit.

Collaboration. Described are current relationships the Forest Service developed in the unit regarding fire prevention and vegetation treatment needs and priorities.

City of Cascade Locks and City of White Salmon. The unit's Fire Staff attended to planning meetings concerning fire prevention including fuel management organized by city planners in addition the regular meetings of the Columbia Gorge Local Coordinating Group.

Burdoin Mt. Residents. The Burdoin Mt. project is coordinated with the efforts of local residents to reduce fuel loading around their homes. The first phase of this treatment is completed in 2017 and the second phase is currently under schedule under stewardship contract.

Oregon Department of Transportation. Unit staff offers technical assistance to ODOT's forester in order to facilitate their efforts to treat and control vegetation when necessary to protect safety along the Interstate 84. The establishment of this relationship will contribute to a line of communication concerning treatment needs on National Forest System lands.

Rowena Dell Homeowners Association. NF System lands border and intrude into the housing development in Rowena Dell. The unit's goal is to work with the neighborhood association to establish permit that allows the to keep fuels down on NF lands within the development. The unit has initiated fuel reduction on NF lands and scope area surrounding the area.

Gifford Pinchot and Mt. Hood National Forest. The unit's vegetation team includes employees from the Gifford Pinchot NF in order to share resources. Additionally, in that the unit has no timber target, employees from the Gifford

Pinchot N F provided the timber and silviculture expertise for the Catherine Cree Steadship Contract, which is a fuel reduction forest health project, which encompasses some 2 acres in Clatsop County. Unit fire management resources assist both the Mt Hood N F and Gifford Pinchot N F in meeting their prescribed fire targets. We have agreed to have people and money where they are needed as the basis of our fuel contingency planning.

WADNR and ODF Firewise Landscaping and Defensible Space and National Fire Plan Grants:

Senior leaders of the unit's fire management program cooperate with these agencies in order to help them navigate the complex planning regulations in the CRGNSA. In addition, the unit plans its fuel treatment areas to coincide with the efforts of communities actively taking advantage of this program.

Washington Department of Fish & Wildlife:

The unit has developed a relationship with Washington State Fish and Wildlife regarding prescriptions for restoring riparian woodlands.

The Long Term Prescribed Fire Strategy:

The unit's prescribed fire strategy is consistent with FSM 2 and identifies, develops, and implements fuel profiles that contribute to the most cost efficient fire protection program in support of management and resource management direction. Areas of naturally occurring hazardous fuel are identified and treatment plans are developed. The quantity of acres treated annually is dependent on completed NEPA or other and the location of funding.

Levels and methods of fuel treatment are guided by the protection and resource objectives of each management area. The following are considered when prioritizing which projects are funded by appropriated hazardous fuel funds.

- Riparian Interface Treatment Acres including municipal watersheds
- Fire Regime Classification
- Current Condition Class
- T&E Habitat Protection
- Decision Notice signed
- Further prioritization by consider.
- Watershed Analyses
- Region Fuel Policy 999
- Review and update of the 99 Federal Land and Fire Management Policy. http://www.nifc.gov/fire_policy/index.htm
- Project longevity, management location, cooperative partnerships, NEPA or completed, and probability of completion, safety considerations, and potential for success

Economic efficiency will be a consideration when selecting proposed fuel treatments, including the decision to not treat fuels. Several methods exist including the Fuels Appraisal Process (FAP), Strategic Elements of Fuels Management RX, and the fire prevention planning software Risk Assessment and Mitigation Strategies (RAMS), which are used through fire prevention techniques.

Numbers and kinds of qualified personnel necessary for the Rx Fire program:

Due to the youth and size of the unit's fuels management program and its ability to draw on neighboring forests and cooperators for resources the unit currently requires no recourses, beyond that of the suppression program.

The unit requires that all personnel engaged in prescribed fire duties meet or exceed the standards established by FSM 9. A certified prescribed fire burn boss will supervise all prescribed fires. The Burn Boss will have experience in the specific fuel mode and be qualified in the prescribed fire complexity rating.

Prescribed Fire Accomplishment Reporting: Documentation will be done through FACTS. Likewise, fuel treatments on federal lands within the Coconino River Gorge National Scenic Area documented via FACTS.

Burn Plan Requirements: This Forest Service direction (FSM 2) states the Forest Supervisor or Area Manager to delegate Burn Plan approval authority, the Area Manager will approve Burn Plans.

All written burn plans will be prepared and approved prior to any ignition. The required elements are discussed in the Federal Land and Prescribed Fire Policy Guide and the Forest Service Manual. See the Interagency Standards for Fire and Fire Aviation Operations.

Burn Plan Elements: All elements of the Risk standardized burn plan should be considered, however, the extent that each element is evaluated and described depends on the complexity of the burn. If an element does not apply to a given burn such as documented in the burn plan. A Burn Plan will be reviewed to insure that they meet agency and FMP requirements and are technically sound.

Contingency resources, if required, will be identified in the Burn Plans and will be activated through dispatch or the Duty Officer in the event that dispatch is not staffed. The Duty Officer will coordinate for contingency resources on a daily basis and will survey Daily Staffing reports the evening prior to the burn to evaluate the number of personnel available for contingency.

Planning for and implementing the prescribed fire program involves operations during the entire year. These operations include planning, reconnaissance, evaluation, documentation, the development of prescriptions, inter-agency coordination, seasonal management, interdisciplinary technical coordination, update and reporting and request for funding, fire effects monitoring and comprehensive evaluation, personnel management and training, fiscal analysis, coordination with the public regarding fuel treatments and their timing, coordination of hazardous fuel treatments on non-federal land. The FMO and AFMO will ensure that projects are properly coordinated with the public, staff and inter-agency partners through appropriate planning procedures and documents.

After each prescribed fire is implemented the Burn Boss will prepare a post-urn cost, tactical, and operations summary. A critique of operations, safety, communications, seasonal impacts, prescribed fire behavior and fighting sequencing, contingency needs and overall achievement of urn objectives will be performed by the urn boss and documented for the intention of program improvement.

Exceeding Existing Burn Plan: In situations where implementation of the prescribed fire is unsuccessful the contingency plan outlined in the urn plan will be followed. If on-scene resources cannot contain the escaped fire then additional suppression actions will be consistent with the direction outlined in the contingency plan.

Smoke Management: Pertinent air quality issues within the Coquille River Gorge include:

- The Coquille River Gorge National Scenic Area is considered a sensitive area.
- The unit's proximity to the Portland and Vancouver metropolitan areas.
- Its location near Class I Air Sheds.

Activities that create seasonal emissions must follow the States of Oregon and Washington Seasonal Management Plans. Generally this requires registering planned burns, inputting the planned acreage, counts and locations, and reporting actual activity. Comprehensive FASTRACS is currently the program used to track and transmit this information.

Location of Class I Air Sheds. The Mt. Adams Wilderness on the Gifford Pinchot National Forest and the Mt. Hood Wilderness on the Mt. Hood National Forest are the only Class I Air Sheds in the vicinity of the Coquille River Gorge National Scenic Area. The Mt. Hood and Gifford Pinchot National Forests contain various visibility plans for these Class I Air Sheds.

Local and Regional Smoke Management Restrictions and Procedures. The Columbia River Gorge National Scenic Area addresses smoke management through NEPA and State Implementation Plans (SIP), Oregon and Washington. The Environmental Protection Agency (EPA) has identified seven items that should be addressed in NEPA documents if prescribed fire is planned for fuel treatment. Region guidance letter June, 1992 they are:

- Describe alternative fuel treatments considered and reasons why they were not selected over prescribed fire
- Quantify fuels to be burned (acres, tons, types)
- Describe types of fuels (wood, brush, understory, etc)
- Describe measures taken to reduce emissions (fuel moisture content, site preparation, removal of soot-bearing trees, etc)
- Quantify the amount of PM₁₀ and PM_{2.5} emissions to be released
- Describe the regulatory permit requirements for burning
- Provide a qualitative description of air quality impacts of burning activities, focusing on non- or increased impacts on downwind communities, visibility impacts in Class I wilderness, etc

Reporting Processes: Smoke from a management ignited burning must be reported. The software program FASTRACS is used to meet the requirements for prescribed fire smoke management reporting to the States of Oregon and Washington. Registering, planning and reporting (reporting) of prescribed fire activities is accomplished using FASTRACS and FACTS. The data base is updated with reporting information within 2 weeks of completion of activity.

Ignitions are coordinated with surrounding units and Forests for the successful management of emissions that occur during peak periods of activity.

The Prescribed Fire Manager is responsible for ensuring that the data is properly entered into the database, prior to the burn, the day of the burn, and following completion. This responsibility is delegated to the assigned Burn Boss or other designated personnel.

Operational Requirements. Dispersion mode selects to be proper and project smoke dispersion. NFSPuff is currently the best mode when used with meteorologic information obtained from the MM Mode. Others exist and are used in the design phase.

Forecasts: Smoke dispersal forecasts are provided by ODF and are available via the Internet. For fuel type dry burns or on margin days it is recommended that they be contacted for additional guidance and consultation concerning the burn.

Mechanical Treatments and Other Applications: The unit's mechanical treatments are outlined in the year plan. Proposed mechanical treatments consist primarily of hand and light mechanical applications. In 2000, the unit contracted its first mechanical fuels reduction project in the Burdion Mt. for 8 acres. These acres were moved from FRCC III to FRCC II. Since that time, the unit has treated so additional acres with another 2 acres approved under NEPA for State Partnership Contract.

Monitoring and Evaluation: Monitoring and evaluating the fire program will occur to determine if the program and associated projects are meeting the various resource plans directions and to determine if the costs of implementing the fire program and management effects are occurring as predicted.

Monitoring related to wild and fire related projects falls under the general monitoring and evaluation guidelines outlined in the Land & Resource Management Plan. Site specific monitoring needs are identified in analysis for individual fire related projects.

Monitoring and evaluation are separate, sequential activities that provide information to determine whether programs and projects are meeting Management Plan direction. Monitoring collects information, on as appropriate, from sources specified in the Management Plan. Evaluation of monitoring results is used to determine the effectiveness of the Management Plan and the need to either change the plan through amendment or revision, or to continue with the plan. Over direction is found in FSM 922, FSH 99-2, CH, and CFR 29-2.

- 1. The goals for monitoring and evaluating this Plan are to determine:
 2. How well the Coconino River Gorge is meeting its planned goals and objectives.
 3. If existing and emerging public issues and management concerns are being adequately addressed.
 4. How closely the Plan's management standards are being followed.
 5. If outputs and services are being provided as predicted.
 6. If the effects of implementing the Plan are occurring as predicted,
 7. If the costs of implementing the Plan are as predicted,
 8. How implementing the Plan is affecting the land, resources, and communities adjacent to or near the Coconino Gorge,
 9. If activities on nearby lands managed by Federal or other government agencies are affecting management of the Coconino River Gorge.
- 10. If research is needed to support the management of the Plan, and
- 11. If there is a need to amend or revise the Plan.

The result of the evaluation of data gathered during monitoring will be used to the following types of action.

- Continuing the management practices,
- 2. Referring the problem to the appropriate line officer for improvement of the application of the management practice,
- Modifying the management practices Forest Plan Amendment,
- Modifying the management prescriptions Forest Plan Amendment,
- Revising the schedule of outputs,
- Revising the cost unit output, or
- Initiating revision of the Unit Plan

Annual Monitoring including Government Performance and Results Act. The unit will monitor and evaluate the fire program to determine whether the program and associated projects are meeting program direction. Specific goals are to:

- 1. Ensure that the program goals and objectives are being achieved and management prescriptions are being implemented as directed.
- 2. Determine if the costs of implementing the fire program and the management effects are occurring as predicted.

The unit will carry out monitoring to ensure, with the risks, costs, and values involved in meeting fire program and program objectives through resource management. This will include the use of the forest management review system in FSM as an approach to evaluate the overall effectiveness of fire program monitoring. Involve the public and other agencies, as appropriate, in the monitoring process.

Requirements from LRMP's and Management Plan: Conduct implementation monitoring as part of routine assignments and document the results in project files as part of fire management responsibilities. Implementation monitoring should be used to determine if prescriptions, projects, and activities within the fire program are implemented as designed and in compliance with fire program and program objectives, standards, and guidelines.

Effectiveness monitoring is intended to determine if plans, prescriptions, projects, and activities are effective in meeting management objectives, standards, and guidelines. Resource and/or technical specialists should conduct this level of monitoring on a limited basis as determined by resource values and risk, and by public issues. The unit should initiate effectiveness monitoring on a year after determining that the fire program prescription, project, or activity to be monitored has been implemented according to program direction.

Additional monitoring determines whether the initial data assumptions, and coefficients used in development of the fire program are correct or if there is a better way to meet fire program and program regulations, policies, goals, and

objectives. Conduct validation monitoring when effectiveness monitoring indicates that basic assumptions or coefficients are questionable. In general, conduct validation monitoring by establishing permanent points or studies in close coordination with research personnel. Limit the scope of validation monitoring to coefficients and standards that are not reasonably substantiated by existing research. These events are defined in FSM 922.7

Minimum Monitoring to Address Key Issues and Questions: The Fire Staff shall monitor program performance and document the results annually. The evaluation shall estimate how well the objectives of the program are being met, and ensure the deviation from the expected costs and outputs of the fire management analysis process. This assessment and evaluation must recognize that planned program performance based on the analysis process is measured in terms of expected outputs for the time period referenced in the plan. These outputs may deviate from this plan due to weather and other natural, variable factors, assessments taken over a decade or longer reflect performance.

The evaluation should include, at a minimum, the following:

- 1. The changes in fire activity (fire occurrence and prescribed fire size and intensity) and comparison with the predictions derived in the LNA for the area where fuel conditions have been altered by management practices.
- 2. A comparison of the prevention program projections for person-caused fires, with trends evidenced by the fire occurrence statistics.
- 3. An evaluation of the adequacy of the fire management organization to meet the expected fire frequency and size distribution of the expected cost and net value change events as projected for the selected fire program.
- 4. A determination of the adequacy of the value change analysis, by comparing the reported annual value change from the individual fire reports with the projected analysis.

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 the plan. Evaluation examines those results, determines how well those results meet plan direction, and identifies measures to keep the plan viable.

Evaluation Techniques: The full spectrum of techniques and methods to evaluate the results obtained from monitoring. 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 unit officials

On going eco p ish ent reporting processes

- 6. For a nge ent review s on a schedu ed sis
- Discussions w ith other gencies and the pu ic users
- 7. M nge ent te a review of onitoring resu ts
- 8. Interdiscip in ry te a review s of onitoring resu ts
- 9. Invo ve ent w ith existing rese rch ctivities
- Review and n alysis of records docu enting onitoring resu ts

DANIEL T. HARPER ENRIDER
Area Manager
County of River Gorge National Scenic Area

Date