National Park Service
U.S. Department of the Interior

Curecanti National Recreation Area

Black Canyon of the Gunnison National Park

Colorado

Fire Management Plan

October 2006

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List of Acronyms Used in this Document

AAR	**After Action Review**
ACEC	**Area of Critical Environmental Concern**
AMR	**Appropriate Management Response**
AOP	**Annual Operating Plan**
BA	**Biological Assessment**
BLCA	**Black Canyon of the Gunnison National Park**
BAER	**Bare Area Emergency Rehabilitation**
BI	**Burning Index**
BIA	**Bureau of Indian Affairs**
BLM	**Bureau of Land Management**
CAR	**Communities at Risk**
CDOW	**Colorado Division of Wildlife**
COLM	**Colorado National Monument**
CRSPA	**Colorado River Storage Project Act**
CSFS	**Colorado State Forest Service**
CURE	**Curecanti National Recreation Area**
DINO	**Dinosaur National Monument**
DM	**Department Manual**
DO	**Director's Order**
DOA	**Delegation of Authority**
DOI	**Department of the Interior**
EA	**Environmental Assessment**
EFR	**Emergency Fire Rehabilitation**
EFRP	**Emergency Fire Rehabilitation Plan**
EMS	**Emergency Medical Services**
ERC	**Energy Release Component**
ESR	**Emergency Site Rehabilitation**
FAA	**Federal Aviation Administration**
FIL	**Fire Intensity Level**
FIO	**Fire Information Officer**
FIREPRO	**Fire Program Funding**
FMO	**Fire Management Officer**
FMP	**Fire Management Plan**
FMU	**Fire Management Unit**
FONSI	**Finding of No Significant Impact**
FPA	**Fire Program Analysis**
FUMA	**Fire Use Manager**
GFO	**Gunnison Field Office**
GIS	**Geographic Information System**
GMP	**General Management Plan**
GMUG	**Grand Mesa/Uncompahgre/Gunnison National Forest**
HUC	**Hydrologic Unit Classification**
IA	**Initial Attack**
IC	**Incident Commander**
ICS	**Incident Command System**
ID Team	**Interdisciplinary Team**
IMR	**Intermountain Region**
IMT	**Incident Management Team**
IQCS	**Incident Qualification Certification System**
KBDI	**Keetch-Byram Drought Index**
LAL	**Lightning Activity Level**
LCES	**Lookouts, Communication, Escape Routes, and Safety Zones**
MAC Group	**Multi-Agency Coordination Group**
MIST	**Minimum Impact Suppression Tactics**
MIDC	**Montrose Interagency Dispatch Center**
MIFU	**Montrose Interagency Fire Unit**
MMA	**Maximum Manageable Area**
NAAQS	**National Ambient Air Quality Standards**
NEPA	**National Environmental Policy Act**
NFDRS	**National Fire Danger Rating System**

NFP	**National Fire Plan**
NHPA	**National Historic Preservation Act**
NPS	**National Park Service**
NWCG	**National Wildfire Coordinating Group**
PIO	**Public Information Officer**
PNV	**Potential Natural Vegetation**
PPE	**Personal Protective Equipment**
RAWS	**Remote Automated Weather Station**
RMP	**Resource Management Plan**
SACS	**Shared Application Computer System**
SAR	**Search and Rescue**
SASEM	**Simple Approach Smoke Estimation Modeling**
SHPO	**State Historic Preservation Office**
THPO	**Tribal Historic Preservation Office**
UFO	**Uncompahgre Field Office**
USBR	**United States Bureau of Reclamation**
USDA	**United States Department of Agriculture**
USDI	**United States Department of the Interior**
USFS	**United States Forest Service**
USFWS	**United States Fish and Wildlife Service**
VDDT	**Vegetation Dynamics Development Tool**
WAPA	**Western Area Power Administration**
WFIP	**Wildland Fire Implementation Plan**
WFSA	**Wildland Fire Situation Analysis**
WFU	**Wildand Fire Use**
WSA	**Wlderness Study Area**
WUI	**Wildland-Urban Interface**

1. Introduction

1A. Purpose and Need

Black Canyon of the Gunnison National Park (BLCA) and Curecanti National Recreation Area (CURE) are administered by a single Superintendent and managed under a joint General Management Plan (GMP, 1997). Park specific Resource Management Plans (RMP) also help guide the management of each area (RMP, 1993). The GMP provides only general guidance for managing wildland fire in both park units while recognizing the different purposes and resources of each park. The respective RMPs are an extension of the GMP, and are specific to resource management issues in the parks.

The purpose of developing a fire management plan (FMP) is to implement strategies for the management of fire and fuels within and adjacent to the parks, as determined cooperatively by various federal, state, and local land managers, as well as private land owners and other public stakeholders, to protect the resources and values of the parks and the adjacent lands. In addition, it is desirable to design and implement a FMP that will not only protect resources, but will to the most practicable extent, reintroduce fire as an ecological process on the landscape. The fire management planning process is intended to evaluate the current fire management situation and develop a cooperative and collaborative plan that is both beneficial as well as adaptive to the changing needs and conditions of the parks and adjacent lands.

The *need for action* is to develop a FMP for two National Park Service (NPS) units that do not have current plans in compliance with NPS *Director's Order #18: Wildland Fire Management* (DO-18), which states, "Each park with vegetation capable of burning will prepare a fire management plan to guide fire management that is responsive to the park's natural and cultural resource objectives and to safety considerations for Park visitors, employees, and developed facilities." The National Park Service Fire Management Leadership Board conducted a service wide status determination of fire management plans in winter 2000 and found that more than 50% of parks were lacking fire management plans or had plans that needed updating (e.g., older than five years). The associated environmental assessment will establish the future management direction for fire related activities at BLCA and CURE by analyzing a range of alternatives and strategies that would protect both NPS and other federal land resources and values.

1B. Summary of the Collaborative Process

Cooperation and collaboration are critical processes in land management, and particularly fire management. This plan tiers off of the BLCA/CURE GMP, which has involved participation and input from a variety of managers and stakeholders, including NPS employees, neighboring landowners, and U.S. Forest Service (USFS) and Bureau of Land Management (BLM) staff. The development of this FMP has revolved around an Interdisciplinary Team (ID Team) consisting of NPS managers, planners, and staff; research scientists and fire ecologists from the University of Wyoming and Colorado State University, NPS Intermountain Region (IMR) Office National Environmental Policy Act (NEPA) and Biological Resources personnel, U.S. Bureau of Reclamation (USBR) staff, and a BLM fire ecologist and planner.

1C. Cooperation Among Fire Management Entities

Fire Planning Unit

BLCA and CURE lands are included in the Montrose Interagency Fire Planning Unit (FPU) (Figure 1, page 7). The Montrose Interagency Fire Unit (MIFU) is a fully integrated BLM/USFS unit that provides coordination and management for the BLM Uncompahgre (UFO) and Gunnison Field Offices (GFO), Grand Mesa/Uncompahgre/Gunnison (GMUG) National Forest, BLCA/CURE, and six local counties within the FPU: Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel. It currently provides support with shared suppression resources, personnel and facilities, cooperative management and exchange of protection, fuels and Wildland Urban Interface (WUI) projects, training, and prevention and education. For interagency management purposes, the MIFU is divided into three fire zones: Norwood, Ouray, and Gunnison (Figure 2, page 7).

This FMP further integrates the individual agencies' fire management programs under the umbrella of an interagency FMP that follows the guidance of the National Fire Plan (NFP). It provides direction and guidance for fire management on NPS lands within BLCA and CURE. However, because it was developed collaboratively with the adjoining BLM and USFS fire management agencies, it supports more seamless fire management across jurisdictional boundaries. NPS has adopted neighboring BLM fire management unit (FMU) prescriptive criteria to facilitate this seamless fire management approach. Therefore, the FPU information and the following discussions of fire management categories, FMUs, and management concern areas (MCA) have been adopted from the BLM UFO Draft FMP, 2004 and BLM GFO Draft FMP, 2004.

1D. Policies and Goals

This FMP will serve as a detailed program of action, providing specific guidance and procedures for attaining programmatic and fire management goals and objectives. This plan will implement fire management policies and help achieve resource management and fire management goals as defined in: (1) *the 2001 Federal Wildland Fire Management Policy & Program Review* (USDA/USDI 2001); (2) *Managing Impacts of Wildfires on Communities and the Environment, and Protecting People and Sustaining Resources in Fire Adapted Ecosystems - A cohesive Strategy* (USDI/USDA); and (3) *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan*.

1E. NEPA and NHPA Requirements

An Internal Scoping Report and an Environmental Assessment (EA) were prepared as part of this plan. The EA was made available for public review and is attached as Appendix K. The EA includes a Biological Assessment (BA) and letters of concurrence signed by the State Historic Preservation Office (SHPO) and the U.S. Fish and Wildlife Service. Also included in the EA is a Finding of No Significant Impact (FONSI) that was signed on August 31, 2006. This FMP and the accompanying EA meet the requirements of both the National Environmental Policy Act (NEPA, 42 U.S.C. §4321 *et seq.*) and the National Historic Preservation Act (NHPA, 16 U.S.C. §470 *et seq*.).

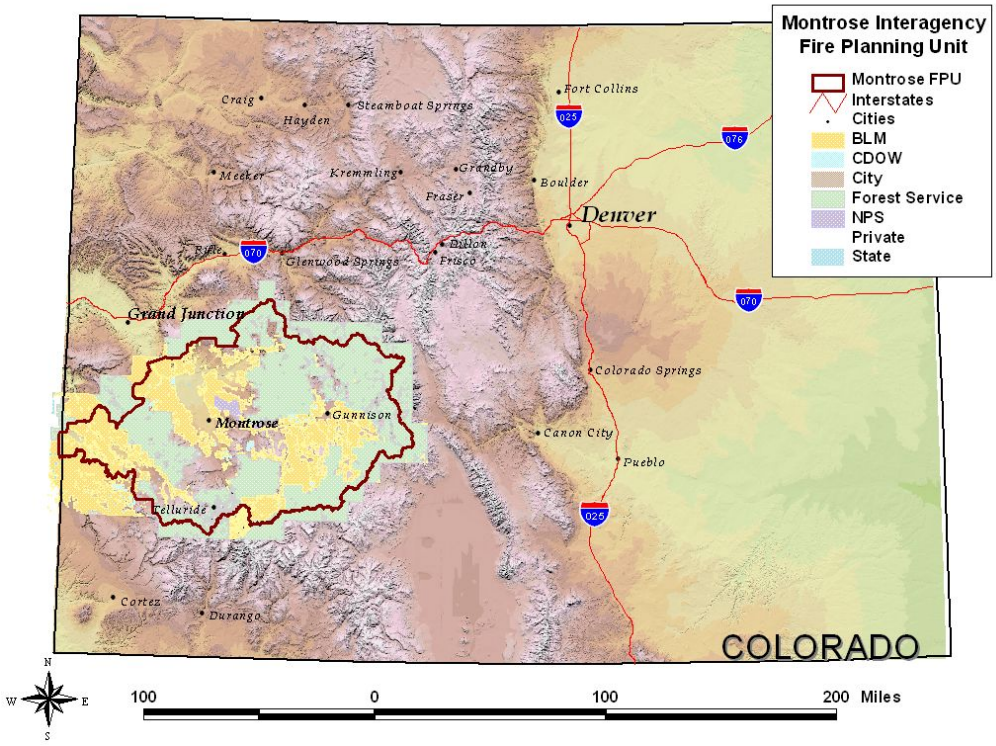

Figure 1. Montrose Interagency Fire Planning Unit

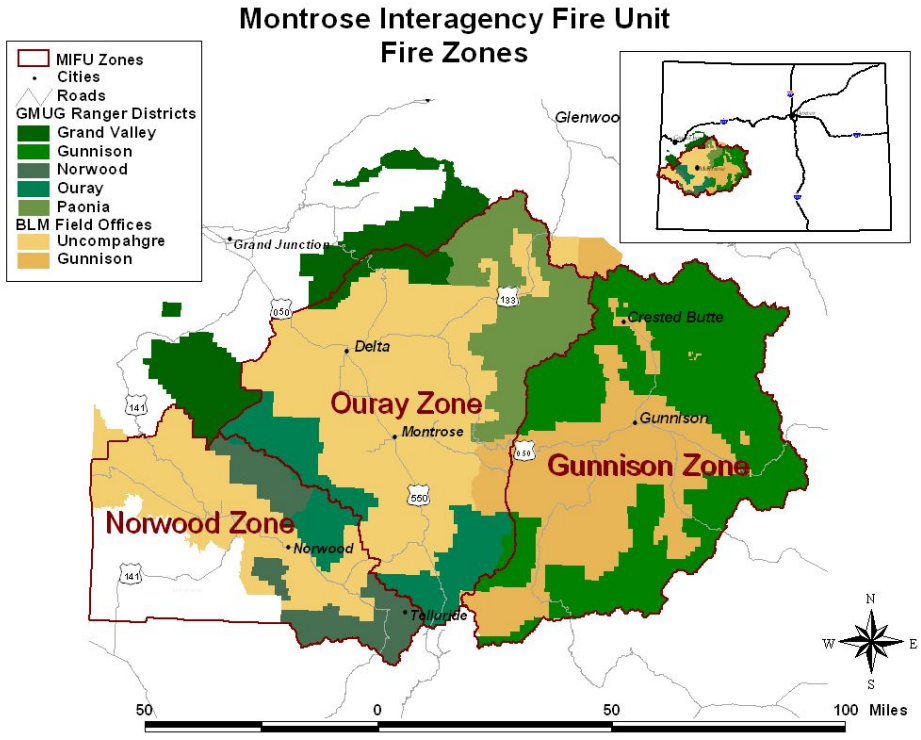

Figure 2. Zone delineations of the Montrose Interagency Fire Planning Unit.

1F. Authorities for Plan Implementation

Authority for carrying out a fire management program at BLCA and CURE originates with the NPS Organic Act dated August 25, 1916. The Act, in part, states that the primary mandate of the NPS is to preserve and protect the natural and cultural resources under its management in such a manner as will leave them unimpaired for future generations. Implementation of the plan will be carried out in collaboration with BLM fire managers, NPS IMR Office, USFS fire management officers, and local area fire departments.

The authority for NPS Fire Program (FIREPRO) funding (Normal Fire Year Programming) and all emergency fire accounts is found in the following authorities:

- Section 102 of the General Provisions of the Department of Interior's (DOI) annual Appropriations Bill - provides the authority under which appropriated monies can be expended or transferred to fund expenditures arising from the emergency prevention and suppression of wildland fire.

- Public Law 101-121, DOI and Related Agencies Appropriation Act of 1990 - established the funding mechanism for normal year expenditures of funds for fire management purposes.

- 31 U.S.C. §665 (E) (1) (B) - provides the authority to exceed appropriations due to wildland fire management activities involving the safety of human life and protection of property.

- Public Law 108-108 - details the mechanism for cooperative DOI-USFS fire management with a discrete fund source.

Authorities for procurement and administrative activities necessary to support wildland fire suppression missions are contained in the Interagency Incident Management Handbook. Authorities to enter into agreements with other Federal bureaus and agencies; with state, county, and municipal governments; and with private companies, groups, corporations, and individuals are cited in *Director's Order #20: Agreements* (*DO-20,* USDI 1999).

Authority for interagency agreements is found in "Interagency Agreement between the Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS) of the United States Department of the Interior (USDI) and the Forest Service (USFS) of the United States Department of Agriculture (USDA)" (1982). Authority for rendering emergency fire or rescue assistance outside the National Park System is the Act of August 8, 1953 (16 U.S.C. §1b (1)) and Department of the Interior Manual (910 DM). Authority for County Sheriffs to cooperate with federal fire management agencies meets NPS authority via the "Joint Powers Agreement for the State of Colorado".

Implementation of the plan will be carried out in collaboration with BLM fire managers, the NPS IMR Fire Management Office, USFS fire management personnel, USBR, Western Area Power Administration (WAPA), and the Montrose, Delta, and Gunnison County Sheriff's Offices.

2. Land Management Planning and Fire Policy

2A. NPS Management Policies

The NPS Organic Act (16 USC 1) states that NPS areas are to promote and regulate the use of Federal areas known as national parks, monuments, and reservations, "…by such means and measures as conform to the fundamental purpose of said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of future generations."
NPS DO-18 (USDI, 2003) Section 4.5 offers guidance for the integration of fire into overall park and resource management objectives:

> "Naturally ignited fire is a process that is part of many of the natural systems that are being sustained in parks. Human-ignited fires often cause the unnatural destruction of park natural resources. Wildland fire may contribute to or hinder the achievement of park management objectives. Therefore, park fire management programs will be designed to meet park resource management objectives while ensuring that firefighter and public safety are not compromised.
>
> Each park with vegetation capable of burning will prepare a fire management plan and will address the need for adequate funding and staffing to support its fire management program. The plan will be designed to guide a program that responds to the park's natural and cultural resource objectives; provides for safety considerations for park visitors, employees, neighbors, and developed facilities; and addresses potential impacts to public and private property adjacent to the park. An environmental assessment developed in support of the plan will consider the effects on air quality, water quality, health and safety, and natural and cultural resource management objectives. Preparation of the plan and environmental assessment will include collaboration with adjacent communities, interest groups, state and federal agencies, and tribal governments."

<u>Wilderness Policies</u>

Approximately 15,000 acres of BLCA are designated as wilderness and managed as part of the National Wilderness Preservation System. This area is known as the Black Canyon of the Gunnison Wilderness. Fire management activities within the wilderness area must conform to policy guidance under the 1964 Wilderness Act (16 U.S.C. § 1131), NPS Management Policies (2001) provide overall guidance for fire management in wilderness areas:

> "Fire management activities conducted in wilderness areas will conform to the basic purposes of wilderness. The park's fire management and wilderness management plans must identify and reconcile the natural and historic roles of fire in the wilderness, and will provide a prescription for response, if any, to natural and human-caused wildfires. If a prescribed fire program is implemented, these plans will also include the prescriptions and procedures under which the program will be conducted within wilderness.
>
> Action taken to suppress wildfires will use the minimum requirement concept, and will be conducted in such a way as to protect natural and cultural resources and to minimize the lasting impacts of the suppression actions. Information on developing a fire management

> program in wilderness is contained in Director's Order #18: Wildland Fire Management." (Chapter 6, 6.3.9)

All fire management activities within the wilderness area will comply with Director's Order #41: Wilderness preservation Management and RM-41.

2B. Enabling Legislation and Purpose of NPS Units

President Herbert H. Hoover established Black Canyon of the Gunnison National Monument on March 2, 1933 (Presidential Proclamation No. 2033) under provisions of the Antiquities Act (34 Stat. 225; June 8, 1906), for the purpose of "…the preservation of the spectacular gorges and additional features of scenic, scientific, and educational interest…"

CURE is administered by the NPS via a 1965 cooperative agreement with USBR, as authorized by 16 U.S.C. § 17j-2(b), and is therefore part of the National Park System. CURE was established as a NPS unit to conserve the scenery, natural, historic, and archaeological resources, wildlife and to provide for public use and enjoyment in such a way as to ensure visitor safety and resource preservation or conservation by establishing and maintaining facilities and providing protective and interpretive services. The NPS is mandated to manage the lands, waters, and activities of the recreation area so it does not interfere with the purposes of the Colorado River Storage Project Act (CRSPA) and to mitigate the loss of fish and wildlife resulting from the project.

2C. GMP Goals and Objectives Pertaining to Fire Management

It has long been recognized that fire plays an important role in the functions of many ecosystems. The presence or absence of natural fire within a given habitat is one of the ecological factors contributing to the perpetuation of plants and animals in that habitat. The GMP for BLCA-CURE identifies development of a FMP as a high priority. This FMP has been prepared to facilitate the realization of the goals and objectives found within the GMP and it is presented as a detailed program of action for the implementation of NPS fire management policies and objectives.

<u>General Management Objectives for Black Canyon of the Gunnison National Park:</u>

The joint GMP identifies the following resources and values of BLCA that influence or are influenced by fire:

- wilderness
- pristine air quality
- panoramic views
- high diversity of natural resources
- geologic features
- high recreational values
- cultural and historic resources

The GMP also identifies the following natural resource management objectives for BLCA pertaining to fire:

- Perpetuate native plant life as part of natural ecosystems by using prescribed fire to mimic natural fire effects in certain areas.
- Perpetuate native animal life as part of the natural ecosystem.
- Perpetuate and preserve Class I air quality.
- Manage and protect the regional land-based ecosystems to maintain, rehabilitate, and perpetuate their inherent natural integrity in western Colorado.

General Management Objectives for Curecanti National Recreation Area:

The joint GMP identifies the following resources and values of CURE that influence or are influenced by fire:

- geological and paleontological resources
- scenic vistas
- essential wildlife habitat
- cultural and historic resources
- water quality of the Gunnison River

The GMP also identifies the following natural resource management objectives for CURE that pertain to fire:

- Perpetuate native animal life as an integral part of the natural ecosystems by using prescribed fire where appropriate to improve forage and escape terrain for bighorn sheep.
- Maintain and restore aquatic and terrestrial habitats to protect their ecological and aesthetic character and dependent animal and plant communities.
- Perpetuate Class II air quality.
- Manage and protect the regional land-based ecosystems to maintain, rehabilitate, and perpetuate their inherent natural integrity in western Colorado.

The GMP identifies prescribed fire as a management tool to perpetuate native plant life and as a desirable tool to achieve the above objectives. The GMP also specifies there is a need for the use of prescribed fire as a management tool to reduce woody plants while increasing herbs and forbs for wildlife purposes.

The cultural resources management goals specified in the GMP, applicable to both BLCA and CURE are to protect, preserve, and develop cultural resources for public enjoyment, interpretation, and scientific research.

2D. Cultural and Natural Resource Management Objectives

The RMP recognizes wildland fire as an essential component of the ecosystem and identifies the development of a wildland fire program (including fire suppression, wildland fire use and prescribed fire), fuels, inventory, and a fire history study as natural resource projects. The RMP (1993) states:

> "…fire plays an important role in the evolution and establishment of many plant communities. Fire removes natural fuel accumulations and assists in the control of insect and disease within many plant communities. Unchecked fuel accumulations provide increased potential for resource damage (such as soil, microphytic crusts, plant vigor and rejuvenation)."

Building on the goals put forth in the GMP, the specific objectives of the BLCA and CURE RMP are to:

- Maintain, restore, or simulate natural terrestrial, aquatic, and atmospheric ecosystem conditions and processes to the degree that is physically possible, so they may operate unimpaired from human influences.
- Maintain or restore indigenous flora, fauna, and natural communities to achieve species diversity and community structure equivalent to pre-Columbian times or post-Columbian conditions, which would have been created by natural events and processes.
- Protect rare species by measures aimed at preventing extirpation but which minimize adverse influences on other indigenous species.
- Encourage and participate in efforts to acquire and analyze information through research to facilitate development of the best possible management strategies for resource protection.
- Conduct long-term ecological monitoring and work cooperatively with other agencies to minimize, mitigate or prevent resource damaging human influences resulting from activities inside and outside of park boundaries.
- Protect, to the degree practical, and when it is not detrimental to park resources, the visiting public from known resource hazards by reducing the hazard and/or advising the public of potential risks.
- In areas with significant cultural resources, identify and preserve or restore elements of the landscape as appropriate to give an accurate representation of the historic period.

The GMP identifies prescribed fire as a desirable tool to achieve the above objectives. The RMP recognizes wildland fire as an essential component of the ecosystem. The FMP suggests reintroduction of fire as a natural process in order to restore the vegetative mosaic across the landscape. In addition, the reintroduction of fire will improve the habitat for those wildlife species that have declined due, in part, to the past 100 years of fire exclusion.

3. Wildland Fire Management Strategies

3A. General Management Considerations

BLCA and CURE are administered by one Superintendent and managed under a joint GMP, which provides general guidance for managing wildland fire in both park units, while recognizing the different purposes and resources of each park. Because BLCA and CURE are surrounded by BLM, USFS, USBR, WAPA, Colorado Division of Wildlife (CDOW), and private lands, it was agreed that all fire management documents should consider these boundary issues and every effort would be made to coordinate planning

efforts that would meet NPS objectives, yet dovetail with management objectives of other surrounding land managers and owners.

Fire management in the Montrose Interagency Fire Management Unit is governed by the MIFMU Board of Directors, which provides oversight and guidance on wildland fire management strategies and priorities across the FPU. The board members are representatives from each of the federal entities in the MIFMU: BLM Uncompahgre Field Office Manager, BLM Gunnison Field Office Manager, USFS GMUG Forest Supervisor, USFS Grand Valley Ranger District, USFS Norwood Ranger District, USFS Ouray Ranger District, USFS Paonia Ranger District, USFS Gunnison Ranger District, and NPS Black Canyon of the Gunnison National Park and Curecanti National Recreation Area Superintendent. The board meets four times a year to review the fire program.

The MIFMU Board of Directors and the interagency approach it represents is guided by the 2001 update of the 1995 Federal Wildland Fire Management Policy, the Wildland and Prescribed Fire Management Policy, the Implementation Procedures Reference Guide, the Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment and the 10-Year Comprehensive Strategy. They also ensure that fire management is in compliance with the land use plans in place for the various agencies.

In addition to the guidance from their Board of Directors, MIFMU fire managers also collaborate and coordinate with the neighboring federal, state, and local fire managers to develop and implement consistent fire planning across the FPU. In conjunction with the Colorado State Forest Service (CSFS), MIFMU provides direction and monetary and non-monetary assistance to the local fire management agencies to address wildland fire management issues. Various committees under the umbrella of MIFMU coordinate interagency efforts on fire prevention and education, dispatching, training, fuels management, suppression, rural fire assistance and preparedness. MIFMU also participates with the various formal and non-formal partnerships in prioritizing, planning, implementing, and evaluating fuels treatments.

The ID Team is working to create a FMP that will coordinate with and compliment the USFS (*Grand Mesa, Uncompahgre and Gunnison National Forests*), the Colorado State Forest Service (CSFS), and the BLM (*Uncompahgre and Gunnison Field Offices*) FMPs in order to facilitate the interagency management processes. Further coordination includes consultation with the U.S. Fish and Wildlife Service (USFWS) for endangered and threatened species, and the State Historic Preservation Office (SHPO) and Tribal Historic Preservation Office (THPO) for cultural resources. In addition, tribal consultation is sought with the Southern Ute, Northern Ute, and Ute Mountain Ute tribes.

3B. Wildland Fire Management Goals

The following goals, objectives, and strategies provide the programmatic direction for the wildland fire program for BLCA and CURE.

Goal 1. Provide for firefighter and public safety.
Objective: Ensure safety both to firefighters as well as the public by using safe and well planned tactics.

Strategies

1. Keep park visitors, NPS neighbors and local residents informed.
2. Impose NPS property closures.
3. Use the Risk Management Process and Situational Awareness.
4. Make sound and timely decisions.
5. Follow the Ten Standard Fire Orders.
6. Ensure Lookouts, Communication, Escape Routes, and Safety Zones (LCES) procedures are followed.
7. Ensure only qualified firefighters respond to wildland fires.
8. Identify hazard areas and restrict firefighting actions in these areas.

Goal 2. Protect public and private developments and natural and cultural resources.
Objective: Protect public and private developments and natural and cultural resources from undesirable fire using an appropriate management response (AMR) to provide for public and firefighter safety while achieving the protections of these resources. Use fire management practices that minimize damage to sensitive areas.

Strategies

1. Designate fire management units (FMUs) that allow fire to be managed across jurisdictional boundaries.
2. Identify resources that could be damaged by fire and develop strategies to address potential impacts.
3. Ensure that a red carded park service employee who is knowledgeable of the FMP and surrounding areas is assigned to the fire as a resource advisor to the Incident Commander (IC).
4. Employ Minimum Impact Suppression Tactics (MIST) (Appendix B).
5. Employ hazardous fuels reduction measures (prescribed fire, manual/mechanical, chemical) to manage hazard fuels.
6. Develop interagency rehabilitation plans.
7. Prioritize actions in the FMUs for budgeting purposes.

Goal 3. Create and maintain cooperative agreements both with government agencies and neighboring private landowners.
Objective: Designate interagency agreements which include annual meetings to review operating plans. Create a relationship with neighboring private landowners.

Strategies

1. Use interagency management for wildland fires across mutual boundaries with the BLM, USFS, USBR, WAPA, CDOW, CSFS, and Montrose and Gunnison County Sheriff's Offices.
2. Create a database of neighboring private land owners, cataloging those who will allow a fire on their property and those who will not.
3. Conduct annual meetings with the participating interagency groups that should be attended by appropriate management personnel.

Goal 4. Employ wildland fire use (wildland fire for resource benefits, WFU) and prescribed fire where and when appropriate as a tool to meet resource management objectives.
Objective: Use fire to maintain or restore, whenever possible, those ecological conditions and functions that would prevail if it were not for a history of immediate fire suppression.

Strategies

1. Employ WFU or prescribed fire to reduce woody vegetation encroachment, increase native plant diversity, reduce exotic species, and reduce surface fuel loading.
2. Implement fire management actions that result in mosaic patterns of vegetation, which protect the integrity of watersheds.
3. Monitor the effects of fire on the ecosystem to allow for adaptive management in developing prescribed fire prescriptions.

Goal 5. Employ post-fire rehabilitation strategies to protect resources.
Objective: Use appropriate stabilization and restoration techniques to mitigate negative impacts of wildland fire.

Strategies

1. Employ techniques that avoid the introduction of non-native and noxious species.
2. Employ a "no action" strategy when appropriate.
3. Determine when impacts are either minor or temporary in nature.
4. Develop interagency plans, including using the interagency rehabilitation handbook.

3C. Wildland Fire Management Options

Initially, six management alternatives were examined as possibilities for fire management planning in the parks. Three of the alternatives were dismissed and three alternatives were selected for further analysis within the EA (Appendix K). The selected management alternative, Alternative B – Natural Landscape Unit Alternative, includes suppression in units where fire is not desired; fuel reduction including manual/mechanical treatment (non-fire application) and prescribed fire to reduce fuel loading in mandated units; and WFU in units identified for wildland fire. These fire management activities are permitted to fluctuate across park lands to/from the adjacent public or private lands as per established agreements.

Wildland Fire Suppression

Wildland fires will be suppressed using an AMR. Management responses to specific wildland fires will be determined through evaluation of public and firefighter safety, fire behavior, values at risk, potential suppression damage, and availability of fire management resources. All unwanted wildland fires will be suppressed. Management responses will vary from fire to fire and sometimes even along the perimeter of a fire.

AMR options range from monitoring without on-the-ground disturbance to intense suppression actions on all perimeters of the fire.

Wildland Fire Use

Wildland fire use (WFU) is a strategy for allowing naturally ignited wildland fires to burn as long as the fire meets pre-stated resource management objectives and prescriptions. WFU is an option managers can use to meet the goal of using fire to protect, maintain, and enhance public resources, and as nearly as possible, allowing fire to function in its ecological role when appropriate for the site and situation. Management strategies for WFU fires can range from actively suppressing portions of the fire due to values to be protected to monitoring the fire while allowing it to play its natural role within the ecosystem. A WFU incident can have multiple actions occurring at the same time on various portions of the fire perimeter under AMRs as specified in a Wildland Fire Implementation Plan (WFIP).

Prescribed Fire

Prescribed fire is also one of the options managers can use to meet the goal of using fire to protect, maintain and enhance public resources. Prescribed fire can be used in identified areas (see discussion below) to also meet established resource management or hazard fuel reduction objectives. Use of prescribed fire will be guided by agency planning documents and consultation with appropriate agency staff.

Manual/Mechanical Treatment

Manual/mechanical treatments will be used to reduce hazardous fuel accumulations around pre-historic, historic, and modern structures, and adjacent to private lands where prescribed fire may not be feasible. Manual/mechanical treatments also may be used in conjunction with prescribed fire. These treatments will be used in areas with dense stands of shrubs and trees to reduce the likelihood of a running crown fire threatening the values at risk. These treatments will consist primarily of cutting some of the trees and shrubs, scattering or hauling debris from the site, or pile-burning on-site.

ABCD Fire Management Categories

The following discussion of A,B,C,D fire management categories provides a basis for determining the AMR, including whether a fire is a candidate for WFU. Chapter 4, Initial Action Procedures describes the process for determining if a wildland fire can be managed for resource benefit. These categories are assigned to discrete areas identified as polygons on a map, and are used in determining AMR as well as priorities for initial attack (IA).

- Category A – These are areas where fire is not desired at all. These areas would include ecosystems where fire never played a significant role in the function of the ecosystem. They would also include areas where suppression is required to prevent direct threats to life or property. All fires in these areas will be aggressively suppressed.

- Category B – These are areas where wildland fire is not desired. In these areas, fire plays a natural role in the function of the ecosystem. However, an unplanned ignition could have negative effects without mitigation. Fire suppression in these areas will be aggressive, but prescribed fires will be considered as a treatment to reduce hazards when resource concerns can be mitigated.

  Negative effects include risks to private lands and urban interfaces, federally owned facilities, high visitor use areas, important cultural resources (e.g., wickiups), areas with unnatural fuels buildups, sensitive watersheds, and areas where the seed bank does not exist for natural reseeding. Mitigation efforts could include fuels reduction through mechanical means or prescribed fire to reduce fuel loading around private land and urban interfaces, creation of agreements to allow fire to cross from public to private lands, cultural resource inventories, and preparation of rehabilitation plans prior to a fire event. Mitigation programs should focus on reducing potential threats to values before ignitions occur and the reduction of unwanted human ignitions.

  WUI areas, utility corridors, areas with federal facilities, areas with designated historic and cultural sites, areas of important habitat, sensitive watersheds, and special management areas are all categorized as B.

- Category C – These are areas where fire is a desirable component of the ecosystem, however, ecological, social or political constraints must be considered. These constraints could include air quality considerations (state emission standards); threatened or endangered species considerations (effects of fire on the survival of these species); identified cultural, archeological, or historic resources; or habitat considerations (both spatial and temporal). Habitat considerations could be described in terms of maximum burn acreage (e.g., no more than 10% of the polygon acreage can burn per year to preserve grouse habitat) or in terms of time of year (e.g., spring only).

  Prescribed fires and non-fire fuels treatments may be utilized to ensure these constraints are met. These methods also may be used to reduce hazardous effects of an unwanted wildfire. Treatments may consist of multiple entries of prescribed fire or non-fire treatments in conjunction with one another or solely before the use of fire is considered.

  Gunnison sage-grouse habitat (*Centrocercus minimus*), mule deer (*Odocoileus hemionus*) winter concentration ranges, elk (*Cervus elaphus*) winter concentration ranges, and elk calving areas are all categorized as C areas. In addition, some areas within the FMUs are also designated as C areas because of a concern with cultural resources or invasive species.

- Category D – These are areas where fire is a desirable component of the ecosystem and there are few to no constraints to its use. These areas offer the greatest opportunity to take advantage of the full range of options available to the resource manager for managing fire under AMR. Health and safety constraints will apply.

  There is generally less need for hazardous fuel treatment in this category. Prescribed fire for hazardous fuel reduction is not a priority except where there is a threat to resources or public safety. If treatment is necessary, both fire and

non-fire treatments may be utilized, as allowed by the resource management plan. Prescribed fire will be used to obtain desired resource/ecological conditions where appropriate.

The D areas are those portions of FMUs where there are fewer concerns with cultural or invasive species.

3D. Wildland Fire Management Strategies by Fire Management Units

Fire Management Units

This section identifies the 17 FMUs in the Montrose Interagency Fire Management Unit, summarizes fire management conditions, and presents management guidance in the form of management objectives, strategies, constraints, and projects. They are management areas definable by similar vegetation types and disturbance patterns, predominate fire regime groups, and management objectives, constraints, and strategies. For each FMU, management recommendations are provided for the following fire management programs: wildland fire suppression, wildland fire use, fuels treatments (prescribed fire and non-fire fuels), Emergency Site Rehabilitation (ESR), and community assistance/protection.

Montrose Interagency Fire Management Geographic Area Description

The Montrose Interagency Fire Management unit is located in south central Colorado (Figure 1, page 7). The planning area encompasses 5,638,241 acres, of which 2,174,404 acres are managed by USFS, 1,369,564 acres are managed by the BLM, 71,280 acres are managed by the NPS, 34,735 acres are managed by the CDOW, 17,137 acres are managed by the State, and 830 acres are managed by the cities. It extends to the Utah border on the West. On the north, it is bordered by the southern base of the Grand Mesa; on the east, by the Continental Divide; and on the south, by the San Juan Mountains. The federal lands within the MIFMU boundaries are contained within Delta, Gunnison, Hinsdale, Montrose, Ouray, San Miguel, and portions of Grand Junction and Saguache counties.

The planning area is characterized by broad river valley floors surrounded by rolling hills, high plateaus, deep canyons, and rugged mountains. Elevation on federal lands varies from 5,000 feet in the Gunnison River valley northwest of Delta to over 14,000 feet in the San Juan Mountains south of Gunnison. The complex regional topography causes considerable variation in site-specific temperatures, lightning patterns, precipitation, and surface winds.

There are twelve broad vegetative types in the planning area: desert grassland, salt-desert shrub, sagebrush (*Artemisia* spp*.)*-grassland, pinyon-juniper (*Pinus edulis* spp.-*Juniperus* spp.) dominated woodland, mountain shrub (Gambel oak (*Quercus gambelii*) /serviceberry (*Amelanchier* spp.)/bitterbrush (*Purshia* spp.)/etc.), aspen (*Populus tremuloides*), ponderosa pine (*Pinus ponderosa*) dominated, lodgepole pine (*Pinus contorta)* dominated, mixed conifer (ponderosa/Douglas-fir (*Pseudotsuga menziesii*) mix), other conifer (limber (*Pinus flexilis*)/bristlecone (*Pinus aristata*)/etc.), spruce (*Picea* spp.)-fir (*Abies* spp.) dominated, and riparian. The remaining acreage is either barren

land or rock outcrop, which produce very little in the way of vegetation. (Refer to the FMU descriptions for more specific vegetation descriptions per unit.)

Fire Management Units

The complex regional topography and variation in weather and fuels across the planning area have resulted in a range of ecosystems, which provided the basis for developing the 17 FMUs (Figure 3, page 22). These FMUs were developed by a group of interagency fire management specialists in concert with resource specialists from other disciplines.

The FMUs were identified by similar biotic and abiotic characteristics (e.g., topography, precipitation, soils, vegetative communities, wildlife, etc.) that would tend to have common disturbance patterns. The likely presuppression fire regime for each area was profiled based on these characteristics. Fire has historically played a significant role in these ecosystems, and is generally desired across the landscape. However, portions of some FMUs are designated as C areas with specific management constraints because of concerns with invasive species and the presence of cultural resources. The 17 FMUs in the MIFMU are as follows (see FMU Management Tables in the following section).

Table 1. MIFMU Fire Management Units with Acreages

Name	Acres
Black Canyon	**358,726**
Carpenter	**63,700**
Divide	**139,995**
East Uncompahgre	**152,596**
Gunnison Basin	**682,259**
LaGarita	**837,581**
Naturita Division	**67,093**
Roubideau	**290,187**
Sneffles	**363,707**
South Grand Mesa	**258,646**
Tabeguache	**209,256**
Taylor	**715,766**
Uncompahgre Valley	**482,277**

West Elk	**398,948**
West Uncompahgre	**204,766**
West Muddy	**256,754**
Wray Mesa	**155,988**

Common Management Guidelines Across the FPU

A,B,C,D Management Areas

Across all the FMUs in the FPU, there are specific sites or areas that require special management guidelines for fire use and prescribed fire - such as utility corridors, WUI areas, suitable timber or wildlife habitat - where there will be a special mosaic or management strategies identified to meet resource management objectives. These areas are identified as polygons within the FMUs (see map, Appendix L). These polygons are assigned an A,B,C,D category based on the risk to the resource posed by wildland fire. The specific management guidelines for these polygons are provided in the FMU Management Tables in the following section.

Management Objectives/Desired Mosaic Descriptions

To clarify management objectives and strategies for managing fire, mosaic tables are provided for all areas that are not individual sites (e.g., communication sites) that best characterize the desired future condition in terms of a desired range of variability within the major vegetation communities. Landscapes are described in terms of a mosaic of vegetation in various seral stages, with percentages of seral stages and patch sizes identified. This information is based on the resource specialists' knowledge of fuels, fire behavior, topography, vegetation dynamics, and ignition patterns. These descriptions are subject to change once more is known about ecosystem function, the range of natural variation, and the needs of particular species.

Prescriptive Parameters

For all C and D polygon areas, preplanned parameters are provided to indicate the acceptable range for fire behavior characteristics for WFU. Indicators such as the energy release component (ERC) and the live and dead fuel moisture readings are fairly reliable drought indices for the Western U.S. that correlate highly with fire behavior.

General Management Guidelines for the Planning Area

The following guidelines are common throughout the FMUs in the FPU. The general management guidelines apply to all fire management actions, unless otherwise specified. The Management Tables for the FMUs further refine this list and address specific considerations tailored to the objectives for that area. The constraints identified below that apply to all the polygons are additional constraints beyond those specified for individual polygons.

Mechanical vegetation treatments can be used to accomplish the specific goals identified for both Prescribed Fire and Non-Fire Fuels Treatments under the Strategies in each A,B,C,D area. In many of these units, projects will require 2 to 3 entries (mechanical followed by prescribed burning) before prescribed fire can be used as a single treatment type for maintenance (see Chapter 4, Prescribed Fire).

SUPPRESSION

- As a general rule, fire retardant will not be used in riparian areas or near waterways.
- For all surface facilities and structures, the appropriate fire suppression activity will be decided on a case-by-case basis. Such determinations may include simply notifying the land owner or authorization holder and/or actual full suppression activities.
- As a general rule, fire retardant will not be used on facilities and structures in order to protect their appearance and function. However, BLM will not be held liable for any damage to facilities and structures as a result of wildland fires.
- No motorized equipment in Wilderness Study Areas (WSA), wilderness areas, and Areas of Critical Environmental Concern (ACEC) without prior approval.

REHABILITATION

- All burned areas will be evaluated to determine whether fire ESR is needed.
- For all escaped wildfires, if the evaluation shows that ESR is needed, an Emergency Fire Rehabilitation Plan (EFRP) will be prepared and implemented in accordance with the Emergency Fire Rehabilitation (EFR) Handbook and the Uncompaghre Basin and San Juan/San Miguel Basin RMPs.
- All EFR plans will be developed by an inter-disciplinary (and interagency, where appropriate) team.

MONITORING

- Fire occurrence, both planned and natural, as well as other vegetative treatments will be evaluated each year following the fire season to ensure that resource management objectives and constraints have been met or to reevaluate if those objectives and constraints need to be modified.
- The hazard fuel treatments accomplished will be reviewed annually and changes in polygon classification considered based on the results of this review.

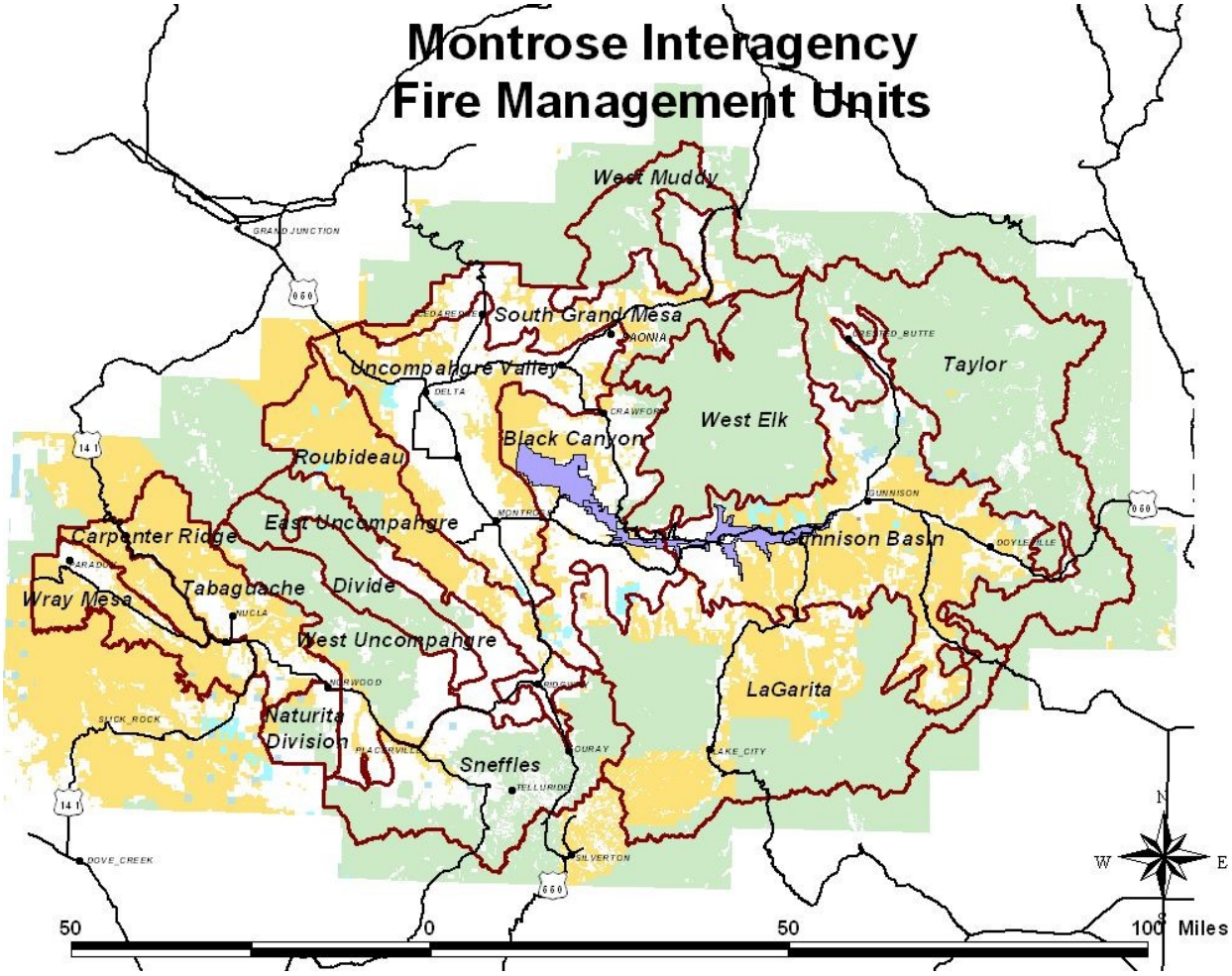

Figure 3. Fire Management Units within the Montrose Interagency Fire Planning Unit.

Two of the 17 FMUs are described in the following Management Tables. BLCA and CURE have been incorporated into these FMUs developed by an interagency team of NPS, BLM and FS staff. BLCA and CURE west of Blue Creek are located in the Black Canyon FMU; and CURE, east of Blue Creek is in the Gunnison Basin FMU (see pages 23-58 for Management Descriptions and Tables for FMUs).

The FMU Management Tables are guidelines and parameters for the entire FMUs and therefore only a portion of the targeted acres apply to NPS lands. Additionally, NPS has not identified prescriptive parameters for deer, elk or other big game habitat management.

FMU - Management Tables

Black Canyon FMU – Description

Location **-** This FMU is in the very center of the planning unit, and is comprised primarily of the foothills and ridges around the Gunnison Gorge, Crawford, Paonia, and Cimarron areas that skirt the western and southern rim of the West Elk Mountains. It extends down toward the North Fork Valley and Uncompahgre Valley, and includes the areas around the Black Canyon of the Gunnison National Park, Fruitland Mesa, Black Mesa, and Cimarron. There is a total of 358,726 acres within the boundary of the FMU. It consists of 95,102 acres of BLM land (26%), 21,318 acres of USFS land (6%), 31,214 acres of NPS land (9%), 10,070 acres of State land (3%), and 201,022 acres of Private (56%).

Characteristics **-** The topography is varied, being comprised of lower elevation Mancos shale badlands, to mid-elevation mesas dissected by steep sided canyon drainages, and occasional mountain peaks. The elevation ranges from 5,100 feet in the northern portions of the FMU to over 10,000 feet on some of the higher peaks. The average land slope of the unit is 31%. Several steep sided canyons, including the Black Canyon of the Gunnison contribute to the high land slope value.

Annual precipitation varies from 8 inches at the lower elevations to more than 30 inches at the higher elevations. From 25 to 40% of the annual precipitation falls as snow during the colder months, depending on elevation. Most of the precipitation outside of the mid to late summer season occurs from frontal type storm systems, which are typically regional in size. Precipitation from frontal events occurs over a relatively long duration but at low intensity rates. In contrast, summer precipitation is commonly associated with the southwest monsoon air flow pattern, which can produce localized, short duration, and intense precipitation events.

The major drainages receiving runoff from this FMU are the Gunnison, North Fork of the Gunnison, and Uncompahgre Rivers. Both the Gunnison and North Fork of the Gunnison Rivers potentially support a cold water fishery, and are classified by the Colorado State Water Quality Control Commission as “Aquatic Life Cold 1”, defined in part, as waters capable of supporting a wide variety of cold water biota. Most of the stream segments in the FMU are classified by the state as suitable or intended to become suitable for potable water supplies. The entire drainage area in this FMU serves as a source water area for domestic water diversion points downstream.

The Uncompahgre (and selected tributaries) and North Fork of the Gunnison Rivers are on the Colorado State 2002, 303(d) list for potentially excessive concentrations of selenium. Additionally, the Lower Gunnison and Uncompahgre Rivers are on the Colorado State Monitoring and Evaluation List for suspected water quality impairment from excessive sediment concentrations.

Soils in the FMU are highly varied but mostly derived from sedimentary rock. In the higher elevations, soils are mostly loams and fine sandy loams derived from the

Dakota and Morrison formations. These soils range from shallow to moderately deep depending on topographic position. Much of the steeper topography is dominated by rock outcrop and poorly developed soils. Many of the lower elevation soils are derived from the Mancos shale, a marine deposited evaporite. Consequently, these soils are fine-textured, highly erodible, and contain high levels of salinity and selenium. These soils receive very little precipitation and may be difficult to revegetate before invasive species become established on large disturbances.

The area includes low elevation grasslands and shrublands which transition to aspen at the higher elevations in the northeastern corner. The dominant vegetation in the northern portion of this FMU, around the Black Canyon and Black Mesa areas includes sagebrush/ grassland (30%), sagebrush/mountain shrub vegetation (30%), pinyon-juniper (30%), and aspen (10%). The specific community types include saltbush (*Atriplex* spp.) (6%), grass-forb rangeland (9%), sagebrush/grass mix (15%), sagebrush (28%), sagebrush-Gambel oak mix (5%), pinyon-juniper/sagebrush mix (8%), pinyon-juniper/mountain shrub mix (4%), and pinyon-juniper woodland (17%), and aspen (8%).

In the southern portion of the FMU around the Kinnikin and Cimarron area, the dominant vegetation includes sagebrush/grasslands (10%), sagebrush/mountain shrub vegetation (20%), pinyon-juniper (60%), and other (10%). The specific community types include grass-forb rangeland (4%), sagebrush/grass mix (7%), sagebrush community (11%), sagebrush-mesic mountain shrub mix (2%), mesic mountain shrub mix (5%), Gambel oak (2%), pinyon-juniper/sagebrush mix (19%), pinyon-juniper/mountain shrub mix (21%), pinyon-juniper/oak mix (4%), and pinyon-juniper (16%).

Recent Fire History – Lightning caused fires account for 93% of all unplanned ignitions in the Black Canyon FMU; the remaining are human caused. Predominant fire size classes are A-B (.01 – 9.9 acres), with occasional C through F (10 – 4.999 acres) size classes. In the period between 1980 and 2005, on federal lands there were 212 fires for a total of 3,499 acres. Of these fires, 197 were lightning caused, and 29 were human-caused. While human-caused fires account for only 14% of the total fires, they account for 45% of the total acres, or a total of 1,564 acres. Campfires and debris/field burning account for the vast majority of human-caused fires. Most fires occur during the months of May, June, July, and August.

Over the past 10 years, from 1994 through 2002 fire size has increased, with several 100-500 acre fires occurring during that time period in the Crawford area (1994 Missouri ~300 acres, 1999 Fruitland ~500 acres, 2003 Spring Creek ~100, 2003 Crystal Creek ~100, 2004 Saddle ~300 acres).

Table 2. Historical Fire Data for the Black Canyon FMU from 1980-2005

Period 1980-2005	Total Starts	Total Acres	% of Total Fire Starts By Cause	
			Lightning	Human Caused
NPS	**7**	**268**	**71%**	**29%**
BLM	**196**	**2,589**	**88%**	**12%**
USFS	**9**	**642**	**66%**	**33%**
TOTAL	**212**	**3,499**	**93%**	**14%**

Historic Fire Occurrence - Prior to European settlement, the following are the estimated return interval and intensity levels for the major community types within the FMU:

- *Aspen* – 60 to 90 year return interval, high intensity, stand replacing fires where fire kills the over story so that suckering occurs to create new stands.
- *Pinyon-Juniper* – 10-30 years return interval, small stand replacing fires, with larger stand-replacing fires (2,000-5,000 acres) every 150-450 years.
- *Mountain Shrub* – 15-30 year interval, smaller stand replacement fires, where the dominant shrubs quickly resprout and return to shrub cover.
- *Sagebrush/grassland* – 40-80 year interval, stand replacement and some mixed severity fires.

Historically, fires (both natural and human ignited) in this FMU were probably more frequent and large, creating a mosaic of serial stages in the all of the fuel models except for the aspen model. Fires in this area probably started somewhere in the lower to mid-elevation stands of dense grass/sage/mountain shrub, and every 10 to 50 years, under dry and windy conditions, would make runs into the pinyon-juniper. Every 60 – 90 years, under drought conditions, fires would have burned into the aspen stands at the higher elevations.

Prior to fire suppression, numerous lightning ignitions probably occurred with most fires staying small due to low burning conditions. Natural firebreaks would have limited the size and distribution of these fires. The resulting effect would be larger landscape diversity within the FMU and at various successional stages. North of the Gunnison Gorge up to the Paonia area, there was probably a high percentage of the area in early seral stages, with small patch sizes and low intensity fires due to aspect and prevailing winds. Most likely very few fires grew to any size, moving upslope or being driven by wind events for 1 or 2 burn periods. South and east of the Gunnison Gorge, there was probably a higher percentage of late seral stages and larger patch sizes, with more high intensity fires. Across the FMU, the mosaic could have been more diverse both with community types and age classes, with patches ranging from 1-2 acres in size up to several hundred acres in size.

During the past century, the sagebrush/grasslands, and mountain shrub and pinyon-juniper types in this FMU have been influenced by management practices such as livestock grazing, fire suppression, and most recently by heavy recreational use and by prescribed and mechanical treatments. In addition, developments such as irrigation ditches, roads, utility corridors and fences have contributed to fragmentation of fuel coverage. In combination with fire suppression, these post-settlement human uses have generally prevented fire from playing its ecological role on the landscape.

Modeled Historic Range of Seral Conditions – Tables 3 and 4 at the end of this section depict the seral stages and timeline for the major fuel types in this FMU. The stable plant community that establishes in the absence of any disturbances (e.g. fire, insect/pathogen mortality, windthrow, drought, harvest) is called the climax plant community. The area where a given climax plant community can grow is classified as a Potential Natural Vegetation (PNV) type, and is named for the climax plant community. Historically, for any given PNV type, natural disturbances (e.g. fires, insect outbreaks) occurred at characteristic intervals and intensities, called regimes. When a disturbance was intense enough to change the existing plant community, the remaining vegetation followed a natural progression, or succession, of plant communities that changed over time. If no further disturbances occurred, an area eventually returned to the climax plant community. The Vegetation Dynamics Development Tool (VDDT) (Beukema et. al. 2003) was used to model the expected range of seral conditions that would have existed under historic disturbance regimes for forest, woodland and shrub PNV types on USFS lands. The table also provides a comparison of this VDDT modeled historic range of seral conditions to the current seral conditions to identify areas of significant departure.

The Fire Management Situation

1) *Weather patterns influencing fire behavior and historic weather analysis*. Winters in this FMU range from the mild, low moisture at the lower elevations to moderate moisture and temperatures at the upper elevations of the FMU. The FMU has not had normal temperatures and moisture for the past 3-5 years, and this has had some effect on the fire behavior in most of the fuel types. The fire season generally starts in Mid-May and peaks in late June or early July with the onset of the monsoon rains. The monsoons normally start in early July and last until mid to late July.

   In general, the weather events are out the south-southwest and move to the northeast to east. The prevailing winds are also south-southwest. Upslope, upvalley winds are dominant factor in fire behavior in the western portion of the FMU. The east portion of the FMU (eastside of the Black Canyon) will have the same weather and wind patterns as the west side. Given the topography, these wind patterns will cause the fires to burn down slope, down valley.

2) *Fire Season Determination.* The ERC curves for the Black Canyon FMU usually peak in the last part of June just before the onset of the summer monsoon rains. Depending on the year, there may be another smaller peak in late August to early September. Most live fuel moistures of lower elevation grasses and sages will bottom out in late May to mid-June and then increase in live moisture for the remainder of the fire season.

3) *Fuel conditions in the FMU likely to influence fire behavior.* The fire behavior fuel models for the Black Canyon FMU are as follows: These fuels models have been altered due to the lack of fire in the last 60-80 years. There is the potential for large, stand replacing fires in nearly all of the fuel models.
   - Fuel Model 2 (Grass/Sage) 30%
   - Fuel Model 6 (Pinyon-juniper) 20%
   - Fuel Model 5 (Oak/Brush) 40%
   - Fuel Model 8 (Aspen) 10%

   The lack of fire in the last 100 years in this FMU has resulted in an increase in fuel loading and fire susceptibility in the mountain shrub, pinyon-juniper, and to a lesser extent in aspen fuel types. Grazing and fire suppression, in particular, have resulted in fire exclusion to a large degree in the sagebrush/grasslands. The resulting mosaic is now dominated by woody species in many places, including sagebrush, young pinyon-juniper, and some mountain shrub communities.

   Aspen stands become susceptible to cankers and root rots as they mature. Since much of the aspen is in the 80-120 year old range, they are prime for mortality from fungal agents. The oak and mixed shrub cover types have less patchiness and structural stage diversity than would have occurred historically. The current conditions are more susceptible to higher intensity fires that may affect larger areas than would have occurred in the past.

4) *Fire Regime Alteration.* Most community types have seen significant alteration in condition class with the Black Canyon FMU. The mountain shrub and pinyon-juniper have seen regime alteration due to fire suppression over the past 50-100 years, and they have a high risk of losing key plant community components whereas aspen communities are at moderate risk.

5) *Control problems and dominant topographic features.* Most of the control problems in this FMU are going to be associated with steep slopes and canyons.

6) *Other elements of the fire environment affecting management.* The Black Canyon FMU contains the following attributes:

A and B Category Areas: These are either renewable or non-renewable values in the FMU that could be damaged or destroyed by fire.

B1 – B299 = Wildland Urban Interface – There is a total of 72,104 acres of WUI within this FMU (all landowners), which includes 17 Communities at Risk (CAR). The FMU contains the Black Canyon of the Gunnison National Park and the Crawford State Recreation Area, which have multiple facilities and developed recreation sites. There are also four communication sites and multiple high voltage transmission lines within the FMU. Significant development is occurring in this FMU, with houses being built in patches of dense vegetation. In addition cheatgrass (*Bromus tectorum*) is becoming established in many locations, primarily in previous disturbances and treatments but also more recently under standing, untreated pinyon-juniper. These two issues both increase the potential impacts of wildland fires and make fire management more complex. To locate the

Federal Register CAR risk see the following website**:** **http://www.fireplan.gov/communities_at_risk.cfm.**

B300 - B399 = High Public Use Areas – There is a total of 4,835 acres of high public use within the FMU, mostly associated with the trailheads and undeveloped campgrounds in Black Canyon of the Gunnison National Park, Gunnison Gorge National Conservation Area, Crawford State Recreation Area, and West Elk Wilderness area. There is fairly intensive recreational use throughout the FMU.

B400 – B450 = Sensitive Watersheds – There is a total of 11,079 acres of sensitive watershed in the south and east portions of the FMU.

B500 – B599 = Affected Cultural/Historical Areas – There is a total of 9 acres of cultural/historical sites within the FMU that may be affected by fire. The western portion of the FMU has been identified as an area with high potential for cultural sites.

B600 – B650 = Important Habitat – There is a total of 33,173 acres in the FMU that have been identified as important habitat. One of the key management species in this FMU is the Gunnison sage-grouse. The Fruitland Mesa, Black Ridge area within the sagebrush and mountain shrub communities is the most important area occupied by this species. Other areas with some activity include Cimarron and the Bostwick Park areas. Wintering bald eagles (*Haliaeetus leucocephalus*) are heavily concentrated within the inner Gunnison Gorge, but there are no known active nests or communal roosts for this species. There is one known occurrence of the Uinta Basin hookless cactus (*Sclerocactus glaucus*) at the northern end of this unit, and some potential for the presence of the clay-loving wild buckwheat (*Eriogonum pelinophilum*).

BLM sensitive species with potential to occur in the FMU include, the Townsend's big eared bat (*Corynorhinus townsendii*), spotted bat (*Euderma maculata)*, Yuma myotis (*Myotis yumanensis*), fringed myotis (*Myotis thysanodes*), big free-tailed bat (*Nyctinomops macrotis*), northern goshawk (*Accipiter gentiles*), ferruginous hawk (*Buteo regalis*) (migrant only), Gunnison sage-grouse, sharp-tailed grouse (*Tympanuchus phasianellus*), white-faced ibis (*Plegadis chihi*), long-billed curlew (*Numenius americanus*) , roundtail chub (*Gila robusta*), flannelmouth sucker (*Catostomus latipinnis*), bluehead sucker (*Catostomus discobolus*), Colorado River cutthroat trout (*Oncorhynchus clarki*), midget faded rattlesnake (*Crotalus viridis*), northern leopard frog (*Rana pipiens*), Montrose bladderpod (*Lesquerella vicina*), Rocky Mountain thistle (*Cirsium perplexans*), and Colorado desert parsley (*Lomatium concinnum*)

B700 – B799 = Special Management Areas - There is a total of 2,245 acres of special management areas along the northwestern boundary of the FMU.

B800 – B850 = Suitable Timber - There is a total of 2,245 acres in the FMU that are identified in the current GMUG Forest Plan as being suitable for timber production.

C and D Category Areas **-** These are renewable values in the FMU that could be

enhanced by fire. The determination to allow WFU as an AMR in these areas is based on current agency fire management policy. For those areas that occur on BLM or NPS lands, WFU is allowed when the fire can be managed within the established parameters. For those areas that occur on USFS lands, WFU is currently not a management option.

C651 – C699 = Wildlife Habitat - There are 119,652 acres in the FMU that are big game habitat areas that would be enhanced by fire. This unit provides substantial amounts of crucial winter range for mule deer and elk, especially in the Fruitland Mesa, Black Ridge, and the slopes of the Cimarron Ridge. Some Rocky Mountain bighorn sheep (*Ovis canadensis*) habitat is located in the inner Gunnison Gorge and in the oakbrush and mountain meadow areas near Cow Creek and Ouray. There are some populations of Gunnison's prairie dog (*Cynomys gunnisoni*) in the lower elevation salt desert shrub areas of this unit. Other species commonly found include coyotes (*Canis latrans*), black bear (*Ursus americanus*), mountain lion (*Puma concolor*), golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), Canada geese (*Branta candensis*), mallards (*Anas platyrhynchos*), and other waterfowl.

Wilderness - There is a total of 34,591 acres of designated wilderness, mostly associated with the Gunnison Gorge NCA, which contains the Gunnison Gorge Wilderness, and the Black Canyon of the Gunnison Wilderness which includes 15,599 acres within NPS boundaries. There also is a small portion of the West Elk Wilderness in the northeast corner of the FMU.

Black Canyon – Objectives

Management Emphasis – The emphasis for management in the Black Canyon FMU include:

1. Protect communities at risk and other WUI.
2. Provide for high quality sensitive watersheds.
3. Provide high quality Gunnison sage-grouse habitat.
4. Restore fire, where possible, in the remaining mountain shrub and sagebrush communities.

Suppression –

1. Suppress all fires in sensitive watershed areas.
2. In desert shrub/grasslands, prevent repeated fires on the same site (more than 2 fires on the same site in 5 years) to minimize the potential of cheatgrass establishment.
3. Until the new Forest Plan is completed (18 to 36 months), only appropriate suppression strategies will be employed on all fires. Therefore, appropriate suppression strategies will be used on all fires. Control 90% or more of all unplanned and unwanted wildfires during IA, with the additional goal of keeping the fire size to less than 50 acres.
4. Average desired acreage burned/year under different fire intensity levels (FIL) is 6 acres at FIL 1-2, 120 acres at FIL 3-4, and 25 acres at FIL 5-6. (This is based on 151 acres/year average over 20 years).

Wildland Fire Use –

1. Natural ignitions managed for WFU in the mountain shrub can burn for more than 2,000 acres per incident.
2. Until the new Forest Plan is completed (18 to 36 months), no WFU will be employed on U.S. Forest Service lands.

Prescribed Fire –

1. Conduct 100 % of all prescribed burns in a manner consistent with all federal, state, tribal, and local smoke management requirements.
2. Use the successional tables as a guide to convert 10% per year of Condition Class 3 acres to return them to a Condition Class 1, where appropriate.
3. The primary goal of WUI prescribed fire treatments is to change the vegetation to minimize risk and make it easier to fight fires, so these treatments may not be designed to improve vegetation conditions.

Community Protection/Community Assistance Objectives –

1. Over next 2 years work with CSFS and Montrose and Ouray Counties to complete the County Fire Management Plans/Community Wildfire Protection Plans, with accompanying risk assessment maps, identify and prioritize communities at risk, and identify areas for fuel reduction treatments.

Black Canyon - Strategies

Suppression Constraints –

1. No mechanized equipment or retardant drops in riparian areas.
2. Unknown cultural sites may exist. Possibility of wooden cultural structures in the woodland sites. Consult with cultural advisor before using heavy equipment.
3. In desert shrub/grass-lands, no heavy equipment is allowed.

Wildland Fire Use –

1. Natural ignitions managed for WFU in the mountain shrub can burn no more than 2,000 acres per incident.
2. Prevent repeated fires on the same site (more than 2 fires on the same site in 5 years) to minimize the potential of cheatgrass establishment.

Prescribed Fire –

1. Do not violate National Ambient Air Quality Standards (NAAQS).
2. Do not violate Colorado Department of Health Smoke Permit requirements.
3. Ensure that there are no unacceptable impacts to cultural resources or threatened and endangered species.
4. Ensure socio-political and economic impacts are considered, including WUI.
5. Conduct one 500-acre project every 3 years to achieve desired mosaic. East of the Uncompahgre River, burns will require prior cultural approval.

Non-fire fuels Treatments (include by-products utilized) –

1. Design treatments to improve and protect Gunnison sage-grouse habitat
2. Design treatments to improve and protect big game habitat on BLM lands and prepare these areas for future WFU or prescribed fire.
3. Use stewardship contracting to reduce treatment costs.

4. Mechanically treat up to 100 acres every 3 years for construction of control lines.

Post Fire Rehabilitation and/or actions needed for Restoration –

1. Consider seeding and watershed restoration in sensitive watershed areas.
2. Fires in sensitive areas will likely require reseeding to reestablish a healthy plant community.
3. Any surface disturbance requires rehab and reseeding.

Community Protection/Community Assistance –

1. Continue to work with CSFS and Montrose and Delta Counties to complete risk assessments and hazard mitigation plans for high priority WUI areas.

Black Canyon – Prescriptive Parameters:

ERC < 50
1000 Hr. Fuel moisture = >8%
C area - Live fuel moisture >100%
D area - Live fuel moisture >75%

Black Canyon – Mosaics:

Table 3. Succession (Seral Stages) in Aspen PNV Type

Table 2-5. Succession (Seral Stages) in Aspen PNV Type

	Early	Early-Mid	Late-Mid	Late
Seral Stage Descriptions*	New stand of aspen seedlings/suckers with grass and forb understory lasting 10 to 20 years	Dense pole-sized aspen, grass and forb understory, lasting 50 to 80 years	Mature aspen overstory, aspen regeneration in the understory where overstory gaps results from individual tree mortality, lasting up to 80 years	Stable multi-storied, multi-aged aspen stand, predominantly forb understory.Lasts until next stand replacing disturbance
VDDT Modeled Range of Seral Conditions	8-14%	23-26%	17-24%	23-43%
Current Seral Conditions	5%	58%	36% (Limited age data makes it difficult to differentiate between late-mid and late seral conditions.)	

*Romme et al, 2003

Table 4. Succession (Seral Stages) in Pinyon-Juniper-Oak-Serviceberry PNV Type

Table 2-6 Succession (Seral Stages) in Piñon-Juniper-Oak-Serviceberry PNV Type

	Early	Mid	Late
Seral Stage Descriptions*	Dominant shrubs re-sprout and form dense cover. Grasses and forbs occur in the understory. Persists from 50-70 years	Shrubs still dominate site but young piñon pine and juniper trees become established. Persists from 100 to 150 years.	Dominated by mature, often dense piñon and/or juniper trees, some shrubs present in the understory. Persists until next stand replacing disturbance.
VDDT Modeled Range of Seral Conditions	28-51%	39-43%	9-29%
Current Seral Conditions	3%	2%	95%

*Romme et al, 2003

Table 5. Black Canyon FMU Desired Mosaic

Description of unit: This FMU is in the very center of the planning unit, and is comprised primarily of the foothills and ridges around the Gunnison Gorge, Crawford, Paonia, and Cimarron areas that skirt the western and southern rim of the West Elk Mountains. The dominant vegetation in the northern portion of this FMU includes sagebrush/grasslands (30%), sagebrush/mountain shrub (30%), pinyon-juniper (30%), aspen (10%). In the southern portion of the FMU, the dominant vegetation is made up of the following community types: sagebrush/grasslands (10%), sagebrush/mountain shrub (20%), pinyon-juniper (60%), other (10%).

Likely Presuppression Fire Regime: North of the Gunnison Gorge up to the Paonia area, a high percentage of the area in early seral stages and small patch sizes, with low intensity fires. South and east of the Gunnison Gorge, a higher percentage of the area was probably in late seral stages, with larger patch sizes created by more high intensity fires.
Management Emphasis: Develop landscape pattern that will be largely sustained by naturally occurring, mixed severity type fires that burn like the earlier fire regime, and thereby achieve diverse, productive, and desired plant communities with high vegetative basal area cover in the uplands. Manage riparian areas for desired plant communities which contribute to stability and productivity.
Desired Mosaic: North of Gunnison Gorge up to Paonia area; the desired mosaic is a high percent of area in grass and shrub-dominated types, occurring in small patches with scattered patches of woodland. South and east of the Gunnison Gorge; the desired mosaic is dominantly woodland, with occasional large patches of shrub-grass types.

patch size	**early** mainly grass and forbs	**early-mid** grass and shrub	**late-mid** dense young-mature pinyon-juniper, remnant sage, some deciduous shrubs	**late/old growth** mature pinyon-juniper with small percent of deciduous shrubs
% of unit	20%	30%	20% MATRIX on East Side	30% MATRIX on East Side
small 0-10 acres	50%	50%	50% west side	50% west side
medium 10-50ac.	30%	30%	30% west side	30% west side
large >50 acres	20%	20%	20% west side	20% west side

FMU - Management Tables

Gunnison Basin FMU – Description

Location **-** The FMU is the whole eastern half of the planning unit under 9,200 ft. in elevation, and contains all the valley bottoms of the upper Gunnison Basin, including the Cochetopa Creek and Ohio Creek drainages. There is a total of 682,258 acres within the boundary of the FMU. It consists of 290,691 acres of BLM land (43%), 40,038 acres of NPS land (6%), 91,794 acres of USFS land (13%), 11,490 acres of CDOW land (2%), 5,593 acres of State land (1%), 152 acres of City of Gunnison land (<.001%), and 242,500 acres of private land (36%).

Characteristics – This FMU comprises the lower elevation lands adjacent to the higher order streams and rivers in the Upper Gunnison Basin. The topography is varied and includes gently sloping mesas, steep-sided canyons, some mountainous terrain, and undulating foothills. The average land slope of the unit is 19%, with no dominant aspect. The elevation ranges from 7,000 at the Gunnison River on the western FMU boundary to over 11,000 on the highest mountain peaks. The mean elevation is 9,750 feet.

Annual precipitation varies from 10 inches on the lower elevations sites and Cochetopa Park, to more than 30 inches at the higher elevations. The areas of low precipitation in this unit are largely a result of a rain shadow effect created by the high elevation terrain to the west. From 40 to 60% of the annual precipitation falls as snow during the colder months, depending on elevation. Most of the precipitation outside of the mid to late summer season occurs from frontal type storm systems, which are typically regional in size. Precipitation from frontal events occurs over a relatively long duration but at low intensity rates. In contrast, summer precipitation is commonly associated with the southwest monsoon air flow pattern, which can produce localized, short duration, and intense precipitation events.

Storms are often intensified by the high topographic relief, which can result in rapid orographic lifting of moist air masses. Several of the tributary drainages to Tomichi Creek east of Gunnison commonly experience flooding from this effect.

Invasion of this FMU with cheatgrass is progressively increasing. High risk areas for invasion are sagebrush sites and disturbed soils, such as burned areas, below 8,500 feet. Cheatgrass, being an annual, invasive plant serves as poor and unreliable watershed cover/protection. Consequently, the hydrologic response of cheatgrass-invaded watersheds is often higher flood peaks and sediment yields.

The major drainages receiving runoff from this FMU are the Gunnison, Tomichi, East, Cochetopa, and Lake Fork of the Gunnison Rivers. Most of the perennially flowing drainages in this FMU support a cold water fishery, and are classified by the Colorado State Water Quality Control Commission as “Aquatic Life Cold 1”, defined in part, as waters capable of supporting a wide variety of cold water biota. Additionally, most of the stream segments in this FMU are classified by the state as suitable or intended to become suitable for potable water supplies. The entire

drainage area in this FMU serves as a source water area for domestic water diversions both within the FMU and points downstream.

The only stream segment in the FMU not meeting water quality standards is Coal Creek and it's tributaries from the Crested Butte water supply intake to the confluence with the Slate River, which are on the Colorado State 2002 303(d) for excessive zinc concentrations.

Soils in this area are generally characterized by deep and moderately deep, well drained channery loams and gravelly sandy loams on hills, mountains, ridges and benches. The soils have formed with influence from many geologic situations, from old Precambrian granites, some metamorphic schists and gneisses, to marine shales.

The area between Ohio Creek and Slate River is underlain by Mancos shale. This area has fine textured soils of clay loams and clays. This area has many landslide features and large scale disturbances could activate slope movements. The area around Flat Top is actually a basalt cap situation very similar to Grand Mesa. This area has large basalt stones and boulders scattered on the soil surface and throughout the soil profile.

This area is dominated by big sagebrush with black sagebrush (*Artemisia nova*) dominating in shallow clay soils. In addition, many riparian areas are now dominated by big sagebrush (*Artemisia tridentata*). Areas with greater moisture accumulation due to snowpack have Utah serviceberry (*Amelanchier utahensis*) and a variety of other shrubs. This foothill semi-desert shrub zone is largely non-forested, although there are islands of Douglas-fir and/or aspen on some north and east facing slopes. The fringes of some more contiguous timber stands were also captured in the northern portion of this FMU.

This area is an intermix of two large ecoregions. It is the southern extent of lodgepole pine coming down from the Southern Rockies, and the northern extent of limber pine coming up from New Mexico.

The dominant vegetation in this FMU includes grass/sagebrush (83%), brush (5%), and Douglas-fir/lodgepole (12%). Little sagebrush remains on the private lands on the valley bottom, as much of this land has been converted to hay fields or housing developments. On the side slopes, big sagebrush and Wyoming big sagebrush (*Artemisia tridentata wyomingensis*) dominates at the lower elevations, in swales with deeper soils. Big sagebrush communities usually include antelope bitterbrush (*Purshia tridentata)*. Many riparian areas have been degraded from human use and are now also dominated by big sagebrush. Black sagebrush dominates the ridges and steeper slopes where there are shallow clay soils. Areas with greater moisture accumulation due to snow pack have Utah serviceberry and a variety of other shrubs.

Recent Fire History - Lightning caused fires account for 44% of all unplanned ignitions in the Gunnison FMU; the remaining are human caused. Predominant fire size classes are A-B (.01 – 9.9 acres), with occasional C through F (10 – 4.999 acres) size classes. In the period between 1980 and 2005, there were a total of 130

fires for 2,717 acres. Of these fires, 55 were lightning caused, and 74 were human caused, with campfires and debris/field burning accounting for the vast majority. The average is 5 fires per year for 109 acres per year. Most fires occur during the months of April, May, June, July, and August.

Table 6. Historical Fire Data for the Gunnison Basin FMU from 1980-2005

Period 1980-2005	Total Starts	Total Acres	% of Total Fire Starts By Cause	
			Lightning	Human Caused
NPS	**17**	**13**	**29%**	**59%**
BLM	**85**	**1,785**	**41%**	**59%**
USFS	**28**	**919**	**54%**	**46%**
TOTAL	**130**	**2,717**	**42%**	**57%**

Historic Fire Occurrence - Prior to European settlement, the following are the estimated return interval and intensity levels for the major community types within the FMU:

- *Sagebrush* - 40 to 80 year return interval with stand replacement and some mixed severity.
- *Douglas-fir* - 60 to 100 year fire return interval with surface fire and some mixed severity fire on wetter, more productive sites.
- *Low elevation aspen* on the south portion of the FMU - 8 to 20 year return interval, where surface fire maintained aspen that had a dominate, heavy fuel loading of grass such as Thurber fescue (*Festuca therberi*).

Historically, fires (both natural and human ignited) in this FMU were probably more frequent and larger, creating a mosaic of seral stages in the sagebrush types. Fires in this area probably started in small isolated timber stands in the lowlands or larger timber stands in the highlands. These fires would then make runs into the adjacent sagebrush dominated communities under dry and windy conditions. These fires would be higher intensity stand replacing events that occurred every 40 to 60 years. Riparian areas probably burned with similar frequency as the surrounding landscape but may have had greater intensity due to the higher productivity and biomass accumulation of these areas. As these fires burned through isolated timber stands they probably triggered the regeneration of aspen and limited the spread of Douglas-fir. Natural fire breaks and weather would have limited the size and distribution of these fires. The resulting mosaic may have been one of greater landscape diversity with large blocks of the landscape at various successional stages including open grasslands and early to late successional stages of shrub communities.

The FMU was inhabited by the Ute Tribe, who used the area for seasonal hunting and gathering. The Native Americans in the Gunnison Basin used fire as a tool for survival; however, with the permanent removal of the Native American in 1881, the

frequency and coverage of fire was greatly reduced. European settlement began in the 1870's with the discovery of gold, silver, and coal. With the arrival of the railroad, the Douglas-fir in the southern half of this FMU was heavily logged for railroad ties, bridge timbers, telephone poles, mine props, and lumber. There was a surge of acres burned in the 1880's through the early 1900's associated with the construction of railroads, mining activity, timber harvest, and sheep grazing. Since the 1930's, there have been fewer fires in the Gunnison Basin than before this period of development.

During the past century, the sagebrush types in the Gunnison Basin have been influenced by management practices, including livestock grazing, past spraying to reduce shrub cover and increase grass and forb production, reseeding, fire suppression, and most recently, prescribed burning. These activities have contributed to a change in the composition and loading of the sagebrush and the associated grasses and forbs. In addition, developments such as irrigation ditches, roads, utility corridors, and fences have contributed to fragmentation of fuel coverages. Currently, there are 16 grazing allotments within the FMU. In combination with fire suppression, these post-settlement human uses have effectively excluded fire from the lower Gunnison Basin.

Modeled Historic Range of Seral Conditions – Tables 7, 8, and 9 at the end of this section depicts the seral stages and timeline for the major fuel types in this FMU. The stable plant community that establishes in the absence of any disturbances (e.g., fire, insect/pathogen mortality, windthrow, drought, harvest) is called the climax plant community. The area where a given climax plant community can grow is classified as a Potential Natural Vegetation (PNV) type, and is named for the climax plant community. Historically, for any given PNV type, natural disturbances (e.g., fires, insect outbreaks) occurred at characteristic intervals and intensities, called regimes. When a disturbance was intense enough to change the existing plant community, the remaining vegetation followed a natural progression, or succession, of plant communities that changed over time. If no further disturbances occurred, an area eventually returned to the climax plant community. The Vegetation Dynamics Development Tool (VDDT) (Beukema et. al. 2003) was used to model the expected range of seral conditions that would have existed under historic disturbance regimes for forest, woodland and shrub PNV types on USFS lands. The table also provides a comparison of this VDDT modeled historic range of seral conditions to the current seral conditions to identify areas of significant departure.

The Fire Management Situation

1) *Weather patterns influencing fire behavior and historic weather analysis.* Winters are cold in the Gunnison FMU (-60 F at Taylor Park Reservoir), and inversions are common. By the first part of May, most of the valley bottom and side slopes are snow free and seasonal drying begins. The past several years has been quite dry with less than normal snow fall, and peak burning was reached by late May in some years. Summers are mild, with monsoonal rains beginning in early July and lasting until late August.

   Fire activity in June is generally light until the last week of June. Activity increases through the middle of July with lightning fires at the beginning of the monsoon season. Depending on rainfall amounts, lightning fires will begin to

decrease by early August, then pick up again as the monsoon flow weakens in late August. September through mid-October is quite often dry, but there is little lightning activity. Dry cold fronts in September through October can produce extreme fire conditions, but these are usually short-lived. A season ending event (snow) usually occurs late October to mid-November.

In general, the weather events are drawn up the Gunnison Valley moving from west to east. The prevailing winds are from the west and southwest. Upslope, upvalley winds are also a dominant factor in fire behavior. The Gunnison FMU has few unusual weather events. However, wind is generally a significant control factor on larger fires.

2) *Fire Season determination.* The ERC curves for the Gunnison Basin FMU usually peak in the first two weeks of July and then there is a smaller peak in the fall associated with the drying from wind events. Live fuel moistures are lowest in in late May or early June then peak out in late July. Large dead fuels begin drying out after snow melt, have some recovery during the monsoon season and are lowest in mid-October just before snowfall. Fine fuels begin green-up in mid-May and stay green in a normal year till early September when a frost killing event occurs. Fire season generally begins in mid-May and ends in late October.

3) *Fuel conditions in the FMU likely to influence fire behavior.* The Fire Behavior Fuel Models in the Gunnison FMU are as follows:

   - Fuel Model 2 (Grass/Sage) 83%
   - Fuel Model 5 (Brush) 05%
   - Fuel Model 8 (Ponderosa pine/Douglas-fir) 12%

   There is no question that the lack of fire in the last 100-120 years has altered fuel characteristics in this FMU. There is the potential for large, stand replacing fires in nearly all fuel types in the future, possibly much larger than fires that burned prior to European settlement.

4) *Fire regime alteration.* Most community types have seen a significant alteration in condition class within the Gunnison Basin FMU. Lodgepole pine below 10,000 feet, aspen, and sagebrush have a high risk of losing key plant community components. Communities with a moderate risk are grasslands and riparian areas.

5) Control problems and dominant topographic features. Most of the control problems in this FMU will be associated with steep slopes and/or canyons and wind events.

6) *Other elements of the fire environment affecting management.* The Gunnison FMU contains the following values:

A and B Category Areas: These are either renewable or non-renewable values or attributes in the FMU that could be damaged or destroyed by fire.

B1 – B299 = Wildland Urban Interface **–** There is a total of 261,978 acres of WUI in this FMU, which includes 48 Communities at Risk (CARs). Continued development is anticipated throughout this area. There are multiple federal

facilities and developed recreation sites associated with the NPS Elk Creek Visitor Center. In addition, there are six (6) communication sites and three (3) major utility lines within the FMU. To locate the Federal Register communities at risk see the following website**:** **http://www.fireplan.gov/communities_at_risk.cfm.**

B300 – B399 = High Public Use Areas – There is a total of 3,225 acres of high public use areas in the FMU, mostly associated with the trailheads and undeveloped campgrounds in the Curecanti National Recreation Area.

B400 – B450 = Sensitive Watersheds – There is a total of 14,678 acres in the FMU that have been identified as sensitive watershed areas that will require some form of protection.

B500 – B599 = Affected Cultural/Historical Areas - There are 32 cultural sites that may be affected by fire within the FMU for a total of 64 acres. There is also a high probably of cultural sites on public lands all along the southern and western borders of the FMU.

B600 – B650 = *Important Habitat* – There is a total of 383,998 acres in the FMU that have been identified as important habitat that requires some form of protection. Special status species within this area include the Gunnison sage-grouse, a Colorado state species of special concern, and the Colorado cutthroat trout, a BLM sensitive species. This FMU captures virtually all of the Gunnison sage-grouse overall range in the Gunnison Basin. Colorado cutthroat trout can be found in West Antelope and East Beaver Creeks.

B700 – B799 = Special Management Areas - There are 31,977 acres in the FMU that have been identified as special management areas because of concerns such as noxious weeds.

B800 – B850 = Suitable Timber - There is a total of 22,035 acres in the FMU that are identified in the current GMUG Forest Plan as being suitable for timber production.

C and D Category Areas: These are renewable values or attributes in the FMU that could be enhanced by fire. The determination to allow WFU as an AMR response in these areas is based on current agency fire management policy. For those areas that occur on BLM or NPS lands, WFU is allowed, when the fire can be managed within the established parameters. For those areas that occur on USFS lands, WFU is currently not a management option.

C651 – C699 = Wildlife Habitat - There is a total of 283,128 acres in the FMU that are wildlife habitat areas that would be enhanced by fire. Specific parameters for managing fires in these areas are identified in the following section.

D900 – D999 = Wilderness - There is a total of 2,267 acres of the West Elk Wilderness in this FMU.

Gunnison – Objectives

Management Emphasis – The emphasis for management in the Gunnison FMU includes:

1. Protect communities at risk.
2. Provide for high quality Gunnison sage-grouse habitat.
3. Restore fire, where possible, in the remaining sagebrush areas.
4. Slow or reverse the invasion of cheatgrass.

Suppression –

1. Suppress all fires in critical Gunnison sage-grouse winter range.
2. Until the new Forest Plan is completed (18 to 36 months), the only appropriate strategy is suppression on USFS lands. Control 90% or more of all unplanned and unwanted wildfires during IA, with the additional goal of keeping the fire size to less than 30 acres.

Wildland Fire Use –

1. Natural ignitions on BLM and NPS lands managed for WFU can burn no more than 160 acres per square mile per incident, not to exceed a total of 3 incidents per year.
2. Recurrence of WFU fires or prescribed fire in previously burned areas in big sagebrush community types should be limited to 20 year intervals.

Prescribed Fire –

1. Conduct 100 % of all prescribed burns in a manner consistent with all federal, state, tribal, and local smoke management requirements.
2. Using the successional tables as a guide, convert 10% per year of Condition Class 3 acres to a Condition Class 1, where appropriate.
3. The goal of WUI prescribed fire treatments is to change the vegetation to minimize risk and make it easier to fight fires. These treatments may not be designed to improve vegetation conditions.

Community Protection/Community Assistance Objectives –

1. Over next 2 years work with CSFS and Gunnison County to complete the County Fire Management Plans/Community Wildfire Protection Plans, with accompanying risk assessment maps, and identify areas for fuel reduction treatments.
2. Of the planned prescribed fire and mechanical treatments within the FMU, 60% of the acres treated will be within the WUI.
3. Implement WUI projects described under the Indian Creek, Gold Basin, and West Antelope plans.

Gunnison - Strategies

Suppression Constraints –

1. Less aggressive control actions can be considered in this polygon if prescriptive criteria are met and resource management objectives are within limits.
2. No mechanized equipment or retardant drops in riparian areas.

Wildland Fire Use –

1. Prescriptions for natural fires in big sagebrush community types should be managed for low intensity burns (flame lengths less than 12-16 feet).

Prescribed Fire –

1. Conduct prescribed fires in sage-grouse habitat in compliance with the Gunnison Sage-grouse Conservation Plan.
2. Implement prescribed fire as described in the West Antelope, Gold Basin and Indian Creek and Douglas-fir Thinning and Aspen Regeneration Plans. Under these plans, up to 300 acres of prescribed fire may be implemented annually.
3. Do not violate NAAQS.
4. Do not violate Colorado Department of Health Smoke Permit requirements.
5. Ensure that there are no unacceptable impacts to cultural resources or threatened and endangered species.
6. Ensure socio-political and economic impacts are considered, including WUI.

Non-fire fuels Treatments (include by-products utilized) –

1. Emphasize brush mowing and understory thinning treatments in small isolated ponderosa pine and Douglas-fir stands on north and east-facing slopes.
2. Design treatments to improve and protect habitat for sage-grouse and big game winter range on BLM lands and to prepare these areas for future WFU.
3. Use stewardship contracting to reduce treatment costs.
4. Implement mechanical treatments as described in the West Antelope, Gold Basin and Indian Creek and Douglas-fir Thinning and Aspen Regeneration Plans. Under these plans, 200 acres of mechanical treatments may be implemented annually.

Post Fire Rehabilitation and/or actions needed for Restoration –

1. Avoid seeding sagebrush areas that previously had a strong to moderate native plant understory to prevent the introduction of invasive plant species.
2. Consider seeding and contour-falling in isolated Douglas-fir stands after stand replacing fires.

Community Protection/Community Assistance –

1. Continue to work with CSFS and Gunnison Counties to complete risk assessments and hazard mitigation plans for high priority WUI areas.

Priority Rankings:

- Suppression: High
- Prevention: High
- Mitigation: High

Prescriptive Criteria for WFU:

Treated:

- Maximum Manageable Area (MMA) is within or at edge of treated area
- Up to 30% of area may be untreated
- Area not in precipitation deficit
- Gunnison Basin Wide ERC < 70
- 1000 hr. Fuel moisture >8%
- Live fuel moisture >105%
- Probability of Ignition <80%
- Spotting Distance <.3 miles

Untreated:

- Area not in precipitation deficit
- Gunnison Basin Wide ERC < 50
- 1000 hr. Fuel moisture >12%
- Live fuel moisture >120%
- Probability of Ignition <50%
- Spotting Distance <.1 mile

Gunnison Basin - Mosaics

Table 7. Succession (Seral Stages) in Douglas-fir PNV Type

Table 2-5. Succession (Seral Stages) in Douglas-fir PNV Type

	Early	Early-Mid	Late-Mid	Late
Seral Stage Descriptions*	New stand of aspen and/or lodgepole pine seedlings/suckers with grass and forb understory lasting 30-50 years	Dense pole-sized aspen and/or lodgepole pine, grass and forb understory, lasting up to 100 years	Mature aspen/lodgepole pine overstory with Douglas-fir trees growing in the understory. May take 100 to 200 years for Douglas-fir to dominate stand.	Mature Douglas-fir, scattered mature aspen/lodgepole pine in overstory. New trees can become established in gaps in canopy. Lasts until next stand replacing disturbance
VDDT Modeled Range of Seral Conditions	14-20%	19-20%	15-17%	58%
Current Seral Conditions	2%	63%	35% (Limited age data makes it difficult to differentiate between late-mid and late seral conditions.)	

*Komarkova et al, 1988, Johnston et al 2001

Table 8. Succession (Seral Stages) in Pinon-Juniper-Oak-Serviceberry PNV Type

Table 2-6 Succession (Seral Stages) in Piñon-Juniper-Oak-Serviceberry PNV Type

	Early	Mid	Late
Seral Stage Descriptions*	Dominant shrubs re-sprout and form dense cover. Grasses and forbs occur in the understory. Persists from 50-70 years	Shrubs still dominate site but young piñon pine and juniper trees become established. Persists from 100 to 150 years.	Dominated by mature, often dense piñon and/or juniper trees, some shrubs present in the understory. Persists until next stand replacing disturbance.
VDDT Modeled Range of Seral Conditions	28-51%	39-43%	9-29%
Current Seral Conditions	3%	2%	95%

*Romme et al, 2003

Table 9. Succession (Seral Stages) in Sagebrush PNV Type

	Early	Early-Mid	Mid	Late	Old Growth
Seral Stage Description	Grass – Lasting 0-10 years	Shrub and Forb – Lasting 10-50 years	Shrub and Forb- Lasting 50-100 years	Tree, shrub and grass – Lasting 150-350 years	Tree infilling- Lasting 350 + years
VDDT Modeled Range of Seral Conditions	5%	30% →	50% →	20% →	
Small 0-50 acres	70	25	25	M	M
Medium 51-500 acres	20	50	50	M	M
Large 501+ acres	20	50	50	M	M
Current Seral Conditions	5%	10%	25%	25%	25%

***** Komarkova et al, 1988, Johnston et al, 2001

Management Objectives/Desired Mosaic Descriptions

To clarify management objectives and strategies for managing fire, mosaic tables are provided for all areas that are not individual sites (e.g., communication sites) that best characterize the historic range of variability within the major vegetation communities. Landscapes are described in terms of a mosaic of vegetation in various seral stages, with percentages of seral stages and patch sizes identified. This information is based on the resource specialists' knowledge of fuels, fire behavior, topography, vegetation dynamics, and ignition patterns. These descriptions are subject to change once more is known about ecosystem function, the range of natural variation, and the needs of particular species.

Prescriptive Parameters

For some attributes, preplanned parameters are provided to indicate the acceptable range for fire behavior characteristics for WFU. The indicators used include the ERC , the live and dead fuel moisture readings, where applicable, and the Haines Index.

The ERC is a numerical indicator of dryness of the fuels based on calculated values of large, dead fuel moisture and live fuel moisture. It is a reliable drought indicator for the Western U.S. The Haines Index is a scaled indicator (1-6) of unstable and dry atmospheric conditions.

Common Attribute Areas

Across all the FMUs, there are areas that have been assigned specific attributes with specific management requirements. These attributes have been given individual categorical (e.g., A,B,C,D), and numerical identifiers (e.g., B602 for Gunnison Basin critical sage-grouse habitat) for easier reference on maps. The specific management guidelines for these attributes are listed on the following pages.

The following are management guidelines for the attribute areas that occur across the entire FPU and therefore only a portion of the targeted acres apply to NPS lands.

Wildland Urban Interface/Infrastructure (100-200)

B1 = Wildland Urban Interface
B2 – B99 = Developed Recreation Sites
B100 – B199 = Communication Sites/Substations
B 200 – B299 = Utility Corridors

Management Concern

This attribute area includes Wildland Urban Interface (WUI) areas throughout the FPU. These areas include a 1-mile buffer onto Forest Service land and a 1/2–mile buffer onto BLM and NPS land from private land that may contain structures; power line corridors (1/2 mile from the centerline) and other utilities that may be affected by fire, ski areas, major recreation sites (e.g, visitor centers and other locations with structures more than just an outhouse). The vegetation at these locations ranges across salt desert, sage, pinyon, oak, and mountain shrub.

Objectives

Management Emphasis – Priority is to work with counties to complete County FMPs in conjunction with CSFS and partners, and work with private landowners on the mitigation of wildland fire threats. Work to develop an agreement with counties and landowners to conduct prescribed fires across federal/state/private ownership. Reduce hazards of wildland fire to adjacent homes and property through fuel reduction.

Desired Mosaic – A high proportion of grasses and low shrub vegetation is desired in the vicinity of communities or infrastructure. Trees and mature shrubs may be left in patches with older stands thinned. Large areas are left having a savanna appearance and cheatgrass areas may be green-stripped.

Prescribed fire and Non-fire fuel Treatments – Where Gunnison sage-grouse, deer, and elk concern areas overlap WUI, modify sizes and patterns of fuel treatments to accommodate the needs of these species.

Strategies

Suppression - Protect structures and utility corridors.

Wildland Fire Use – No.

Prescribed Fire – Areas are evaluated on a case-by-case basis. A total of up to 2,000 acres per year for all B areas combined.

Non-fire fuels Treatments – A total of 2,000 acres per year for all B areas combined for the foreseeable future to mitigate hazard fuel problems. These treatments could be accomplished by methods such as manual/mechanical treatments and/or fuel wood sales (BLM and USFS lands).

Table 10. Wildland Urban Interface/Infrastructure Desired Mosaic

Description of unit: Ranges across salt desert, sage, pinyon, mountain shrub types, typically within ½ to 1 mile of rural subdivision/development
Likely Presuppression Fire Regime: Varied
Management Emphasis: Priority is to work with counties to complete County FMPs in conjunction with CSFS and partners, and work with private landowners on the mitigation of wildland fire threats. Work to develop an agreement with counties and landowners on conducting prescribed fires across federal/state/private ownership. Reduce hazards of wildland fire to adjacent homes and property through fuel reduction.
Desired Mosaic: Desire high proportion of grass and low shrub vegetation types. Trees and mature shrubs occur in patches and older stands thinned. Large areas having a savanna appearance and cheatgrass areas green-stripped.

patch size	**early** mainly grass and forbs	**early-mid** shrub (sage) dominant, maybe some invading pinyon-juniper, some grass and forbs	**late-mid** dense young-mature pinyon-juniper, remnant sage, some deciduous shrubs	**late/old growth** mature pinyon-juniper with small percent of deciduous shrubs
% of unit	20%	55% MATRIX	15%	10%
1-5 acres	20%		80%	80%
5-50 acres	30%		20%	20%
>50 acres	50%			

High Use Recreation (300)

B300 - B399 = High Use Recreation

Management Concern

Trailheads, campgrounds, and overlooks with limited structures (e.g., outhouse) where public safety is the key concern. A ¼-mile radius around the trailhead and a ¼-mile off the center of the trail will be designated if the trail has heavy public use (NPS only).

Objectives

Management Emphasis – Protect the public.

Strategies

Suppression Constraints – Avoid retardant drops on structures. For NPS lands, the Superintendent's approval is required for retardant use.

Wildland Fire Use – No.

Prescribed Fire – Evaluated on a case-by-case basis. A total of up to 2,000 acres per year for all B areas combined.

Non-fire fuels Treatments – A total of 2,000 acres per year for all B areas combined for the foreseeable future to mitigate hazard fuel problems. These treatments could be accomplished by methods such as manual/mechanical treatments and/or fuel wood sales (BLM and USFS lands).

Sensitive Watersheds (400)

B400 - B450 = Sensitive Watershed
C451 – C499 = Less Sensitive Watershed

Management Concern

Sixth level Hydrologic Unit Classification (HUC) watersheds on the GMUG National Forest that have been evaluated based on physical and climatic factors to determine how sensitive they are to management and/or natural disturbances. Future management actions and/or natural disturbances could cause degradation of aquatic habitat in these watersheds.

Objectives

Management Emphasis – Provide some form of protection to sensitive watersheds.

Strategies

Suppression Constraints – Try not to get retardant or foam in waterways. For NPS lands, the Superintendent's approval is required for retardant use.

Wildland Fire Use – No.

Prescribed Fire – No.

Non-fire fuels Treatments – No.

Affected Cultural/Historical Resources (500)

B500 – B599 = Affected Cultural/Historical Resources

Management Concern

These attribute areas that contain cultural and historic sites that would be adversely affected by fire. A 200-foot radius may be required to protect the site. SHPO Geographic Information System (GIS) data is used to identify these areas.

Objectives

Management Emphasis – Protect and preserve structures and historical sites that may be affected by fire.

Strategies

Suppression Constraints – Requires consultation with the Cultural Resource Advisor, Section 106 compliance, and SHPO consultation. Avoid retardant drops on structures. For NPS lands, the Superintendent's approval is required for retardant use. Stay 300 feet away from any structures with dozers.

Wildland Fire Use – No.

Prescribed Fire – Requires consultation with the Cultural Resource Advisor, Section 106 compliance, and SHPO consultation. Areas will be evaluated on a case-by-case basis. A total of up to 2,000 acres per year for all B areas combined.

Non-fire fuels Treatments – A total of 2,000 acres per year for all B areas combined for the foreseeable future to mitigate hazard fuel problems. These treatments could be accomplished by methods such as manual/mechanical treatments and/or fuel wood sales (BLM and USFS lands).

Important Habitat (600)

B600 – B650 = Important Habitat
- **B600 = Bald Eagle Roosting Sites**
- **B601 = Peregrine Falcon Nest Sites**
- **B602 = Gunnison Basin Critical Gunnison Sage-grouse Habitat**
- **B603 = Gunnison Basin Gunnison Sage-grouse Leks**
- **B604 = Potential Lynx Habitat**
- **B605 = Cutthroat Trout Habitat**

C651 - C699 = Important Habitat
- **C651 = Gunnison Basin/CURE Gunnison Sage-grouse Overall Range**
- **C652 = BLCA/North Fork Gunnison Sage-grouse Overall Range**
- **C653 = Sims Mesa Gunnison Sage-grouse Overall Range**
- **C654 = San Miguel Gunnison Sage-grouse Overall Range**
- **C655 = Deer Winter Concentration Areas**
- **C656 = Elk Winter Concentration Areas**
- **C657 = Elk Calving Areas**
- **C658 = Critical Big Game Winter Range**

Management Concern

Gunnison sage-grouse habitat, Threatened and Endangered Species habitat (where affected by fire; e.g., Colorado cutthroat trout habitat, Canada lynx (*Lynx canadensis*) travel corridors, bald eagle (roosting trees), and big game habitat (on BLM and USFS lands only).

Objectives

Management Emphasis – Protect important habitat as designated.

Strategies

Suppression Constraints – Avoid retardant drops on some areas. Heavy equipment use may be limited. For NPS lands, the Superintendent's approval is required for retardant use.

Wildland Fire Use – No.

Prescribed Fire – Evaluated on a case-by-case basis. A total of up to 2,000 acres per year for all B and C areas combined.

Non-fire fuels Treatments – A total of 2,000 acres per year for all B and C areas combined for foreseeable future to mitigate hazard fuels problems. These treatments could be accomplished by methods such as manual/mechanical treatments and/or fuel wood sales (BLM and USFS lands).

C652. BLCA/North Fork Gunnison Sage-grouse Overall Range

Management Concern

These attribute area include BLCA/North Fork Gunnison sage-grouse habitat areas in the BLCA FMU. These are predominately sagebrush sites that have had extensive vegetation treatments and/or are being invaded by pinyon and juniper at lower elevations, with some areas of oak brush and serviceberry at the higher elevations.

Objectives

Management Emphasis – Improve habitat for Gunnison sage-grouse.

Desired Mosaic – The desired vegetation condition is a fine-grained mosaic with patches of 5-100 acres in a matrix of early-mid seral sagebrush. The late seral vegetation confined to draws and the upper elevation part of the unit, also in mainly medium size patches. Within sagebrush stands, create scattering of small (1-5 acre) open grassy areas within much larger (>10 acre) patches of intermixed sagebrush, grass, and forbs with little or no taller vegetation. Some extensive stands of sagebrush (>100 acres) needed for winter habitat.

Suppression - Fire size should be limited to 350 acres in sagebrush with pinyon-juniper encroachment and to 100 acres in sagebrush stands with no tree encroachment.

Prescribed fire and Non-fire fuel Treatments – Where mule deer and elk winter concentration areas overlap this unit, sage-grouse habitat improvement should be designed to be compatible with big game needs.

Wildland Fire Use – Allow sites with pinyon/juniper encroachment to burn up to 350 acres per incident, with seeding of grass, forbs, and sagebrush to follow as needed. In mountain sagebrush (*Artemisia vaseyanum*) stands allow fire to consume up to 100 acres per incident.

Prescribed Fire – Use prescribed fire in these areas to create desired mosaics within sagebrush stands of small patches of 1-5 acres of open grassy areas with much larger (>10 acre) patches of intermixed sagebrush, grass, and forbs with little or no taller vegetation. Prescribed burns may be followed by seeding of grasses, forbs, and sagebrush as appropriate.

Strategies

Suppression Constraints – In sagebrush stands with suitable sage-grouse habitat (e.g., mesa tops, basin big and black sagebrush areas), pursue active suppression of natural ignitions in stands with no pinyon/juniper encroachment. Allow no more than 10% of the area to burn in any year.

Wildland Fire Use –Two projects per year totaling 350 acres. Treat up to 1,750 acres of sagebrush over a 5-year period to create a mosaic of age classes for big sagebrush.

Prescribed Fire – Use prescribed fire to create desired mosaics with no more than 10% of the project area burned, followed by seeding of grasses, forbs, and sagebrush as needed.

Non-fire fuels Treatments – Use manual/mechanical means to reduce fuel hazards.

Prescriptive Criteria (Fuel Model T):

- ERC < 50
- 1000 hr. measured fuel moisture = >8%
- Live measured fuel moisture >100%

Table 11. BLCA/North Fork Gunnison Sage-grouse Overall Range Desired Mosaic

Written Description of Unit: Sagebrush sites that have had extensive vegetation treatments and are being invaded by pinyon at lower elevations. Some areas with oak brush and serviceberry at higher elevations.
Likely Presuppression Fire Regime and Mosaic: Varied - dependent on locations.
Current Management Emphasis: Improve habitat for sage-grouse. Where mule deer and elk winter concentration areas overlap this unit, sage-grouse habitat improvement should be designed to be compatible with big game needs.
Desired Mosaic: A fine-grained mosaic with patches of 5-100 acres in a matrix of early-mid seral sagebrush. The late seral vegetation confined to draws and the upper elevation part of the unit, also in mostly medium size patches.

patch size	**early** mainly grass and forbs may have a small % of shrubs	**early-mid** mainly sagebrush some grass and forbs	**late-mid** mature sagebrush with some young pinyon-juniper	**late/old growth** mature pinyon-juniper with small percent of deciduous shrubs
% of unit	10-15	60-70	10-15	10-20
0-5 acres	0-5%	0-5%	0-5%	0-5%
5-20 acres	10-30%	30-40%	30-40%	20-30%
20-100 ac.	60-80%	30-40%	30-40%	60-70%

C651. Gunnison Basin/CURE Gunnison Sage-grouse Overall Range

Management Concern

These attribute areas include Gunnison sage-grouse habitat areas throughout the Gunnison Basin FMU. Big sagebrush is the dominate shrub species throughout the uplands of this area. Its growth form is highly variable depending on site conditions and use. Sage-grouse are dependent on sagebrush, primarily the subspecies of big sagebrush. Therefore, sage-grouse do not occur throughout the year in areas where an abundance of this shrub is absent.

The area also includes other vegetation communities that are important to sage-grouse such as riparian areas and other shrub community types made up of serviceberry, mountain-mahogany (*Cercocarpus montanus*), and bitterbrush. Riparian areas occur as drainages, springs, and meadows within the larger upland sagebrush community types.

Many of the big sagebrush communities are lacking in structure and productivity.

Objectives

Management Emphasis – Increase community diversity, structure, and productivity, especially of herbaceous vegetation. Representation by a mosaic of plant community types will improve current habitat conditions for sage-grouse.

Desired Condition – Create small, round or linear-shaped patches of community types within larger big sagebrush upland habitat. New community types should consider boundaries that coincide with natural patch edges.

Suppression - Fires other than prescribed fires would not be allowed to burn more than 1/4 mile linear distance of a riparian area associated with drainages for each incident. Buffers (unburned areas) of at least 50 feet would be maintained adjacent to stream riparian areas as well as springs and seeps.

Wildland Fire Use – Natural fires managed for resource benefit can burn no more than 160 acres per square mile per incident, not to exceed a total of 3 incidents per year. Recurrence of natural fires managed for resource benefit or prescribed fire in previously burned areas in big sagebrush community types should be limited to 20 year intervals.

Prescribed fire and Non-fire fuel Treatments – Prescribed fires can burn more than 160 acres, depending upon the objectives. The details of the fire prescriptions/resource constraints should be developed during the Environmental Assessment and Prescribed Burn Plan process. Prescribed fire and/or non-fire fuel treatments should be designed to meet specific habitat objectives.

Strategies

Suppression Constraints – Less aggressive control actions can be considered in this polygon if prescriptive criteria are met and resource management objectives are within limits. During suppression activities, riparian areas could be used as a control feature. For example, in a situation where a wildland fire was backing down a slope, the edge of the riparian area closest to the fire could be burned as a control method. This would be an infrequent occurrence. No mechanized equipment, retardant drops, or foam use within 300 feet of riparian areas.

Wildland Fire Use – WFU prescriptions will be based on the Gunnison Sage-grouse Conservation Plan.

Prescribed Fire – Burning will be done in compliance with the Gunnison Sage-grouse Conservation Plan.

Non-fire fuels Treatments – Emphasize brush mowing and understory thinning treatments in small isolated ponderosa pine and Douglas fir stands on north and east-facing slopes. Treatments should be designed to improve and protect habitat for sage-grouse and big game winter range and to prepare these areas for future WFU. Treat 1,000 acres over the next 5 years.

Prescriptive Criteria (Fuel Model T):

- Area not in precipitation deficit
- Gunnison Basin wide ERC < 60
- Live measured fuel moisture >120%
- Probability of ignition <60%

B602. Gunnison Basin Critical Gunnison Sage-grouse Habitat

Management Concern

These attribute areas are located in the Gunnison Basin FMU and are derived from Dr. Jerry Hupp's work during the very deep snow winter of 1983-84. They represent areas where sage-grouse were observed feeding and roosting on the only sagebrush that is available during deep snow winters. These areas are critical for the winter survival of sage-grouse. The Gunnison Sage-grouse Conservation Plan describes these areas where "fragmentation and/or permanent loss of critical winter habitat would not occur." The critical sage-grouse winter range represents only 6% of the overall sage-grouse range.

Drainages and slopes with southerly or westerly aspects (136-315 degrees) that are greater that 5 degrees are important critical winter range as they contain tall, vigorous sagebrush that is consistently available during winters of deep snow. Other important winter range areas are mesa and ridge tops with slopes of 5 degrees or less and flat, low sites with slopes of 5 degrees or less.

Objectives

Management Emphasis – Prevent loss of sagebrush structure in critical winter habitat. Without these areas, sage-grouse survival would be reduced.

Desired Condition – For slopes with southerly or westerly aspects, the desired condition is big sagebrush with an average height of 12 inches and canopy cover of 15% minimum. In drainages, the desired condition is big sagebrush with an average height of 20 inches and canopy cover of 30% minimum. For the low, flat terrain sage-grouse use during winter, the desired condition is big sagebrush with an average height of 16 inches and canopy cover of 25% minimum. Scattered throughout the winter habitat are small areas that are important feeding areas which have big sagebrush with greater than average height and canopy cover. In these areas on south and west aspects, the desired condition is big sagebrush with an average height of 16 inches and a canopy cover of 30-40%.

Suppression - Do not allow any fire in these areas.

Strategies

Suppression Constraints – Do not use heavy equipment in these areas. To protect critical winter range on NPS lands, the use of retardant or foam 300 feet away from waterways may be pre-authorized by the Superintendent.

Wildland Fire Use – No.

Prescribed Fire – None planned at this time.

Non-fire fuels Treatments – Mechanical treatments, such as mowing should be implemented on NW to SE perimeters of these areas to protect them from wildland fire and WFU events in adjacent polygons.

B603. Gunnison Basin Gunnison Sage-grouse Leks

Management Concern

These attribute areas are display grounds for mating which are scattered throughout the Gunnison Basin FMU. They are characterized by low vegetation with sparse shrubs often surrounded by big sagebrush-dominated plant communities.

Objectives

Management Emphasis – Prevent loss of sagebrush around leks. Used for resting, feeding, and escape from lek areas**.**

Desired Condition – The desired future condition of the low, open vegetation in the display ground areas is similar to present conditions, unless it is determined that such open areas need to be expanded or modified to enhance the value of these areas for sage-grouse. The desired condition for the big sagebrush areas within 400 yards of the display areas is big sagebrush with an average height of at least 12 inches and a canopy cover of 20% minimum and a grass canopy cover of at least 25%. Grass leaf height, except for blue grama (*Bouteloua gracilis*), should average 6 inches (previous year's residue or new growth) between March 20 and May 15.

Suppression – Do not allow wildland fire or WFU fires to burn sage-grouse leks or areas within a ¼ mile buffer around leks.

Strategies

Suppression Constraints – Establish a ¼ mile buffer around all known leks where fire is not desired. Heavy equipment may not be used in the buffered lek areas, but may be used to protect the leks from wildland fires.

Wildland Fire Use – No.

Prescribed Fire – None planned at this time.

Non-fire fuels Treatments – None planned at this time.

Special Management (700)

B700 – B799 = Special Management

- **B700 = San Miguel Canyon**
- **B701 = Alpine Loop Corridor**
- **B702 = Gunnison Weed Management**
- **B703 = Curecanti Cottonwood Riparian**
- **B704 = BLCA Relic Piñon-Juniper**
- **B705 = Tabeguache SMA**
- **B706 = Roubideau SMA**
- **B707 = Iron Springs SMA**
- **B708 = Gothic SMA**
- **B709 = Black Mesa Experimental Forest**
- **B710 = Gunnison Gorge Relic Piñon-Juniper**

Management Concern

NPS lands in this attribute category include cottonwood riparian habitat found in CURE along the Gunnison River (B703) and relic piñon-juniper communities found in BLCA (B704).

Objectives

Management Emphasis – Maintain or improve the existing conditions.

Desired Condition – A vegetation mosaic representing natural succession and distributions of plant communities with an emphasis on the maintenance of mature trees that make up the forest canopy.

Suppression – Minimize fire effects to protect forest canopy.

Prescribed Fire – Use prescribed fire to reduce ladder fuel loadings in high risk areas. Use prescribed fire to help restore degraded wetland riparian areas.

Non-fire fuels Treatments – Use manual/mechanical vegetative treatments to reduce ladder fuel loadings in high risk areas.

Strategies

Suppression Constraints – A light hand on the land and minimum tool use applies to these areas. The use of heavy mechanized equipment requires prior approval from the Resource Advisor. The Superintendent's approval is required for retardant drops outside of riparian zones. No retardant drops in riparian areas.

Wildland Fire Use – No.

Prescribed Fire – Limit of one per year up to 100 acres to reduce ladder fuel loading and/or help restore degraded wetland riparian areas.

Non-fire fuels Treatments – Emphasize understory thinning to reduce ladder fuel loadings and protect forest canopy.

Prescriptive Criteria

- ERC < 50
- 1,000 hour measured fuel moisture > 100%
- Live measured fuel moisture > 100%

Suitable Timber (800)

B800 – B850 = Suitable Timber
B800 = Blue Mesa Forest Management
C851 – C899 = Suitable Timber

Management Concern

These attribute areas are primarily USFS sites in the Blue Mesa FMU with Engelmann spruce (*Picea engelmannii*), subalpine fir (*Abies bifolia*), nd aspen. Very heavy loading of forest fuels on the ground from diseases and heavy logging slash at 9,500 + elevation.

Objectives

Management Emphasis – Protect high value forests.

Suppression – Protect Arrowhead Ranch subdivision.

Prescribed Fire – Use prescribed fire to remove heavy dead and down concentrations of fuel to create fuel breaks.

Strategies

Suppression Constraints – None.

Wildland Fire Use – No.

Prescribed Fire – One per year at 100 acres to reduce heavy dead and down fuel loading.

Non-fire fuels Treatments – Emphasize understory thinning near Arrowhead subdivision. Treat 100 acres per year over the next 5 years to reduce fire hazard.

Wilderness/Wilderness Study Area (900)

D900 – D999 = Wilderness/Wilderness Study Area
- **D901 = College**
- **D902 = Fossil Ridge**
- **D903 = LaGarita**
- **D904 = Lizard Head**
- **D905 = Maroon Bells**
- **D906 = Powderhorn**
- **D907 = Raggeds**
- **D908 = Sneffels**
- **D909 = Uncompahgre**
- **D910 = West Elk**
- **D911 = Black Canyon Wilderness**
- **D912 = Gunnison Gorge Wilderness**

Management Concern

The Black Canyon Wilderness attribute area (D911) encompasses 15,599 acres of shrubland, pinyon-juniper woodlands, Douglas-fir forest and riparian plant communities in BLCA. Much of this wilderness is made up of steep canyon terrain that is not easily accessible.

Objectives

Management Emphasis – Allow fire to play a natural role in the wilderness area.

Desired Condition – Promote a vegetation mosaic representing natural distributions of plant communities based on fire frequency.

Suppression – Providing for firefighter safety, suppress all human-caused fires. Where designated, protect Mexican spotted owl habitat (*Strix occidentalis lucida*) and other values at risk, providing for firefighter safety first.

Wildland Fire Use – Use naturally-ignited fires to play their ecological role in the wilderness area.

Prescribed Fire - Use prescribed fire to reduce fuel loads in wilderness adjacent to urban interface areas on private lands. Use prescribed fire to create desired mosaics in shrubland and pinyon-juniper woodland communities.

Strategies

Suppression Constraints – Use a light hand on the land approach and minimum tool use constraints. Use of heavy mechanized equipment and retardant must be approved by the Superintendent. No retardant drops in riparian areas.

Wildland Fire Use – Allow naturally-ignited fires to burn to promote desired vegetation mosaics.

Prescribed Fire – In the next 5 years, one treatment of up to 100 acres within one mile of wilderness boundary to protect interface areas.

Non-fire fuels Treatments – Treatments would be limited to those in BLCA relic piñon-juniper special management areas also found in the Black Canyon Wilderness Area.

Prescriptive Criteria

- ERC < 50
- 1,000 hour measured fuel moisture > 100%
- Live measured fuel moisture > 100%

Physical and biotic characteristics of BLCA/CURE

BLCA:

BLCA is located on the western slope of the southern Rocky Mountains in Montrose County, Colorado. The park is approximately 31,214 acres in size. The Gunnison Gorge National Conservation Area, managed by the BLM, is located adjacent to the park's western boundary.

BLCA encompasses approximately 14 miles of the Gunnison River gorge. BLCA's climate is typical of the Rocky Mountains. Temperatures range from a low of 15°F in the winter to approximately 85°F in the summer. Average annual precipitation is 16 to 20 inches and snowfall measures between 30 and 55 inches. Most precipitation occurs in the form of spring and summer rains. The wind is predominantly out of the southwest with episodes of high velocity 40 to 60 mph. Canyon bottoms are typically 10° to 15°F warmer than rimtops during the summer months.

A variety of wildlife can be found in the park including: river otter (*Lutra canadensis*), mule deer, Rocky Mountain bighorn sheep, black bear, bobcat (*Lynx rufus*), mountain lion, elk, golden eagle, bald eagle, peregrine falcon (*Falco peregrinus*) and a variety of bird species inhabit BLCA during the fire season.

Locally, the dominant shrub species is Gambel oak, followed by serviceberry, and lesser amounts of mountain mahogany. Several species of sagebrush and rabbitbrush (*Chrysothanmus* spp*.)* are found in BLCA.

Another vegetation association found in the park is the pinyon-juniper woodland. These semiarid woodlands are inhabited by 2 juniper species (*Juniperus osteosperma* and *scopulorum*) and as well as pinyon pine. The vegetation mosaic is largely determined by moisture availability, but is also dictated by the complex dissection of the region into canyons and mesas, hills and valleys, and south-facing and north-facing slopes. Generally, pinyon and juniper form open woodlands on drier sites, but alternatively can form a closed-canopy forest on more mesic sites. The distribution within BLCA may be influenced by local soil influences as well as historic fire regime.

In the higher elevations ponderosa pine, Douglas-fir, and spruce trees are common. Pockets of Douglas-fir and quaking aspen trees may grow in areas where the snow lingers in the spring and on north-facing slopes within the park. The south wall is steeper and sparsely vegetated while the north wall is in some places thick with vegetation.

CURE:

CURE is composed of three reservoirs formed by three dams and adjacent lands on the Gunnison River. The NRA is 40,038 acres in size.

Blue Mesa Reservoir, Colorado's largest body of water at 9,000 acres and is over 20 miles long with a shoreline of 96 miles. Blue Mesa Reservoir, the furthest upstream of the three reservoirs, is used primarily for water storage. The shoreline slopes are covered with grasses and sagebrush gradually reaching 9,000-foot mesas. The mesa tops are characteristically covered with high desert vegetation; however, there are

intermittent pockets of Douglas fir, quaking aspen, and spruce. Separating the mesa tops are north-south running canyons that contain lush riparian flora.

Morrow Point Reservoir, the second in the chain of reservoirs, is 11 miles long with a shoreline of 24 miles. Steep canyon walls surround this narrow reservoir. Morrow Point Dam generates electrical power for high demand periods.

Crystal Reservoir, the furthest downstream reservoir, is a fjord-like lake and is used to even out flows produced by fluctuating releases from Morrow Point. Shrubs and conifers cover the north facing slopes and canyon rims along both of these lower, narrow reservoirs.

Historic Role of Fire in B, C, and D Polygon Areas

Many of the reported fires in B polygons occurred along travel ways, roads, and trails. A large percentage of past wildland fire activity has occurred in C and D polygons. Many of the reported fires in these polygon types also occurred along travel ways, roads, and trails. Historically, 90% of the fires in the parks were less than 0.1 acre in size. Many of the reported fires were single trees ignited by lightning.

Historical Weather Analysis and Fire Season

The historical weather analysis (Table 12, page 65) shows the average and extreme temperatures for the parks based on the National Weather Service Data (Station 051609, Cimarron, CO) and Black Canyon Remote Automated Weather Station (RAWS, 053806) with data from 1951-2004 and 1997 – 2004, respectively. Generally fire season extends from May to October.

Fuel Models Identified in B, C, and D polygons.

Most of the fires in BLCA and CURE were less than 0.1 acre in size. There are 3 fuel models represented in the parks: NFDRS (National Fire Danger Rating System) Fuel Models A, T, and F. Fire spread and intensity characteristics for the three fuel models under normal and extreme conditions are summarized in the paragraphs on page 66. Extreme conditions are slopes greater than 41%, 1-hour fuel moistures of 3% or less and mid-flame wind speeds exceeding 10 mph. Less than extreme conditions are typified by slopes less than 40%, 1-hour fuel moistures of 6% or greater, and mid-flame wind speeds between 4 and 10 mph.

Table 12. BLCA/CURE Weather Data

NATIONAL WEATHER SERVICE STATION 051609, CIMARRON, COLORADO

Period of Record : 9/13/1951 to 3/31/2004

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Mean Temperature (F)	17.2	22.1	32.2	41.3	50.0	58.5	64.5	63.0	54.7	44.3	31.2	19.4	41.5
Average Max. Temperature (F)	33.9	38.4	47.5	58.4	69.1	80.3	85.2	82.9	75.4	64.4	47.3	35.3	59.8
Average Min. Temperature (F)	0.4	5.9	16.7	24.1	30.9	36.7	43.7	43.0	34.2	24.2	15.2	3.5	23.2
Average Total Precipitation (in.)	1.15	0.89	1.03	0.97	1.07	0.87	1.26	1.51	1.46	1.28	1.00	0.89	13.38

Percent of possible observations for period of record.
Max. Temp.: 96.1% Min. Temp.: 96% Precipitation: 96.2%

BLM REMOTE AUTOMATED WEATHER STATION 053806, BLACK CANYON- Period of Record : 7/1/1997 to 9/4/2004

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Mean Temperature (F)	27.5	28.8	37.5	43.7	52.7	61.0	67.5	65.2	58.5	47.8	34.7	26.5	46.0
Average Max. Temperature (F)	38.9	41.0	50.3	56.0	65.9	75.7	82.4	80.0	72.9	61.4	46.6	37.6	59.1
Average Min. Temperature (F)	16.0	16.7	24.6	31.4	39.5	46.4	52.5	50.3	44.2	34.2	22.9	15.4	32.8
Average Total Precipitation (in.)	0.29	0.75	0.83	1.68	1.05	0.47	0.92	1.64	1.77	1.51	0.63	0.24	11.78

Fuel Model A

Fuel Model A is dominated by grasses with occasional pinyon and juniper trees scattered throughout. The fuel beds with a high percentage of grass are prone to fire as the fire season progresses and the grasses cure. Fire effects from burns in these fuel beds are minimal until the grasses have actually cured. Under extreme conditions, fires in Fuel Model A often move very fast (approximately 126 chains/hr; 1.5 mi/hr), yet will likely have a short residence time as these fuels are rapidly consumed. Early season fires tend to burn off any buildup of thatch from preceding years. Flame lengths are rarely longer than 6 feet. Because of the typically low residence times, these Fuel Model A fires do not have a significant impact on soils. Under less-than-extreme conditions, flame lengths are typically up to 6 feet in length, but the rate of spread is somewhat slower (approximately 100 chains/hr; 1.25 mi/hr). Under these conditions, fires will burn out rather quickly.

Fuel Model T

Big sagebrush and rabbitbrush-dominated areas are scattered throughout CURE and BLCA. These stands generally have a sparse component of fine grass fuels, which will cure and become flammable during mid to late fire season (July through September). Older shrubs contain a large dead component. This woody material may provide fuel for high-intensity, fast moving fires, especially under wind or slope influences. Under extreme conditions, these fires will often move at rates of up to 207chains/hr (2.6 mi/hr), and flame lengths may grow to upwards of 37 feet. Residence times are longer as larger woody fuels burn out. Under less-than-extreme conditions, flame lengths are reduced to approximately 17 feet, and the rate of spread is reduced considerably to approximately 56 chains/hr (0.7 mi/hr). These fires are relatively fast moving and may be stand-replacing in nature.

Fuel Model F

Gambel oak and pinyon-juniper is predominately found within BLCA and has the potential for fast moving, high intensity fires especially in frost killed and pre-heated areas. Fires carry through the shrub layer where the foliage is more flammable. In mature Gambel oak stands (> 60 years), severe fires top-kill all or most of the stand; low-severity fires create openings for sprouts. Gambel oak leaf moisture content varies greatly from year to year. Moisture content decreases from May to August; August Gambel oak foliage has less than half the moisture of May foliage.

Within the park there also are several hundred hectares of pinyon pine and juniper approaching closed-canopy conditions. During the early green-up season these areas will not burn hot. As the plants decrease in live fuel moisture they will contribute more available fuel to the fire creating more direct effects on burned sites.

Under extreme conditions, these fires in Fuel Model F exhibit higher rates of spread (88 chains/hr; 1.1 mi/hr) and flame lengths (12 feet) than those in Fuel Models A and T. Residence time for these fires can be short and fires may be stand-replacing in pinyon-juniper stands, but not in Gambel oak. Under less-than-extreme conditions, flame length and rate of spread are both reduced (7 feet and 28 chains/hr (0.35 mi/hr), respectively).

Fire Regime Alteration in B, C, and D Polygon Areas

Pinyon/juniper late-seral stands (shallow soil):

The pre-European fire regime can be characterized as infrequent/high intensity. Return intervals were likely well over 100 years, causing mortality to more than 80% of the mature trees. Little alteration in fire regime has occurred in this plant association.

Pinyon/juniper/sage/grass stands (deeper soils):

The pre-European fire regime can be characterized as moderate frequency/mixed intensity. Fire return intervals varied from about 15 to 50 years, causing 20-80% mortality in mature trees and shrubs. Two to five fire returns have been missed in most of this plant association. The increase in woody species and great reduction in surface vegetation/fuel has shifted the natural fire regime to an infrequent/high intensity regime.

Grassland/meadow:

The pre-European fire regime can be characterized as frequent/low intensity. Fire return intervals varied from 5 to 25 years, eliminating most of the young woody species that had established since the previous fire. This frequent return interval allows for the rejuvenation of perennial grasses and forbs. Four to twenty return intervals have been eliminated in this plant association. Most of the grassland/meadows have been invaded by woody species or have transitioned to shrublands or pinyon-juniper woodlands. The increase in woody species has shifted the natural fire regime to an infrequent/high intensity regime.

Gambel oak:

The pre-European fire regime can be characterized as frequent/mixed intensity. Fire return intervals varied from 15 to 40 years, top-killing most of the shrubs. In general, shrubs were shorter with less dead, woody material. In addition, stands were less dense with a greater amount of grasses and forbs. Up to three return intervals have been missed in this plant association. Currently, the taller more decadent stands will support fires of greater size and intensity.

Douglas-fir:

The pre-European fire regime for Douglas-fir stands can be characterized as frequent/low intensity. Fire return intervals varied from 20 to 40 years (Gruell 1985). Douglas-fir communities in the parks mostly occur in washes on steep canyon walls and are most dense on north-facing slopes. It is likely that several fire return intervals have been missed in this plant association due to where these communities occur.

Control Problems in B, C, and D Polygon Areas

The sagebrush and pinyon/juniper stands have seen a reduction in fire frequency due to the dramatic decrease in surface fine fuels. More severe weather conditions are required to sustain ignition and cause spread of fires in these plant associations. However, once fire has reached the crowns, it is much more difficult to control (much

greater intensities/flame lengths) than under pre-European conditions (much greater discontinuity of crown strata). Gambel oak and coniferous stands have seen an increase in fire intensity due to accumulations of litter and dead woody materials.

Lands in the immediate vicinity of electrical power substations and the overhead power lines associated with these facilities create potential control problems because of the added risk of electrocution. Fire managers may consult with USBR and WAPA personnel before initiating fire management activities in these areas.

Dominant Topographic Features in B, C, and D Polygon Areas

The Gunnison River, located within BLCA, is a superimposed stream. The walls of the canyon rise to over 2,000 above the Gunnison River, which flows in the canyon at an average gradient of 95 feet per mile in the park. The ancestral Gunnison River was contained by volcanic deposits and committed to an unchanging course. It carved 50 miles of narrow canyon through hard Precambrian, metamorphic rock. Fourteen of the most spectacular miles of the canyon are preserved as a part of BLCA.

CURE is composed of a chain of three reservoirs impounded on the Gunnison River. Blue Mesa Reservoir, the largest body of water entirely within the State of Colorado, is situated in the Gunnison River Valley characterized by bordering steep bluffs and high mesas. Morrow Point and Crystal Reservoirs, both narrow fjord-like lakes, are situated in the Black Canyon of the Gunnison River.

Fire Management Objectives Specific to B Polygon Areas

Within B areas, all wildland fires will be suppressed using an AMR with the intent of minimizing loss of structures and property. The first priority during these suppression actions will be the safety of personnel and the public, including adjacent landowners.

Management within B areas is designed to meet the following FMP strategic and measurable objectives:

- All fire management activities will have as the highest priority firefighter and public safety.
- AMRs for all wildland fires regardless of ignition source will be rapid containment and suppression to protect the public, check fire spread onto private property, and protect administrative and recreational facilities, natural and cultural resources, USBR and WAPA project lands and power substations within the parks.
- Emphasis will be placed on facilitating reciprocal fire management activities through the development and maintenance of cooperative agreements and working relationships with pertinent fire management entities.
- Hazard fuel reduction will be given high priority in and around developed areas, along the WUI boundary, and adjacent to cultural and historic sites.
- Manual/mechanical fuel reduction will be applied around suppression zones to reduce fire intensity. Manual/mechanical reduction may be used as the first step in a fuels reduction program followed by prescribed fire.
- Manual/mechanical fuel reduction will be applied around vulnerable cultural and historic sites for protection from fire damage.

- Prescribed fires in B areas will be accomplished during periods of time or under a prescription that minimizes escape possibilities. If fuel loads are high enough to make control of the burn difficult, a multi-stage process will be considered such as manual/mechanical treatment followed by prescribed burning.
- Prescribed fire and manual/mechanical treatment will be used to reduce hazard fuel build-ups that occur in B areas facilitating protection of values at risk.
- Strong interagency fire and emergency services agency participation will be encouraged within B areas. Interaction with adjacent landowners through participation in prevention programs and mutual hazard fuels reduction projects will be encouraged.

Management Considerations or Criteria Affecting Operations in B Polygon Areas

- Smoke management procedures for burning in Colorado will be followed for all prescribed fire operations.
- Employ MIST.
- The Superintendent must approve all mechanized equipment used in wilderness areas.
- No off road vehicle use unless approved by the Superintendent.
- No bulldozer or grader use unless approved by the Superintendent.
- The Superintendent must approve the use of retardant. Upon approval, retardant may not be applied within 300 feet of any waterway unless specific, identifiable threats to life safety can be mitigated with its use. In the event that this occurs, the Incident Commander (IC) will document the use in their daily log. A waterway is defined as any river, stream, pond or lake, regardless of the presence of aquatic life.
- The Superintendent must approve the use of foam beyond initial attack (e.g., extended suppression efforts). Foam may not be applied within 300 feet of any waterway unless specific, identifiable threats to life safety can be mitigated through its use. In the event that this occurs, the IC will document the use in their daily log.
- Some suppression actions (e.g., retardants, heavy equipment, cross country vehicle use) on designated USBR or WAPA lands/facilities may be pre-approved through interagency coordination.
- Surveys for cultural resources must be conducted in or near the project area before a prescribed burn project is initiated.
- Protection mitigation measures for known historic and cultural resource sites in or near the project area must be assured before a prescribed burn project is initiated.
- BLCA and CURE neighbors, park visitors and the local residents will be notified of all planned and unplanned fire management activities.
- All park closures are at the discretion of the Superintendent.
- No fire management operations will be initiated until all personnel involved receive a safety briefing describing known hazards and mitigating actions, current fire season conditions and current and predicted fire weather and behavior.
- Only qualified individuals that promote the safe and skillful application of fire management strategies and techniques will carry out fire management operations.

Fire Management Objectives Specific to C and D Polygon Areas

Within C and D areas, a primary objective is to ensure natural processes and native flora and fauna diversity are restored through prescribed burning, WFU and manual/mechanical fuel reduction.

Management of C and D areas is designed to meet the following strategic and measurable FMP objectives:

- Personnel and public safety are the highest priority for all fire management activities.
- An AMR will be utilized in C and D polygons for all wildland fires that do not meet resource objectives.
- WFUs and prescribed fires will be used where and when appropriate as a tool to manage vegetation within NPS boundaries, and where acceptable, across NPS boundaries to attain resource management objectives.
- Prescribed fire will be used to achieve habitat maintenance and improvement objectives for species such as Gunnison sage-grouse.
- Watersheds will be improved by increasing herbaceous cover that will reduce erosion.
- WFUs and prescribed fire will be used to increase native plant diversity and reduce exotic species.
- Hazard fuel reduction burns will be implemented in areas adjacent to B areas to reduce fire severity.
- The effects of fire on the ecosystem will be monitored.
- Park neighbors, park visitors and the local residents will be notified of all planned and unplanned fire management activities.
- All park closures will be implemented at the discretion of the Superintendent.
- Only qualified individuals that promote the safe and skillful application of fire management strategies and techniques will carry out fire management operations.
- Manual/mechanical fuel reduction will be utilized around selected cultural and historic sites to reduce potential for fire damage.
- WFUs and prescribed fires in C and D areas will be accomplished under prescriptions that minimize escape possibilities.
- A multi-stage process (such as fuel reduction followed by prescribed burning) may be used where fuel loads are so high that control of the burn would be difficult or where surface fuel loads are so low that fire spread would not occur.

Management Considerations or Criteria Affecting Operations in C and D Areas

In addition to the constraints for B areas, the following constraints apply to fires occurring in C and D areas:

- Chemical retardants will not be routinely used and the Superintendent must approve their use as needed on a specific incident. The use of foam beyond IA also must be approved by the Superintendent. Retardants or foam may not be applied within 300 feet of any water body unless specific, identifiable threats to life safety can me mitigated with their use.

- The Resource Advisor and/or Cultural Resource Specialist will be consulted on all fire occurring in the parks.

4. Wildland Fire Management Program Components

4A. General Implementation Procedures

All fires not ignited by managers for specific purposes are considered to be wildland fires. All wildland fires will receive AMRs depending on the conditions of the fire, fuels, weather, and topography to accomplish specific objectives for the individual fire. The AMR may vary from fire to fire and even along the perimeter of an individual fire. Key to this direction is that the full extent of a sliding range of management options is available. All wildland fires will have a Stage 1 WFIP completed within two hours of size-up. The Stage 1 WFIP serves as the decision record for selection of the AMR. Operational management decisions are described in the WFIP. If the fire is to be managed as a WFU, actions will be further guided by a Stage II and Stage III WFIP. If extended fire suppression actions are appropriate to the incident, a Wildland Fire Situation Analysis (WFSA) is used to evaluate suppression action alternatives. Specific WFIP and WFSA requirements are outlined in Chapter 4 of the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide, and as subsequently amended, or revised (Appendix A).

4B. Fire Readiness

Fire Readiness is the year-round process of assessment and improvement of equipment and personnel. BLCA and CURE have developed a monthly activities list to help ensure readiness is achieved. This comprehensive list is located in the Yearly Readiness Checklist (Appendix C). As part of this readiness program, all operation modules and support personnel will be assessed annually through a readiness review and inspection program. Results of this review and inspection program will be used to improve fire operations for BLCA and CURE. To prepare for the implementation of wildland fire plans and other project level plans, project staff will undergo training sessions and review plan documentation and checklists as described below. A partial list of readiness activities includes:

- Annual training for line officers to refresh on WFIP and WFSA process – (See Appendix A).
- Go through annual readiness checklist (Appendix C).
- Review the Interagency Standards for Fire and Fire Aviation Operations, 2006 or subsequent revisions.

4C. Wildland Fire Suppression

All wildland fires will be suppressed using an AMR. Management responses to specific wildland fires will be determined through evaluation of public and firefighter safety, fire behavior, values at risk, potential suppression damage, and availability of fire management resources. Management responses will vary from fire to fire and sometimes even along the perimeter of a fire. AMR options range from monitoring

without on-the-ground disturbance to intense suppression actions on all perimeters of the fire. Those fires escaping initial attack will have a WFSA completed. The WFSA is an analysis tool that provides agency administrators with a range of selected alternatives. Management alternatives are identified, analyzed and evaluated, and are consistent with expected probability of success/consequences of failure. The Superintendent will approve their selected alternative and any necessary revisions. The evaluation of alternatives must clearly identify the point at which the failure of the alternative is imminent. This becomes the triggering mechanism for re-evaluation of the WFSA.

Confinement as an Initial Attack Strategy

A confinement strategy may be selected as an IA action as long as it is not being used solely to meet resource objectives. Resource benefits may be a by-product, but the strategy must be based upon the criteria listed above. A confinement strategy may also be selected in the WFSA process when IA has failed to contain a wildland fire. Confinement can be used as a strategy to maximize firefighter safety and to manage suppression costs effectively.

B category areas:

Upon receiving a report of a fire in a B category area, MIDC will send the closest fire fighting resources to the fire. All wildland fires in these areas will be immediately suppressed under the AMR guidelines currently in effect. The fire management officer (FMO) shall be notified by the MIDC upon detection of a fire in the parks.

C and D category areas:

Upon receiving a report of a fire in a C or D area, MIDC will also send the closest available resources to the fire. After they have arrived on the scene, the dispatcher/FMO will collect information about the fire – such as exact location and size, cause, potential for spread, weather observations, closest natural barriers, proximity to private/urban areas, sites and structures threatened, etc. – in order to answer the questions on the “Go/No Go Checklist” (in the WFIP, Appendix A). If, at the end of this checklist, all the questions indicate that the parks should manage the fire for resource benefit, the decision will be documented and approved by the Superintendent.

Range of Potential Fire Behavior

Fire behavior in the parks can range from fast moving surface fires in light fuels to stand replacement fires in more dense stands of vegetation. For more detailed discussion refer to the fire behavior descriptions in Section 3.

Preparedness Actions

Prevention Program

Fire prevention includes all activities designed to reduce the number of human-caused wildfires that occur in the parks. The objective of the program will be to minimize preventable fires.

Prevention activities will consist of prevention signing, prevention messages through interpreters and staff, and prevention patrols during periods of very high to extreme fire danger. Associated with prevention messages will be WFU education and project awareness messages tailored for the public.

Fire prevention and WFU will be discussed at a selected staff safety meeting in the early spring to make sure all members are aware of concerns and procedures regarding response to wildland fires and actions related to prescribed fires and WFUs.

BLCA and CURE will provide fire prevention information and education through visitor contact and interpretive programs. During periods of high to extreme fire danger, the general public and park visitors will be informed of conditions through press releases, interpretive media and the posting of signs at park entrance stations, Visitor Centers, and campgrounds.

The first week of July is historically a high fire danger period. During this week, the visiting public will be reminded of the 36 CFR regulations regarding the use of fireworks in BLCA and CURE and the policy regarding campfires. Patrols will be alert to fireworks use and illegal campfires. Fire bans may be implemented at the Superintendent's discretion.

Annual Training Activities

Annual training will consist of annual firefighter safety refresher training, first aid and other safety training for appropriate individuals. Basic IA skills needed at BLCA and CURE include Single Resource Boss (Engine) and IC Type IV. These 2 qualifications are high training and experience priorities.

Annual Preparedness Activities

See Appendix C. Yearly Readiness Checklist for more detail.

January
- Perform fire physical exams annually or triennially (every 3 years) as per standards in RM-18, Fire Management Guidelines.

February
- Complete all prescribed burn plans for upcoming season and have signed-off by the Superintendent.

March
- Inventory fire equipment, order needed supplies and update equipment list, including both fire cache and personal equipment.
- Prepare prescribed fire briefing messages for public notification
- Obtain or prepare signs for WFU and prescribed fire interpretation.
- Pack test fire personnel annually, as per standards in RM-18 and update and submit fire qualifications to the Dinosaur National Park (DINO) fire management office.

April
- Review Step-Up Plan and update as necessary.

- Inspect fire cache and ensure that equipment is ready.
- Check the established Regional procedure for utilizing suppression and emergency preparedness accounts.

May
- Check operation of slip-on pump and backpack pumps.

Mid-May to Mid-October (fire season)
- Operate engines and pumps daily.
- Monitor fire weather and fire danger ratings.

First week of July
- Post warnings regarding fireworks regulations.
- Increase patrols during 4th of July holiday/weekend.

Labor Day Weekend
- Increase visitor contacts.

November
- Critique fire season including all management activities (e.g., wildland fire suppression, use fires and mechanical fuel treatment, prevention, etc.) with DINO FMO.
- Evaluate individual performance of NPS staff to correct deficiencies and recommend personnel for training. Review and revise FMP, if necessary.

Step-Up Staffing Plan

The Superintendent or DINO FMO has the ability to elevate the staffing class level for unusual events that my increase the potential for wildland fire. Preparedness activities during the fire season are based on the NFDRS. Fire days are broadly divided into 5 staffing classes according to Burning Index (BI) levels. The BI integrates the effects of weather, fuels, and topography to estimate potential fire behavior and the corresponding level of effort required to contain a fire. The staffing classes relate to the expected severity of fire conditions.

Preparedness actions are based on the following day's predicted fire weather and on fire weather observed at 1300 hours for all staffing classes. Burning indices will be determined by MIDC. Park staff will implement preparedness actions based on Staffing Classes.

Table 9. Staffing Class Levels

I	Low
II	Moderate
III	High
IV	Very High
V	Extreme

Fire conditions that typify each staffing class and the corresponding preparedness actions required are as follows:

Staffing Class I – Low

Conditions:

Fires will present a low level of control difficulty. Fires occurring at this level may be controlled with existing forces. Wind speed and direction will determine severity of fire spread.

Preparedness Actions:

- Review fire weather daily.
- Maintain hand tools and portable equipment in a state of readiness.
- Initiate WFU purpose messages for dissemination to the public.
- Perform normal patrol schedules.

Staffing Class II – Moderate

Conditions:

Fires will present a moderate level of control difficulty. Fires occurring at this level may be controlled with existing forces.

Preparedness Actions:

- Review fire weather daily.
- Maintain hand tools and portable equipment in a state of readiness.
- Initiate WFU purpose messages for dissemination to the public.
- Perform normal patrol schedules.

Staffing Class III – High

Conditions:

Fires will present a high level of control difficulty. Light and heavy fuels are drying. Mop-up will be more difficult and time-consuming.

Preparedness Actions:

- All actions specified for Staffing Class II days will be conducted.
- Ensure that a minimum of two qualified fire personnel are available for IA.
- If predicted or observed lightning activity level (LAL) is 4, 5 or 6, automatically move up to Staffing Class IV.
- If a high visitation period is determined to pose exceptional human-caused risk of wildland fire, move to Staffing Class IV (e.g., three-day holiday weekend, opening days of hunting seasons.)

Staffing Class IV – Very High

Conditions: Fire will present a very high level of control difficulty. IA and reinforcing crews may have difficulty controlling a fire at this level. All fuels are dry. Air temperature is high and humidity is low. Strong gusty winds are possible. Spotting may occur.

Preparedness Actions:

- All actions specified for Staffing Class III days will be conducted.
- Detection road patrols will be increased.
- Visitor Center personnel will alert the public to fire danger.
- Interpretive activities will include a fire safety message.
- Emergency preparedness funds may be used to bring staff to required levels. However, regularly scheduled personnel will be used to the extent possible. It is recognized that both nonessential routine activities and project work may be postponed on Staffing Class IV days.

- Fire danger notices will be posted.
- A WFU monitor will be identified and ordered immediately upon reports of ignitions in the WFU zone.
- The FMO or designee at DINO will be notified of staffing level and actions being taken by park staff. All extended staffing needs to be coordinated with the DINO FMO.

Staffing Class V – Extreme

Conditions: Fire will present an extreme level of control difficulty. IA and reinforcing crews may have difficulty controlling a fire at this level. Extreme fire behavior is likely in all fuel types. All fuels are dry. Air temperature is high and humidity is low. Strong gusty winds are possible. Spotting may occur.

Preparedness Actions:

- All actions specified for Staffing Class IV days will be conducted.
- Temporary closures may be imposed on areas of the park or for certain activities (e.g., open fires) in conjunction with similar impositions by adjacent land managing agencies, as described in interagency agreements.

Preparedness Plan

Due to the small size and scope of the fire program at BLCA and CURE to date, no formal Preparedness Plan has been written. Certain preparations and procedures are, however, established prior to and during fire season. Some are mentioned in the Annual Preparedness Activities section and in the Yearly Readiness Checklist (Appendix C). Other preparedness plans are informally discussed among the park staff during practice or equipment maintenance assemblies.

Preparedness is part of the Annual Operating Plan (AOP) for MIDC. The DINO FMO and BLCA/CURE staff attend the annual meeting for updating this interagency document. The value of a written plan or checklist is, however, recognized. Such preparation will inevitably emerge as the fire program evolves.

Initial Attack

An IA unit is ordered, through MIDC, within five minutes of fire detection. The initial attack IC will provide the information for the Stage 1 WFIP. A “Go-No-Go” decision will be made by the Superintendent. If additional forces are requested based on the selected AMR, they will be ordered through MIDC. If necessary, cooperator assistance will be requested from MIDC as well.

Initial Attack Priorities

The following information will be used to set IA priorities:

- Wildlife habitat maps including peregrine falcon nesting sites, sage-grouse, spotted owl, and habitat of other species of concern.
- Vegetation maps.
- Cultural and historic site maps.
- Maps indicating less than fee simple park lands.

- BLCA and CURE facility maps that include USBR and WAPA facilities.
- Maps displaying private structures within ½ mile of NPS boundaries.

The following criteria will be used to choose the appropriate IA response consistent with GMP/RMP objectives:

- Public and firefighter safety.
- Protection of cultural, historic, and natural resources.
- Protection of improvements and private property.
- Use of MIST.
- Available suppression resources and response times.
- Fire danger as determined by NFDRS rating.

Typical Fire Response Times

Typical fire response times at BLCA and CURE vary depending on the staff on duty, fire management activity level in the local area, and time of day. During fire season when no other fire activity is occurring and staffing is available, the BLCA and CURE engine can respond to the closest road access to fires within one hour. Reinforcements from other agencies dispatched through MIDC can respond to closest road access to a fire within 2 hours. Air tanker and helicopter support can reach a fire within 30 – 45 minutes. Resources from outside the MIDC area cannot be counted on arriving any sooner than 8 hours after requested.

Restrictions and Special Concerns by Management Area

See Section 3 of this plan for more detail.

Escaped wildland and prescribed fires

Information that should be used to set incident priorities:

- Objectives for each FMU
- Restrictions in areas of special concern
- Implementation plan requirements
- Social and political concerns
- Decision criteria matrix or flowchart including the risk assessment process
- Complexity decision process for transition from IA to extended action
- Delegation of authority (DOA) (Appendix J.)

Extended Attack and Large Fire Suppression

Extended attack occurs when a fire has not been contained or controlled by the IA forces within 24 hours and continues, either until transition to a higher level incident management team is completed, or until the fire has been contained/controlled. Extended attack action requires a WFSA to guide the evaluation of suppression strategies.

The fire complexity analysis is a checklist intended to guide the Superintendent in determining incident organizational needs and when transition from extended attack to a higher qualified incident management team is necessary. Before additional resources

are ordered, an analysis must be completed and becomes part of the fire record. The analysis checklist is found in RM-18, Chapter 9, Exhibit 2, and will be used to evaluate all fires periodically to determine transition thresholds. Following the components of a checklist, the Superintendent will perform the following:

a. Determine extended attack needs.
b. Determine WFIP requirements and possible WFSA development.
c. Complete the complexity decision process for incident management transition. Define criteria for the need to transition from IA to extended attack, and from extended attack to Type I or Type II incident management.
d. Provide a DOA for IC.

Any WFU will be managed according to Wildland and Prescribed Fire Management Policy, Implementation Procedures Reference Guide (Appendix A).

Exceeding Existing WFIP – WFSA Development

a) Situations requiring a new strategy

Refer to RM-18, Chapter 9. When any of the following conditions occur, the WFSA process must be completed to develop a new strategy.

1) The fire does not meet every element of the decision criteria checklist, or is exceeding management capability to implement the WFIP.
2) The fire exceeds the MMA and the escape cannot be contained within 24 hours.
3) Considerations for geographic area and National Preparedness Levels IV and V. At Preparedness Level IV, the Regional Office must approve new and ongoing WFU activities in conjunction with the geographic area Multi-Agency Coordination Group (MAC Group). If regional approval is not granted, new WFU activities will cease and existing WFU activities will be subject to the WFSA process. At Preparedness Level V the National Office must approve new and ongoing WFU activities in conjunction with the MAC Group. If national approval is not granted, new WFU activities will cease and existing WFU activities may be subject to the WFSA process.
4) Interagency resources are not available locally to meet incident requirements.

b) Information used to set incident priorities

If a fire requires a new strategy, priorities for action should be based first on safety of the public and firefighters. Other information used to set additional priorities may include information on private property, BLCA and CURE resources and improvements, sensitive resources and safety hazards.

c) Implementation plan requirements

The implementation plan requirements for WFSA development are found in Appendix A, Wildland and Prescribed Fire Implementation Procedures Reference Guide. These plan requirements include: the development of objectives, constraints and alternatives; evaluation of alternatives; analysis summary; a decision; and daily review.

Minimum Impact Suppression Tactics (MIST)

All fire management activities in BLCA and CURE will rely on techniques and tactics that result in a minimum amount of resource damage while maintaining the safety of firefighters, personnel and the public as the highest priority. Superintendent approval is needed for off-road use of vehicles, mechanized equipment, retardant use, and foam use beyond IA. MIST tactics can be found in Appendix B. A comprehensive description of MIST is listed in RM-18, Chapter 9, exhibit 5.

Rehabilitation Guidelines and Procedures

Rehabilitation of burned areas will follow DM 620 Chapter 3 for Wildland Fire Management Burned Area Emergency Stabilization. Within this document are the business rules for implementing rehabilitation and using national Burned Area Emergency Rehabilitation (BAER) teams.

Generally, suppression activities will be carried out in such a manner as to cause the least amount of resource damage. As soon as possible prior to demobilization, any remaining litter and trash will be removed. Fire line depressions will be refilled and erosion control devices installed if necessary. Stumps will be flush cut. Logs and brush will be chopped and scattered or removed. The severity of the burn and its resultant impact will be considered in determining the need to seed or otherwise re-establish native plant species. Such efforts regarding restoration and plants will be in full compliance with NPS Management Policies and given prior approval by the Superintendent. A rehabilitation plan, outlining what species are to be planted, techniques to be used, locations and cost estimates will be prepared before any action is taken. On fires crossing NPS and other agency ownership, interagency rehabilitation plans should be developed and implemented.

4D. Wildland Fire Use

One of the strategies available to BLCA and CURE managers is wildland fire managed for resource benefits (WFU). WFU is a strategy for allowing naturally ignited wildland fires to burn as long as the fire meets pre-stated resource management objectives and prescriptions. An MMA will be established in Stage III of the WFIP to ensure there is a clear and common understanding of the authorized size and location of the fire among the various layers of NPS managers and cooperators, and designates the ultimate acceptable size for a given WFU. The MMA provides for a closely directed fire management application in a specific area defined by resource objectives, fire and weather prescription elements, social needs, political considerations, and management capability. An ongoing or potential WFU fire that does not meet predetermined prescriptive elements or fails to meet resource management objectives will have a WFSA completed and an AMR implemented.

The resource management objectives promote management techniques that will maintain desired natural systems within BLCA and CURE. Wildland fire is a component of the ecosystem that is a suitable tool for managing natural resources. Wildland fire will produce the full spectrum of fire intensity and severity and result in natural mosaics of vegetative composition and age classes across the landscape. The resulting diversity of plant and animal species will reflect a more viable and sustainable ecosystem.

Objectives of Wildland Fire Use

The objective of the WFU program is to allow natural fire to play its ecological role on a fire dependent landscape. Topography and natural barriers will be used, where appropriate, as management boundaries. WFU will be limited C to D polygons.

Only naturally ignited wildland fires can be managed to accomplish resource management objectives. All human-caused wildland fires will receive a suppression response commensurate with values-to-be-protected, firefighter and public safety, and cost efficiency. Human-caused wildland fires will also include an investigation phase for possible legal recourse.

Parameters of Wildland Fire Use

Factors that must be monitored to make informed WFU decisions are listed below. The application and source of each factor are also listed. These factors must be monitored at appropriate intervals when considering WFU decisions.

Factor, Application, Source

- NFDRS, Relative Fire Danger, MIDC
- Historical Weather Data, Risk Assessment, Selected weather station used for analysis will depend on location of fire. Contact DINO FMO for details.
- Regional Fire Activity, Resource Availability, MIDC
- Smoke Emission, Air Quality, CO Air Quality Division
- Live Fuel Moisture, Fire Behavior Prediction, MIDC (one RAWS site is located in BLCA)
- Keetch-Byram Drought Index (KBDI), Burn Severity/Drought, NFDRS
- Fire Weather, Fire Behavior/Danger, National Weather Service.

The fire suppression preparedness step-up plan will also serve as a WFU use step-up plan, as both activities use the same data inputs and outputs.

If wildland fire complexity escalates to Stage III of the WFIP or during multiple Stage I/II fires, the staff of BLCA and CURE will require assistance to complete fire spread modeling and MMA development. In order to manage a WFU, a Fire Use Manager (FUMA) will be ordered. It is the FUMA's responsibility to manage the incident.

Level 2 Fire Monitoring as described in the Fire Monitoring Handbook (2001) will be completed daily on the fire. Monitoring of the WFU will be consistent with the complexity of the incident. If a fire use module is ordered, they will monitor daily regardless of the potential for fire growth. On-site observations of dry bulb, relative humidity, wind speeds, wind direction and cloud cover will be recorded. Fire characteristics as described in the Fire Monitoring Handbook will be collected on-site hourly when conditions and monitor safety permit. Smoke characteristics will be monitored concurrently as wind direction can often change and direct the smoke plume towards a community or highway.

All WFU applications will follow the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide (1998). The DINO FMO or MIDC Duty

Officer will determine whether the ignition meets criteria for recommending the ignition be placed into WFU.

A Stage I WFIP will be completed on every wildland fire, including a Go-No-Go decision made by the Superintendent to manage the fire as a WFU incident. Assistance in developing the Stage I WFIP can be provided by the DINO FMO and Assistant FMO. In addition to these individuals, subject matter experts from park staff such as the Ecologist, Resource Management Specialist, and Cultural Resource Specialist will be contacted to develop the WFIP. A Stage II WFIP: Short Term Implementation Actions will be completed within 24 hours of the "Go" decision from Stage I. The need assessment chart for Stage III will always be completed with the Stage II activity. Finally, if the event is expected to have a long duration, a Stage III WFIP: Long Term Implementation Actions will be completed.

All WFU activities will follow procedures outlined in the Wildland and Prescribed Fire Management Policy. Those activities that are not pre-planned include development of MMAs, Decision Criteria Checklists, Risk Assessment, Complexity Analysis or identification of Periodic Assessment Interval. All of these planning items will be detailed at the onset of a WFU project in the timeline established in the Implementation policy.

All costs associated with WFU projects will be tracked on a schedule commensurate with the complexity of the project. This should be captured on a spreadsheet and included in the fire history record.

The potential negative impacts of implementing a WFU program should be minimal. The topography and fuels of the area will not normally support large fire growth or long-term extreme fire behavior. Extensive natural barriers to fire spread exist over much of the parks. As such, the threat of fires breaching well thought out MMAs is not great.

The Gunnison River Basin airshed will most certainly be impacted during short-term events. Emission and dispersal modeling will be important to defend WFU decisions. Air quality monitoring may become necessary if the emissions of the fire(s) approach NAAQS PM 2.5 thresholds in the Gunnison River Basin.

Road closures for public safety will also generate public impacts. As a result, NPS staff must be prepared to manage public information. The park's Public Information Plan can be found in Appendix D.

WFU projects also will result in internal impacts to BLCA and CURE. Supporting these projects may require a substantial commitment of staff time. While non-local resources can be mobilized to assist with these fires, local staff will certainly be required to participate in data acquisition, analysis, decision support, plan implementation and evaluation. However, as the program evolves and becomes productive, it will generate a statistical database in the FPA budget allocation process where positions and funding are awarded. As such, fire management staff could be expected to increase and lessen the impacts to BLCA/CURE collateral duty staff over time.

Qualified Personnel

For any WFU action a FUMA can be requested from MIDC and will be on-site. All other required personnel will be ordered as needed. The FUMA will manage the incident

based on the complexity. Resources to assist in managing the incident will be ordered by the FUMA on an as-needed basis. The DOA specifies the assignment of a Resource Advisor from the park staff to the FUMA, and provides details on other responsibilities delegated to the FUMA. A sample DOA is attached in Appendix J. All personnel participating in a WFU shall be qualified for the position they fill according to the NWCG qualification standards outlined in PMS 310-1.

Public Information

As stated above, the park's Public Information Plan can be found in Appendix D. During WFU activities, as with prescribed fires, the park will emphasize the positive elements of fire's past and present role in the park ecosystem through an aggressive interpretive program. Adequate and accurate public information on the goals and program rationale for fire management at BLCA / CURE is critical to program success. Smoke generated from wildland fire is of special concern, since public health and safety may be affected. One vehicle for dissemination of information is through park interpretive media. Public education programs on fire management themes are most effective when the smoke is present. Interpretive tours and on-site talks will be planned on a case by case basis. Signs will be designed and built that will convey short informative messages to the public on park trails and roads.

The actions described in Section 9 of this plan (*Public Information and Education*) will provide management guidance for this program. In addition, message-specific signs that describe a wildland fire in progress will be posted at appropriate trailheads and along trail(s) through or near the fire.

When WFU projects are implemented, information should be made available to the public to ensure education and assist with understanding. Park staff will provide local media (newspapers, radio, and television) with briefings and photo/interview opportunities. Park staff will ensure that entrance station staff are briefed and provide information concerning status of the WFU fire to all visitors. Park staff will coordinate with other agency public information specialists to ensure a consistent message to provide to the public. If a WFU operation persists for extended periods and burns substantial acreage, a Public Information Officer (PIO) may be ordered.

Documentation for Wildland Fire Use

WFU projects can generate a significant quantity of paperwork. It is critical that these records be maintained for future reference. Include as a minimum:

- WFIP, WFSA, and all amendments and revisions. A WFIP will be prepared for every wildland fire.
- Monitoring reports and summaries of findings, along with a summary of all monitoring activities and schedule.
- Revalidation and certification documents.
- Funding codes and cost accounting.
- Project maps. Permanently map and archive all fires using GIS whenever possible. Include fire progression and/or daily maps.

- Other information as appropriate for the situation (e.g., photo points).
- Tracking of costs/fiscal reports associated with the fire.
- Daily weather records.
- Fire behavior predictions.
- Smoke emission, transport observations and modeling reports (e.g., Simple Approach Smoke Estimation Model (SASEM)).
- DI-1202 Individual Fire Report. Refer to DI-1202 Reporting Instructions and RM-18, Chapter 17, for reporting standards.
- Resource orders used to mobilize resources.

In addition, other records necessary are listed in Appendix E. Wildland Fire Incident Management Records Filing Guidance.

4E. Prescribed Fire

Prescribed fire will be used to reintroduce fire into fire-dependent ecosystems found within BLCA and CURE. The scope of the prescribed fire program must focus on restorable sites that have the potential to support desired plant communities.

Planning and Documentation

Prescribed fires are used as a tool to achieve resource management objectives. Prescribed fire will reflect and support resource management objectives to restore some vegetative conditions, maintain others, and simulate natural fire where ignitions have not occurred or management action was required. Treatment of landscape-scale areas, with prescribed fire, strives to restore fuel loading and vegetative composition to the natural conditions existing prior to the fire exclusion policy and practices followed in the park through recent years. Research burning also may take place when it is determined necessary to support research projects under permit with the NPS.

Prescribed fire, like WFU, is authorized in the park designated wilderness area. These fires may be used where it has been determined by resource management and fire management personnel that prescribed fires are a necessary substitute for naturally occurring fires.

Prescribed fire plans must be approved by the Superintendent prior to ignition. Prescribed fire units may vary in size but larger units are encouraged to promote landscape scale restoration. Prescribed fire boundaries should utilize the ample natural features (e.g., canyon rims and walls, shoreline), natural fuel breaks (sparse ground fuels), and existing roads and trails for perimeter control. Construction of perimeter fire control lines may only be used when natural barriers will not be sufficient to contain the fire within the planned perimeter. Perimeter control lines also are costly to construct and may increase risk to firefighter safety during holding operations. However, interior control lines and manual/mechanical fuel treatments (primarily cutting woody vegetation with chainsaws and scattering the debris) may be necessary to protect sensitive cultural and natural features within the burn unit.

Planning and execution of this prescribed fire management program will use qualified personnel and will follow the guidelines stated in document RM-18, Chapter 10, Fuels Management. Refer to RM-18, Chapter 10 for guiding all aspects related to

implementing this prescribed fire program. Use of interagency cooperators will be necessary for planning and implementing prescribed burns.

The following will be used to set prescribed fire priorities:

- Discussion on fire coordination with BLM, USFS, USBR, WAPA, CDOW, private landowners, and other cooperators.
- Vegetation and wildlife habitat maps including peregrine falcon nesting sites, Gunnison sage-grouse, and habitat of other species of concern.
- Cultural and historic site maps and updates with consultation with Cultural Resource Specialist.
- Maps indicating less than fee simple park lands.
- BLCA and CURE facility maps including USBR and WAPA facilities.
- Maps displaying private structures within ½ mile of NPS boundaries.
- "Communities at Risk Listing" (USDA and U.S. Dept. of Interior, Federal Register 66 (160) 2001).

Actions included in the prescribed fire program include: a project-specific Prescribed Burn Plan, selection and prioritization of projects to be carried out during the year, prescription preparation, documentation and reporting, and burn critiques. Measures to ensure successful implementation of prescribed burns will include a Prescribed Burn Plan prepared by at a minimum a Type II Burn Boss Trainee (RXB2 Trainee). A technical review of the Prescribed Burn Plan will be done by a qualified or previously qualified individual as stated in RM-18, Chapter 10. The Prescribed Burn Plan will be further reviewed by the Ecologist/Natural Resource Specialist, Cultural Resource Specialist, and Chief Ranger. Finally, the plan may then be approved by the Superintendent and FMO.

The DINO FMO will recommend a Prescribed Fire Burn Boss for each specific planned burn. The Burn Boss will conduct a field reconnaissance of proposed burn locations with park staff to discuss objectives and special concerns. The organization required to implement a prescribed burn will be based on the prescribed fire complexity analysis and the holding analysis specified within each prescribed fire plan.

The DINO Fuels Management Specialist will meet with the Chief of Resource Stewardship and Science and/or their staff to gather all necessary information to develop the Five-year Fuels Plan and to annually revalidate Prescribed Burn Plans not already implemented in the previous year. The Five-year Fuels Plan, attached as Appendix F, relates the long-term prescribed fire strategy for each relevant fire management unit, and displays planned burn units by fire regime group and condition class. The long term prescribed fire strategy assists in allowing fire to play its ecological role on the landscape.

The park may utilize, when available, any and all resources from the MIDC to plan and implement prescribed burns within the park. All Prescribed Burn Plans will be approved and signed by the Superintendent and FMO. Outside support from other NPS units or from MIDC interagency partners may be required for support in planning and implementation of a prescribed burn program.

Each prescribed burn project shall include monitoring and evaluation as part of the project. Monitoring and evaluation must be a continuous activity during the actual burn

operation. Its purpose is to ensure that ongoing fire behavior and weather conditions remain within the prescribed fire plan parameters. The individual responsible for the ongoing fire monitoring/evaluation shall keep the project Burn Boss informed of any and all changes which might result in the fire not meeting and/or exceeding the prescribed burn plan parameters.

Weather, fuel loading, and fuel moisture conditions must be monitored closely in planned burn units to determine when the prescription criteria are met. Weather data will be gathered for a sufficient period of time prior to burn implementation to enable calculations of fuel moistures, ERC, ignition component, and BI. Fuel moisture samples of dead fine fuels, fine dead woody fuels (if appropriate), or live fuels may be collected, weighted, oven dried, and percent moisture contents calculated to assist in determining when conditions are consistent with the prepared prescription.

The Superintendent may convene a review committee for any prescribed burn. A report detailing the actual burn will accompany any recommendations or changes to the program identified. The report will be submitted to the Superintendent, the FMO, and the Regional Fire Management Officer for review.

All prescribed burn documentation will be completed by the Prescribed Fire Burn Boss, the Fuels Management Specialist, or FMO. Fire monitors will collect all predetermined information and complete all necessary forms prior to, during, and after the burn. All records will be archived in the park's fire records and stored in the fire management or resource management office for future use and reference.

The Prescribed Fire Burn Boss will prepare a final report on the prescribed fire for the Superintendent. Information will include a narrative of the burn operation, a determination of whether or not the objectives were accomplished, weather and fire behavior data, a map of the burned area, and photographs of the burn, number of hours worked, and final cost of the project.

Each prescribed fire documentation package will include the following:

- Prescribed fire plan
- Documentation of all fire operations
- On-site weather observations
- Project maps
- Open burning permits
- Spot weather forecasts
- Narrative summary analyzing costs, objectives, and chronology of events
- Individual Fire Report Form (DI-1202)

The Prescribed Fire Plan is a site-specific action plan which describes the purpose, objectives, prescription, operational procedures, Go-No-Go Checklist, organizational chart, weather forecasts, contingency actions, monitoring actions, and safety concerns involved in burn preparation and implementation. The treatment area, objectives, constraints, and alternatives will be clearly outlined, and no burn will be ignited unless all prescriptions of the plan are met. The factors considered in all prescribed fire plans are described in RM-18, Chapter 10.

If burn prescription parameters are exceeded during ignition, but the burn remains within unit boundaries, then containment actions must be taken. In some cases the best containment strategy will be to complete firing of the unit or employ unit check-lines to avoid rapid runs at the unit boundary lines. If the burn is declared an "escaped fire", then a WFSA must be completed and the AMR will be utilized.

Air Quality and Smoke Management

NPS management activities which result in the discharge of air pollutants (e.g., smoke, carbon monoxide, and other pollutants from fires) are subject to and must comply with all applicable federal, state, interstate and local air pollution requirements. These requirements are specified by Section 118 of the Clean Air Act, as amended (42 U.SC. § 7418). It is not the primary intent of the Clean Air Act to manage the impacts from natural sources of impairment (e.g., naturally ignited wildland fires). Smoke from these fires is an inevitable by-product. Fires are not considered point sources of emissions, but tend to be spatially distributed singular events. Temporary impacts to visibility and visitor enjoyment must be recognized, expected and managed. This may include temporary closures or warnings during the progress of management approved prescribed fires.

Smoke drift affecting neighbors and public roads is a concern. Pertinent areas will be evaluated using current and approved smoke management modeling software (e.g., SASEM). Specifics will be evaluated in individual Prescribed Burn Plans.

The fire management program for BLCA and CURE will be in full compliance with interstate, state, and local air pollution control regulations as required by the Clean Air Act, 42 U.S.C. § 7418. BLCA and CURE will comply with Air Quality-Smoke Management Guidelines listed in RM-18.

The State of Colorado has a smoke permit procedure. Necessary state air quality clearances and permits will be obtained prior to the initiation of a WFU and prescribed fire program. Smoke management guidelines will be developed that will take into account the special conditions present in the Gunnison Basin. A SASEM or equivalent analysis will be performed prior to all prescribed fires and will be utilized as needed during wildland fires. During WFU activities smoke will be monitored for trajectory, mixing height, and impact to air quality sensitive areas.

Black Canyon of the Gunnison National Park

The wilderness portion of BLCA is designated as a mandatory Class I Air Quality Area to preserve, protect, and enhance the park's excellent air quality. The vitality, significance, and integrity of many park resources are dependent on good air quality. In 1984 boundary legislation was passed in recognition of the scenic view shed. Air pollution, even at concentration levels below the NAAQS Standards, can harm vegetation, degrade visual air quality and diminish visitor enjoyment. Maintaining pristine air quality and remedying any existing air pollution effects are important management objectives.

Curecanti National Recreation Area

CURE perpetuates a Class II Air Quality Area because of its critical importance to visitor enjoyment, human health, scenic vistas, and the preservation of natural systems and cultural resources.

Prescribed fires will be conducted only on days that are acceptable to the permitting agency. In the case of WFU, local authorities will be contacted and kept informed of the current status of any fire(s). Any monitoring activities will be coordinated with the permitting agency and information collected will be made available to them as requested. The park also will notify local Federal Aviation Administration (FAA) offices so that pilots may be made aware of possible temporary visibility impairments.

All prescribed fire plans will have clear objectives and will provide for the monitoring of impacts of smoke on the human and natural environments. Current and predicted weather forecasts will be utilized along with test fires to determine smoke dispersal. The fine-grass fuels in the park generate low volumes of smoke for short duration and are not usually a smoke management problem. An air dispersion analysis using the SASEM, or a similar model, may be used to assess the impact to surrounding areas and detail the atmospheric conditions under which a burn can be successfully completed within the ambient standards.

Prescribed burns ignited in proximity to any structures will be ignited only after careful considerations are given to levels of visitation and impacts upon visitation, private inholders and local residents.

Considerations useful in managing smoke from longer duration fires include:

- The development of contingency plans to limit smoke production if the need arises (may involve suppression on portions of the fire line).
- The establishment and maintenance of close communication with state and local air regulatory agencies regarding status of such fires.

4F. Non-Fire Fuel Treatments

Manual/mechanical treatments can be used to reduce hazardous fuel accumulations around pre-historic, historic, and modern structures, and adjacent to private lands. Manual treatments involve using tools or equipment such as chainsaws, brush-cutters, and hand saws. Mechanical treatments usually involve the use of large equipment (e.g., roller-choppers, dozers) over a large treatment area and require the Superintendent's approval. These treatments also may be used in conjunction with prescribed fire.

Historic Fuel Treatments

Figure 4 represents an historic fuels treatment map of past fuels treatment activities that could affect planned actions in this FMP.

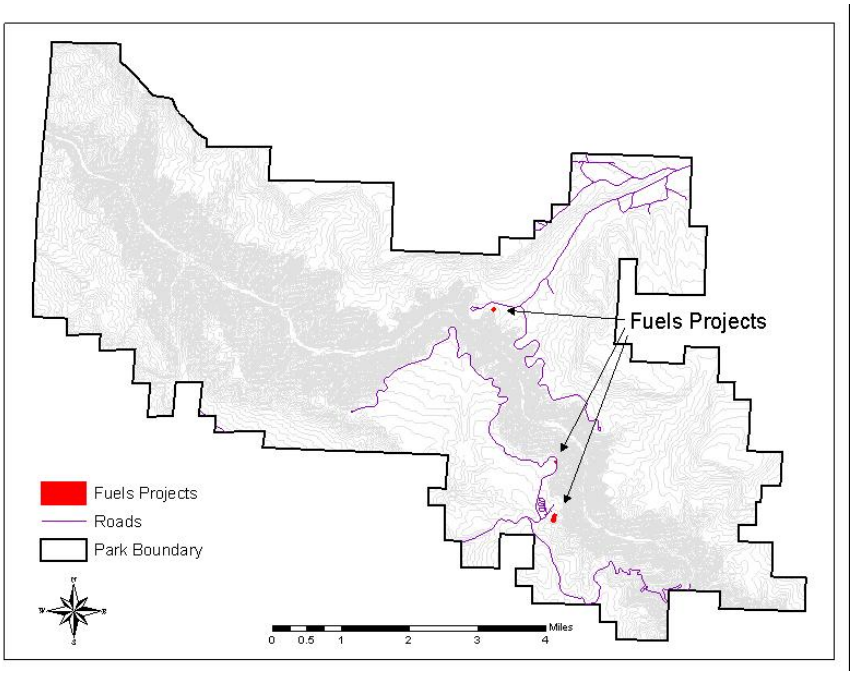

Figure 4. Historic Fuel Treatments in BLCA/CURE

4G. Emergency Rehabilitation and Restoration

Rehabilitation of burned areas will follow DM 620 Chapter 3 for Wildland Fire Management Burned Area Emergency Stabilization. Within this document are the business rules for implementing rehabilitation of burned areas.

Generally, suppression activities will be carried out in such a manner as to cause the least amount of resource damage. As soon as possible prior to demobilization, any remaining litter and trash will be removed. Fire line depressions will be refilled and erosion control devices installed if necessary. Stumps will be flush cut. Logs and brush will be chopped and scattered or removed. The severity of the burn and its resultant impact will be considered in determining the need to seed or otherwise re-establish native plant species. Such efforts regarding restoration and plants will be in full compliance with NPS Management Policies and given prior approval by the Superintendent. A rehabilitation plan, outlining what species are to be planted, techniques to be used, locations and cost estimates will be prepared before any action is taken. On fires crossing NPS and other agency ownership, interagency rehabilitation plans should be developed and implemented.

5. Organizational and Budgetary Parameters

This section describes the key personnel for fire management at BLCA and CURE including park staff, the FMO, and out-of-park resources. The sections below delineate the chain of command, describe responsibilities, and recommend targeted fire qualifications needed to ensure safe and efficient operations. It also describes interagency roles for coordination and cooperation. The organizational chart is located in Appendix G.

BLCA and CURE Fire Management Organizational Structure

Superintendent

- Ensures implementation of the FMP.
- Responsible for making Go-No-Go Decision and the periodic assessment to re-validate the WFIP and WFSA.
- Declares part or whole park closures when needed.
- Issues a written DOA to the FMO to perform duties within the parks, and to a WFU Management or Incident Management Team (IMT) when assigned to a wildland fire.

Fire Management Officer

- The FMO is currently located at DINO and has responsibilities for DINO, COLM, BLCA and CURE.
- Responsible for ensuring that the fire management program is managed within RM-18 guidelines.
- Makes recommendations for a candidate ignition to be managed as a WFU.
- Ensures that a comprehensive fire management program is adequately planned for and implemented.
- Provides technical assistance in respect to WFIP planning, staffing assistance in respect to monitoring and advisory assistance in terms of escalating staffing due to increases in complexity and fire behavior.
- Will participate in the development of the WFIP and WFSA.
- Responsible for analyzing fire weather and fire season severity to support fire use decisions annually.
- Coordinates with state air quality regulator.
- The Assistant FMO/Fuels Management Specialist may serve as the “acting” FMO in their absence.

Chief Ranger

- Maintains cooperative agreements with local agencies.
- Notifies staff and public of red flag warnings.
- Recommends and implements fire restrictions upon consultation with local agencies.
- Ensures legal requirements are met for implementation of restrictions/closures and that adequate public notice is made.
- Participates in planning meetings and/or briefing sessions for fires with suppression efforts that are adjacent to park boundaries.
- Evaluates fire activity in terms of public and employee safety and makes recommendations to the Superintendent for park closures.
- Ensures park closures are enforced.

- Designs and implements the park evacuation plan at the discretion of the Superintendent.
- Assists in the development of the WFIP and WFSA.

Ecologist/Resource Management Specialist/Cultural Resource Specialist

- Assists DINO FMO with interagency fire planning and prescribed fire program coordination.
- Assists in developing timeframes for periodic assessment on all declared WFU projects.
- Assists in the development of WFIP and WFSA.
- Develops priority lists for fuels treatment and resource benefit projects.
- Acts as Resource Advisor on wildland fires.
- Submits smoke permit requests for any prescribed burn projects.
- Conducts fire effects monitoring.
- Attends annual meeting with MIDC and assists with annual update of FMP.

BLCA District Ranger/North Rim Ranger

- Supervises overall fire operations.
- Determines in-park training needs and tracks staff training and qualifications.
- Updates and maintains fire history and 1202 databases.
- Inventories and maintains fire cache and equipment.
- Updates WFSA prep files, Step-Up plans, and staff qualifications.
- Conducts pack testing and issues red cards.
- Attends annual meeting with MDIC and assists with the annual update of the FMP.
- Coordinates weather station data collection.
- Conducts daily fire readiness checks of vehicles, equipment, and PPE.
- Conducts weekly and/or daily staff proficiency training on safety and fire equipment operations.
- Conducts helispot and other aviation reviews as required.
- Informs the DINO FMO and Superintendent of potentially hazardous fire(s) in the park(s).

Administrative Officer

- Acts as comptroller for projects.

Fire Use Manager (FUMA)

- This is an out of park resource.
- Facilitates the information gathering, analysis, planning and implementation of the WFIP.
- May be pre-positioned in the park when fire weather is conducive to WFU.
- Must be on-site to manage the WFU incident.

Long Term Analyst

- This is an out of park resource. Should be ordered when complexity is anticipated to escalate beyond Stage II.
- Models smoke emission and transport for documenting air quality impacts.
- Provides input into MMA and management action development.

Monitor

- This is an out of park resource until training targets are reached. May be pre-positioned in the park when fire weather is conducive to WFU.
- Maps fire perimeter, and monitors and documents fire weather, behavior, fuel consumption, smoke, and rates of spread.
- Monitors work and provides feedback to the FUMA in terms of WFU and resource management objectives.

MIDC and other External Resources

- Support will be needed to plan and implement WFUs and prescribed burns.
- MIDC Duty Officer may serve as a FUMA as qualified and ordered.
- NPS Fire Use Modules can provide both planning and operational assistance related to WFU and prescribed burns.
- Local BLM and USFS crews can assist with implementing prescribed burns.

FIREPRO Funding

BLCA and CURE are provided an allocation from the DINO FIREPRO account. FIREPRO is currently in the process of being converted into the FPA system and future funding allocations will come from FPA.

Periodic Assessment of the Fire Program

The annual assessment and update of this plan will include interagency input and recommendations from local Annual Operating Plan (AOP) meetings. The Superintendent will validate revisions in time for the next fire season and is responsible for certifying that the current fire program organization is adequate for the parks.

Interagency Coordination and Agreements

There are currently two interagency agreements in place between BLCA/CURE and agencies from the surrounding area:

1) An interagency agreement (2006 Annual Operation Plan Fire Control Agreement) for wildland fire suppression in the Gunnison Valley is maintained between the Gunnison County, Colorado State Forest Service, Montrose District BLM, White River National Forest, Black Canyon of the Gunnison National Park, Curecanti National Recreation Area, and the Gunnison, Grand Mesa, and Uncompahgre National Forests. The obligation of BLCA and CURE in this agreement includes mutual aid responses to areas one-half mile outside the NPS boundary in any direction and response to fires with a potential to burn onto NPS property.

2) The Montrose County Wildfire Annual Operating Plan (2006), an agreement between Montrose County Sheriff's Office, Montrose County Board of Commissioners, Colorado State Forest Service, U.S. Forest Service, BLM, and BLCA/CURE.

BLCA and CURE will additionally supply resources upon request to other areas.

6. Monitoring and Evaluation

FIREPRO or FPA funded long-term fire effects monitoring emphasizes vegetative responses to fire. Fire effects monitoring involves systematic collection and recording of fuels, topography, weather, air quality and fire behavior data during WFU and prescribed fires. Monitoring is essential to successful understanding of prescribed fires by evaluating the long-term achievement of the established, measurable resource management objectives described in the individual prescribed fire plan, and identifying any undesirable or unintended effects that may occur. Plots, photo points, and vegetation transects will be included as part of the monitoring program to document burn results and long-term vegetative response. Monitoring data will be archived and reviewed for future refinement of prescriptions and to determine program success.

Management will develop short and long term monitoring programs to assess accomplishments and to determine effects of fire management activities on cultural and natural resources. Monitoring is essential for adaptive management where the qualitative and quantitative changes to resources will be measured and used as a tool to guide modifications for subsequent prescription treatments and burn objectives.

The NPS *Fire Monitoring Handbook* (2001) protocol will be implemented to fulfill monitoring plan requirements. Other valid monitoring strategies and protocols developed locally may be substituted for the standard monitoring protocols to meet specific management and information needs. Such monitoring programs will receive critical review prior to implementation. A fire monitoring plan will be developed in the future and added as an addendum to the FMP.

Targeted short and long-term plant, animal, and paleontological resource monitoring, key to a particular prescribed fire unit may be stated in the specific prescribed fire plan for that unit. At a minimum, monitoring will comply with NPS monitoring protocol identified in the *Fire Monitoring Handbook* (2001). Data collected from short term monitoring will be attached to the fire report along with any narrative completed by the fire monitoring team.

7. Fire Research

Fire research and long-term monitoring needs beyond the fire effects monitoring outlined in the *Fire Monitoring Handbook* (2001) will be more completely addressed when the plan is revised after *Director's Order #2.1: Resource Stewardship Planning* is approved. Additional work is needed to develop fire programs that approximate natural fire results. Studies are needed to determine the effects of fire on various invasive non-native plant species.

Previous fire research conducted within BLCA and CURE is limited to a single short-term study. In 1982, an undergraduate student at Western State College conducted vegetation sampling within two areas that had burned in the 1970s (Carr 1982). Although the study was informative and interesting, it was inadequate to use to determine fire effects.

Both RMPs have identified a need to develop fire history and fuels characterization. Implementation of this FMP should not be contingent on completion of research of local fire regimes and fire effects on vegetation. Fire effects monitoring will be conducted in association with the WFU and prescribed fire program. This information will be used to adapt resource management techniques. A fire history study will be proposed for BLCA and CURE. As research opportunities present themselves, fire effects studies should be employed for ecologically sensitive areas such as intermittent drainages supporting riparian communities and soil movement either exacerbated by fire or subsequent stabilization of soils due to an increase in herbaceous cover. Park natural resource staff will continue to work in cooperation with NPS fire ecologists, research institutions, and other cooperators to develop, fund and conduct fire-related research projects.

8. Safety

8A. Public Safety

Employees responsible for and involved in any wildland fire management activity must always consider the safety of human life above all other values. Assuring public safety takes priority over other activities at all times; being able to provide a consistent and accurate evaluation of fire behavior is the basis for plans, contacts, and briefings that ensure public and personnel safety.

Wildland fires can present a hazard to persons engaged in suppression activities and to the public visiting BLCA and CURE. The safety of all people in the area is the primary concern of the IC. In most cases, the small fires usually encountered within BLCA and CURE makes this a fairly simple concern. Usually the entire perimeter of the fire is easily monitored. In these cases, the concern will be to keep the public out of the immediate fire area and far enough away that they will not hinder the management activities. Under no circumstance will anyone be permitted near a fire without the appropriate training and Personal Protective Equipment (PPE).

In the case of a larger wildland fire that has the potential to spread, there may be the possibility that park visitors will be in areas of concern. Visitors will be informed at the entrance station and the visitor center regarding the fire and the area where caution should be exercised. All efforts will be made to inform backcountry hikers, campers, and staff of evacuation plans.

As a fire transitions from one of low complexity to a more complex incident, all efforts, including the use of helicopters, will be made to alert backcountry hikers and campers of the danger. Signs will be placed at each trailhead warning hikers and backcountry users if there are fires in the area. If smoke produced during wildland and prescribed fires creates a safety concern, signs warning of possible smoke will be placed along roads. Roads will be closed or ranger escorted convoys established if visibility on roads is impaired. Smoke on roadways may create a visibility hazard, from a fire burning nearby or at night under light wind conditions. It could also occur on roadways outside the park.

Temporary closure of BLCA and CURE or a portion, including campgrounds and trails, may be needed when large or extreme fire behavior endangers visitor and employee safety. As part of the public safety process we will coordinate closely with interagency partners to ensure that the safety of the public, all employees, and firefighters is ensured.

Additionally, there are limited opportunities to find safety zones from a fast moving wildland fire on the park trail and road system. Park visitors will likely not be able to recognize a safe area, so emphasis will be to sweep potentially affected areas as quickly as possible. The parks' evacuation plan is included as Appendix H.

Certain areas will be closed to use when the risk to visitors is high or there are not enough personnel to handle the situation any other way. The authority to close areas is cited in 36 CFR 1.5. Information concerning fire danger, including interpretive programming, will be disseminated through entrance stations, Visitor Center contacts, trailhead/bulletin board signing, backcountry permit issuing, and interpretive programming. Any time human life may be endangered, all necessary means will be taken to warn or evacuate visitors, neighboring landowners, and other users.

The BLCA District Ranger will inform the FMO and the Superintendent of all potentially hazardous fires in the park. The FMO and the Superintendent will then coordinate public and interagency notifications and implement suppression actions to mitigate the fire's impact within and outside the park. The extent of public notice will depend on the specific fire situation. The following actions should be considered:

- When fire affects travel along any roads in BLCA / CURE, rangers will be dispatched to stop or control traffic. The State Patrol and Sheriff's Office will be informed and assistance requested as needed.
- When evacuation of an area is recommended, the Superintendent and the Chief Ranger will be immediately informed.
- When heavy smoke impacts campgrounds, park personnel will be sent to inform people of the situation and assure them of the safety of remaining where they are. Notices will be posted in park campgrounds, prior to conducting prescribed fire projects and when wildland fire use incidents are in progress.
- When fire is projected to rapidly spread and threaten backcountry sites or trails where campers or hikers are known or strongly suspected to be, a park employee will be dispatched to the area by the best possible means to notify visitors of danger. Aviation support also may be used to notify visitors of danger. Such individuals will be knowledgeable of fire behavior and fire safety principles to be able to stay with visitors as long as needed to assist them to safety.
- As part of initial and continuing size-up, law enforcement will determine the proximity to the fire of any visitors or other land users, inform them of potential hazards, and aid in evacuation if needed. If life is threatened, and the parties do not cooperate, law enforcement assistance may be requested through dispatch.
- When needed, information on location, fire behavior, expected dangers, areas to avoid, and other precautions will be posted on park bulletin boards, at the entrance stations, local post offices, and businesses.

- When the risks from a wildland fire are high, the public may be excluded from areas of potential hazard. Trails, campsites, and day use sites will be closed if deemed necessary by authority of the Superintendent. The Prescribed Fire Burn Boss will ensure that closure and/or informational signs on prescribed burns are properly posted.
- Public information meetings may be held when deemed necessary by the Superintendent.

An Incident Status Summary (ICS-209) for all fires will be provided to the PIO in a timely manner. Information on fire activity will be broadcast on the park radio as part of the morning report. The status summary will be distributed to all park divisions on a daily basis.

Smoke plume trajectories from large fires will be plotted using computer technology, weather information and on-site monitoring. Expected smoke impacts on off-park communities and roadways will be evaluated and information shared with the respective agencies. If needed, vehicular or air patrols will be used to monitor smoke plumes.

The PIO will notify and make media releases to local TV and newspapers, and through electronic mail. If needed, a park information “hot line” will be installed, and the PIO will update the message whenever new fire information is available. Additional notification will be made to cooperating agencies, as appropriate, about park fires through the PIO and according to the Public Information Plan (Appendix D).

8B. Firefighter Safety

Ensuring and maintaining firefighter safety is of the utmost importance and takes precedence over rapid suppression targets or goals. On all actions on wildland fires in BLCA/CURE, the principles of LCES and Fire Orders will be strictly adhered to, and Watch Out Situations will be mitigated where possible. Failure to maintain communications and to obtain fire behavior predictions and weather forecasts constitute grounds for suppression forces to withdraw from fire lines and re-establish tactics.

The IC or Prescribed Fire Burn Boss will ensure that:

- All firefighters will use PPE properly.
- All firefighters will have completed basic wildland fire training (S-130/190).
- All firefighters have completed annual ire fighter safety refresher training.
- Communications are possible with all people involved with the fire.
- Fire weather will be taken at minimum every hour during on-going fires and communicated to all fire fighters on the incident.
- All firefighters are certified (on their red cards) for the position they are performing.
- Any significant change in fire behavior or weather will be communicated immediately to everyone on the fire line.
- For any fires that have the potential to involve USBR and WAPA high voltage infrastructure, all safety briefings will include safety information on high voltage systems (overhead and buried), switchyards, substations, etc., that may be encountered.

9. Public Information and Education

As with all NPS activities, the presence of an informed public can go far in providing support for the fire management program at BLCA and CURE and fostering its goals. A concerted effort will be made to make the public aware of fire concerns at BLCA and CURE including fire prevention messages, fire danger indices when they are very high or extreme and the presence of on-going fires. Fire management messages will be introduced into interpretive programs where appropriate. BLCA and CURE will participate in fire prevention activities in the community. Visitors will be made aware of regulations regarding the use of fire on BLCA and CURE lands. High fire danger notices will be posted in the campground, at the visitor center and at the park's entrances when needed. The local media will be informed of fire prevention concerns through news releases. Media access to fire scenes will be facilitated when it is safe to do so. When interest is warranted, a staff member will be designated as the contact person for all information requests. Any media access to fires will be in accordance with NWCG and NPS safety and policy guidelines.

The Superintendent's Office will issue all press releases regarding fire danger levels, closures, special precautions, and prescribed fires to newspapers, radio and television stations, unless this task is specifically delegated to the IC. The Chief of Interpretation, Education and Technology, or other designated staff member, when necessary, will function as PIO, and provide for effective communication between park personnel, the public, and the media. The fire management program will be incorporated into the park's overall interpretive program and explained when possible and appropriate. At higher staffing classes and/or during periods of high fire activity, a Fire Information Officer (FIO) may be ordered from outside the park.

Prior to prescribed fires, the Burn Boss will inform project personnel on details of the burn. Landowners or agencies located near the prescribed burn will be contacted and the Superintendent will initiate a press release. On the day of the burn, all staff will be notified as to the burn's location and any special safety warnings to pass on to visitors. Key visitor use or access sites where visitors could likely observe or approach the burn area should have temporary signs indicating a management fire is occurring. This provides for public safety and education, and decreases the likelihood that visitors will report or attempt to put out a WFU or prescribed fire accomplishing resource objectives.

Post-season activities will include those tasks necessary to adequately assess how the local public and cooperators received the park's fire management efforts. This will be accomplished through coordination with neighbors, local groups, etc.

The BLCA District Ranger will cooperate with the DINO FMO and The Chief of Interpretation, Education and Technology on the following programs:

- Development of a brief interpretive handout which will discuss the basic objectives of using both prescribed fire and WFUs.
- Development of an outline and materials for an evening program that contains a prevention message and describes the park's fire program.

- Maintenance of a file of public comments received concerning prescribed burns, and using them to improve communication efforts targeted at increasing support for fire management.
- Fire Program Portal reporting as required for prescribed fires, WFU, and fuels projects at http://data2.itc.nps.gov/fire/admin/fireindex.cfm.

10. Protection of Sensitive Resources

The FMO and BLCA District Ranger will work closely with the park's Chief of Resource Stewardship and Science and/or Chief of Interpretation, Education and Technology to identify all historic, ethnographic, archeological, and paleontological resources; cultural landscapes; habitat for threatened, endangered, and other species of concern; and collections that need special attention to provide protection from fire. The EA provides a detailed assessment of the impacts of fire management activities on park resources (Appendix K). The inventory and the cultural component of the RMP will be consulted when planning prescribed burns, when considering WFU events, or during preparedness activities. Protective measures may be used around sensitive areas. All sensitive sites will be addressed in site specific Prescribed Burn Plans, or as required by the Cultural Resource Specialist.

When making decisions regarding AMRs for wildand fire, ICs will consider potential impacts to resources including cultural resources prior to implementation of the selected response. Cultural resource protection actions will be utilized when necessary and/or safely possible. A variety of fire management techniques including black lining, foam, retardant and/or water application, and manual/mechanical fuel removal may be utilized to protect sensitive areas (see page 52 for management considerations when using some these techniques).

All fire management activities in BLCA and CURE will rely on tactics that result in a minimum amount of resource damage while maintaining the safety of firefighters, personnel and the public as the highest priority. As a general rule, vehicle traffic is limited to established roads in the park and is strictly regulated in wilderness areas. Superintendent approval is needed for off-road use of vehicles and mechanized equipment. A comprehensive description of MIST is listed in RM-18, Chapter 9, Exhibit 5.

10A. Cultural Resources

All archeological sites do not require the same degree of protection from fire and the protection required on a site can vary with fire intensity. Most pre-historic sites have experienced at least one fire episode. Therefore, the site vulnerability to low and moderate intensity fires is low. Most historic structures have not experienced a fire episode and are by nature usually extremely vulnerable to fire.

Known archeological sites will be assessed and fire vulnerability and risks mitigated prior to the implementation of a prescribed fire or WFU fire. Section 106 NHPA compliance and SHPO consultation will be completed prior to project implementation, with costs built into the project cost. The Resource Advisor will advise on the need for protection of

sites discovered during a fire. Proposed prescribed burn areas will be surveyed in advance for archeological sites. The Cultural Resource Specialist will be notified of sites discovered during post fire monitoring.

Research throughout the Gunnison Basin indicates the area is extremely rich in archeological resources. Over 500 sites have been recorded within the parks. Eighty of these sites are considered significant enough to be listed in the Curecanti Archeological District as part of the National Register of Historic Places. Most of the remaining sites have not been evaluated. The aboriginal remains contain information critical to an understanding of the prehistory of the Gunnison River Valley. Lithic scatters minimally represent all of the recorded aboriginal sites in the parks, however, other task-specific areas have been observed within the lithic scatters that represent quarries, middens, lithic reduction areas, butchering areas, plant processing loci, hunting blinds and probably domestic structures. The sites contain a variety of cultural material, including chipped stone projectile points, knives, and scraping implements together with ground stone tools and occasional pottery. Data recovered from the archeological sites have provided evidence that aboriginal occupation of the area began as early as 8,000 B.C. and continued until A.D. 1880.

The following effects of fire management activities on Archeological/Cultural/Historic resources have been documented:

- Vehicles associated with fire suppression activities (e.g., dozers, engines, and other support vehicles) can cause severe damage to cultural sites by displacing cultural materials.
- Handline construction can result in exposure of subsurface debris and displacement of surface cultural materials.
- Activities associated with fire rehabilitation such as water bar construction and installation could damage cultural sites and materials.
- Wildfires can expose previously unknown or inaccessible cultural sites and materials to theft or vandalism and to varying degrees of site erosion.

The following checklist will be used during planning and implementation of fire management activities:

- The most current site inventory information in digital and hard copy formats will be used during fire management activities.
- Surveys for cultural resources in or near the project area and an evaluation of resources discovered will be conducted before a prescribed burn project is initiated.
- Native American concerns will be outlined with the Cultural Resource Specialist before a prescribed burn is initiated.
- Training on cultural site identification and protection measures will be presented to fire personnel as necessary.
- The use of dozers and other fire support vehicles will be restricted to prevent damage to significant cultural sites.
- The Cultural Resource Specialist will participate in shift briefings for fire personnel and all plans should contain clear written instructions regarding line construction and other suppression activities around cultural values.

10B. Paleontological Resources

There are 7 to 9 paleontological resources in each park. The hazard fuel reduction program can be used to minimize heat damage to these valuable resources. All paleontological remains will be protected and preserved during all fire activities, where possible, and all newly discovered sites will be reported to park managers.

10C. Natural Resources

During wildland fire and prior to prescribed burn implementation, an Ecologist/ Natural Resource Specialist will be consulted and mitigation measures will be pursued to protect known plant communities and animal habitats. Below is a short discussion of natural resources that may be impacted by fire management activities. **For a detailed assessment of the impacts of fire management activities on natural resources, see the EA (Appendix K).**

Less than Fee Simple Park Lands

The federal government has purchased less than fee simple conservation easements on private lands within the park boundaries to protect specific conservation values including scenic and visual, wildlife, and ecological resources. The easements allow the landowner to maintain the current good condition of the range for domestic cattle grazing and require the landowner to control noxious weeds. The easements also provide for NPS development of a long-term vegetation management plan in cooperation with the landowner. WFU has been discussed as the preferable method to meet landowner needs in a manner that is most consistent with NPS objectives. Prescribed burn and WFU planning and implementation on these lands will be conducted in consultation with the landowner to ensure landowner and NPS objectives are met.

Gunnison Sage-grouse Habitat

Gunnison sage-grouse habitat is characterized with big sagebrush as the dominant shrub species. Its growth form is highly variable depending on site conditions and use. Other vegetation communities important to sage-grouse include riparian areas, and other shrub community types such as serviceberry, mountain mahogany, and bitterbrush. Critical winter range is described as drainages and slopes with southerly or westerly aspects with greater than 5% of slope, and mesa and ridge tops with slopes of 5% or less. Sage-grouse leks are characterized by low vegetation with sparse shrubs surrounded by sagebrush-dominated plant communities. The desired condition for southerly or westerly facing slopes is big sagebrush with an average height of 12 inches and canopy cover of a minimum of 15%. The desired condition in drainages is big sagebrush with an average height of 20 inches and canopy cover of 30% minimum. Scattered throughout the winter habitat are small areas that are important feeding areas with big sagebrush greater than average height and canopy cover. The desired condition for big sagebrush areas within 400 yards of display areas is an average height of 12 inches and a canopy cover of 20% minimum with a grass canopy cover of at least 25%. Fires in areas identified as known or potential sage-grouse habitat will be managed in such a way to create a mosaic of age classes for big sage brush. The objective is to obtain a scattering of small round or linear-shaped patches of open grassy areas within larger big sagebrush upland habitat. Pockets of lush vegetation or water must be nearby and some extensive stands of sagebrush (>100 acres) are needed for

winter habitat. Prescribed burns may exceed 350 acres depending on the project area and objectives. Fire occurrence, as well as other vegetative treatments, will be evaluated each year following the fire season to ensure that resource management objectives and constraints have been met or to reevaluate if those objectives and constraints need to be modified. Specific information on fire management for Gunnison sage-grouse habitat can be found on pages 50-56.

Raptors

American peregrine falcon nest complexes are defined as those portions of cliffs that are used annually by nesting falcons, and include a buffer zone of 0.5 miles above and below the cliff face and of sufficient length of cliff to protect alternative nest locations. All efforts will be made to restrict aviation operations from the buffer zone. From 1 March through 1 September, no fire suppression camps, helispots or helibases will be established within designated peregrine falcon nest complexes.

Threatened and Endangered Species

Federal species

Riparian habitat is not extensive and prescribed burns, WFUs, and fuel reduction efforts could be planned to avoid such areas, if yellow-billed cuckoos (*Coccyzus americanus*) are found in the parks, thus effects of Alternative B on this subspecies likely would be minor. Similarly, impacts of prescribed fires and fuel reduction efforts on Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), humpback chub (*Gila cypha*), and bonytail chub (*Gila elegans*) could be mitigated through careful planning to avoid spawning periods, spring runoff, or times when rains are often heavy, and by ensuring no piling and burning of slash occurs in ephemeral drainages that lead to the river or the reservoirs.

Prescribed fires, WFUs, and fuel reduction activities are not likely to affect bald eagles since they use the parks primarily during the winter months for feeding, perching, and resting. Other threatened and endangered species of concern to the parks include the Uncompahgre fritillary butterfly (*Boloria acrocnema*), clay-loving wild buckwheat (*Eriogonum pelinophilum*), Mexican spotted owl, Canada lynx, and the Uintah Basin hookless cactus. A complete impact analysis on all of the threatened and endangered species of concern is found in the EA and BA (Appendix K.).

State listed species/Species of Special Concern

In addition to the BLM sensitive species and NPS species of special concern mentioned earlier, greater Sandhill cranes (*Grus canadensis*) using CURE during migration stopovers are not likely to be adversely affected by carefully planned prescribed fires, WFUs or fuel reduction activities and impacts to these species from Alternative B would be minor and short term. Impacts to Colorado River cutthroat trout and other fish species from prescribed fire, WFUs and fuel reduction efforts likely would be minor and short term. Planning and mitigation measures to avoid erosion and runoff into streams would be especially important in known spawning areas. Prescribed fire and fuel reduction can be tools for thinning dense sagebrush stands and improving habitat conditions for Gunnison sage-grouse as discussed earlier.

Rare Plant Species and Communities

WFU fires, prescribed fires, or fire suppression activities are not expected to have any direct or indirect effects on the hanging garden Sullivantia (*Sullivantia hapemanii)* vegetative communities or the cliff-dwelling Black Canyon gilia (*Gilia pentstemonoides*) in BLCA. Populations of rare plants in CURE such as the Skiff milkvetch (*Astragulus microcymbus*), Gunnison milkvetch (*Astragulus anisus*), Rollin's twinpod (*Physaria rollinsii*), and Rocky Mountain thistle are relatively widespread and stable. Fire management activities are not expected to have any long-term impacts on these species.

Water availability

The fire management program will not produce any major adverse impacts on water resources (quantity or quality) or values whose conservation is necessary to the purpose of the establishment of the parks that are key to the natural or cultural integrity of the parks; or that are actions identified as a management goal of the parks.

However, fuel reduction and prescribed fire activities may produce minor short-term impacts to floodplains and/or wetlands. These would be planned and mitigated to minimize direct impacts by buffering wetland and riparian areas.

10D. Modern Infrastructure and Developments

WUI mitigation techniques should be applied to prevent or at least reduce negative impacts to modern development and infrastructure within BLCA and CURE boundaries. A comprehensive list of equipment, facilities, and fire-qualified personnel for BLCA/CURE is attached as Appendix I.

11. Fire Critiques and Annual Plan Review

This FMP will be reviewed and evaluated annually to determine if the resource objectives are current and being met, and to make necessary revisions. Any problems associated with the guidelines or standards set for fire management, cost effectiveness and suppression will be addressed through revision or addendum and made a part of this plan. The annual update of this plan will include recommendations from the local AOP meetings. Revisions and improvements to this FMP will include interagency input and would then be validated by the Superintendent's signature and timely for the next fire season operations.

Fire reviews will be conducted in accordance with procedures found in RM-18. Each review will be documented and filed with the final fire documentation. The FMO will retain a file copy.

BLCA/CURE staff and cooperators will critique all suppression actions on fires having extended attack and multi-period activities, if appropriate. If the need exists, the Regional FMO can be included in such reviews and a national review by the National Fire Management Program Center can be requested.

After Action Reviews (AARs) will be completed and documented for all fire events. This review will be conducted by one of the following: the IC, the FMO, or the official who has designated fire program responsibilities. The purpose of this review is to recognize and document actions that were successful and identify and rectify actions that need to be corrected.

The Superintendent will conduct closeout meetings with IMTs to ensure a successful transition of the incident back to the Park and to identify and evaluate incomplete fire business. Refer to Chapter 13, Exhibit 1 of RM-18 for a sample closeout review with the IMT.

A regional or national level fire review may be conducted if one of the following occurs. Refer to Chapter 13, Exhibits 2 & 3 of RM-18:
- Fire crossed BLCA and CURE boundaries into another jurisdiction without the approval of an interagency agreement.
- Fire resulted in adverse media attention or political interest.
- Fire involved serious injury or death, significant property damage, or has the potential to.
- Fire involved multiple regional resource response.
- Any fire that the Associate Director for Park Operations and Education wants reviewed.

All entrapments and fire shelter deployments will be reported and investigated as soon as possible after the deployment incident, and be reviewed in accordance with NWCG's "Wildland Fire Entrapment/Fatality Report and Entrapment Investigation Element Matrix". Refer to Chapter 13, Exhibits 4 & 5 of RM-18 for review directions and written outline format.

An informal fire management program review will be conducted annually to evaluate current procedures and identify any needed changes to the BLCA and CURE FMP. A formal fire management review will be conducted every five years. The Superintendent must approve significant changes to the body of this plan. The only exceptions to this procedure will include grammatical corrections, minor procedural changes, deletions, corrections, and additions to the appendices. Copies of all changes will be promptly forwarded to the Fire Management Program Center. Changes requiring the approval and concurrence will be submitted with a new cover sheet for signature and dates, which will replace the original cover sheet upon receipt by the Superintendent.

12. Consultation and Coordination

An ID Team was formed to develop the FMP for BLCA and CURE. The team includes participants from the NPS staff at BLCA and CURE, faculty, staff and students from the University of Wyoming and Colorado State University, BLM staff, and USBR staff. Additional consultations have been sought with the USFWS, USFS, SHPO, and the Southern Ute, Ute Mountain Ute and Northern Ute tribes. A complete list of ID Team members, and FMP and EA preparers and reviewers can be found in the EA Consultation and Coordination Section (Appendix K).

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14. Glossary of Terms Used in this Fire Management Plan

Appropriate Management Response (AMR) - Specific actions taken in response to a wildland fire to implement protection and fire use objectives. This term is a new term that does not replace any previously used term.
Confine – Confinement is the strategy employed in appropriate management responses where a fire perimeter is managed by a combination of direct and indirect actions and use of natural topographic features, fuel, and weather factors.
Daily revalidation – A process named the periodic fire assessment, which evaluates the continued capability of the local unit to manage the fire for resource benefits, and to determine if the fire is escalating in complexity and operational needs. This process is completed as frequently as specified by the local unit.
Decision Criteria Checklist (Initial Go/No-Go Decision) – A set of standard evaluation criteria to determine if the current wildland fire meets criteria to be managed for resource benefits. The completion of these criteria will lead to a decision to “Go/No-Go” with management of the fire for resource benefits.
Expected Weather Conditions - Those weather conditions indicated as common, likely, or highly probable based on current and expected trends and their comparison to historical weather records. These are the most probable weather conditions for a given location and time. These conditions are used in making fire behavior forecasts for different scenarios (one necessary scenario involves fire behavior prediction under "expected weather conditions").
Experienced Severe Weather Conditions - Those weather conditions that occur infrequently, but have been experienced on the fire site during the period of weather records. For example, rare event weather conditions that significantly influence fires may have occurred only once, but their record can be used to establish a baseline for a worst-case scenario. These are the most severe conditions that can be expected. These conditions are used in making fire behavior forecasts for different scenarios (one necessary scenario involves fire behavior prediction under "experienced severe weather conditions").
Fire Complexity Analysis – A process for assessing wildland fire organizational needs and relative complexity in terms of Incident Command System (ICS) types (I, II, III etc.).
Fire Management Areas (FMA) - A sub-geographic area within an FMU that represents a predefined ultimate acceptable management area for a fire managed for resource benefits. This pre-defined area can constitute a Maximum Manageable Area (MMA) and is useful for those units having light fuel types conducive to very rapid fire spread rates. Pre-definition of these areas removes the time-lag in defining an MMA after ignition and permits pre-planning of the fire area, identification of threats to life, property, resources, and boundaries, and identification of initial actions.
Fire Management Plan (FMP) - A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans and prevention plans.
Fire Management Unit (FMU) - Any land management area definable by objectives, topographic features, access, values-to-be-protected, political boundaries, fuel types, or major fire regimes, etc., that sets it apart from management characteristics of an

adjacent unit. FMUs are delineated in Fire Management Plans (FMP). These units may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.

Fire Use - The combination of wildland fire use and prescribed fire application to meet resource objectives.

Green-stripping – The use of mechanical treatments (e.g., mowing) in shrubland areas to produce green strips of vegetation made up mostly of grasses in between strips of sagebrush.

Holding Actions - Planned actions required to achieve wildland and prescribed fire management objectives. These actions have specific implementation timeframes for fire use actions but can have less sensitive implementation demands for suppression actions. For wildland fires managed for resource benefits, an MMA may not be totally naturally defensible. Specific holding actions are developed to preclude fire from exceeding the MMA. For prescribed fires, these actions are developed to restrict the fire inside the planned burn unit. For suppression actions, holding actions may be implemented to prohibit the fire from crossing containment boundaries. These actions may be implemented as fire lines are established to limit the spread of fire.

Initial Attack - An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Management Action Points – (also called "trigger points.") Either geographic points on the ground or specific points in time where an escalation or alteration of management actions is warranted. These points are defined and the management actions to be taken are clearly described in an approved Wildland Fire Implementation Plan (WFIP) or Prescribed Fire Plan. Timely implementation of the actions when the fire reaches the action point is generally critical to successful accomplishment of the objectives.

Maximum Manageable Area (MMA) - MMA defines the firm limits of management capability to accommodate the social, political, and resource impacts of a wildland fire use fire. Once established as part of an approved plan, the general impact area is fixed and not subject to change. MMAs can be developed as part of the FMP and described as an FMA. They can also be developed as part of the planning and implementation of management actions after a fire has ignited. If they are developed after the ignition, their definition will occur during the WFIP Stage III process. In the event a fire occurs in a pre-planned MMA or FMA and the local unit determines that this MMA is not the best-suited alternative for the present conditions, a new MMA can be developed as part of the Stage III process. Once this occurs, the Stage III MMA becomes the firm limits of the fire and is fixed.

Mitigation Actions - Those on-the-ground activities that will serve to increase the defensibility of the MMA; check, direct, or delay the spread of fire; and minimize threats to life, property, and resources. Mitigation actions may include mechanical and physical non-fire tasks, specific fire applications, and limited suppression actions. These actions will be used to construct fire lines, reduce excessive fuel concentrations, reduce vertical fuel continuity, create fuel breaks or barriers around critical or sensitive sites or resources, create "black lines" through controlled burnouts, and to limit fire spread and behavior.

Normal Fire Year – The normal fire year for suppressed wildland fires is the year with the third highest number of wildland fires in the past ten years of record. The normal wildland fire managed for resource benefits year is the year with the third highest number of acres burned by wildland fire managed for resource benefits in the past ten years of record.

Preparedness - Activities that lead to a safe, efficient and cost effective fire management program in support of land and resource management objectives through appropriate planning and coordination. This term replaces pre-suppression.
Prescribed Fire - Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition. This term replaces management ignited prescribed fire.
Prescribed Fire Plan - A plan required for each fire application ignited by managers. It must be prepared by qualified personnel and approved by the appropriate agency administrator prior to implementation. Each plan will follow specific agency direction and must include critical elements described in agency manuals. Formats for plan development vary among agencies, although content is the same.
Prescription - Measurable criteria which define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations.
Trigger points - see Management Action Points.
Wildfire - An unwanted wildland fire. (This term was only included to give continuing credence to the historic fire prevention products. This is NOT a separate type of fire.)
Wildland and Prescribed Fire Complexity Analysis – The formal process to determine the full complexity rating for wildland and prescribed fires. It utilizes 12 variables having numerically weighted importance combined with user identified complexity values.
Wildland Fire - Any non-structure fire, other than prescribed fire, that occurs in the wildland. This term encompasses fires previously called both wildfires and prescribed natural fires.
Wildland Fire Implementation Plan (WFIP) - A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire. A full WFIP consists of three stages. Different levels of completion may occur for differing management strategies (e.g., fires managed for resource benefits will have two - three stages of the WFIP completed while some fires that receive a suppression response may only have a portion of Stage I completed).
Wildland Fire Management Program - The full range of activities and functions necessary for planning, preparedness, emergency suppression operations, emergency rehabilitation of wildland fires, and prescribed fire operations, including non-activity fuels management to reduce risks to public safety and to restore and sustain ecosystem health.
Wildland Fire Situation Analysis (WFSA) - A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.
Wildland Fire Suppression - An appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire. All wildland fire suppression activities provide for firefighter and public safety as the highest consideration, but minimize loss of resource values, economic expenditures, and/or the use of critical firefighting resources.
Wildland Fire Use – The management of naturally ignited wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas outlined in FMPs. Operational management is described in the WFIP. Wildland fire use is not to be confused with “fire use”, which is a broader term encompassing more than just wildland fires (see definition above).

15. Appendices

Appendix A – Wildland and Prescribed Fire Management Policy: Implementation Procedures Reference Guide

(Attach as .pdf file)

Appendix B - Minimum Impact Suppression Tactics

General Discussion

Suppression tactics will have an impact on the landscape. Following the Minimum Impact Suppression Tactics (MIST) guidelines outlined below can reduce the degree of long-term impacts associated with wildland fire suppression tactics. It is important that decision makers are aware of the long-term impacts fire suppression tactics can have on the landscape, and very carefully weigh those long-term impacts to fire suppression safety issues related to wildland fire incidents. The following are MIST standards that will be used in BLCA/CURE. Also refer to RM-18, Chapter 9, Exhibit 5

Tactical Standards

- Taking advantage of natural barriers, rock outcrops, trails, roads, and streams will minimize fire line construction, and other existing fuel breaks.
- Fire lines will be the minimum width necessary to halt the spread of the fire, and will be placed to avoid impacts to natural and cultural resources vulnerable to the effects of fire and fire suppression activities.
- Limbing along the fire line will be done only as essential for the suppression effort and for safety.
- Unburned material may be left within the final line.
- Clearing and scraping will be minimized.
- Snags or trees will be felled only when essential for control of the fire or for safety of personnel.
- Where possible, on site archeological clearance will be obtained prior to line construction.

Terminating the Fire

- The route to the fire from the nearest trail or road will be flagged. The last person to leave the area will remove flagging.
- All equipment and debris will be removed from the area for proper disposal.
- Before leaving the fire, rehabilitation will be completed to eliminate impacts from the suppression effort.

Restoration of Fire Area

- Backfill cup trenches and scarify wide firelines.
- Construct waterbars to prevent erosion.
- Place “boneyards” in a natural or random arrangement.
- Position cut ends of logs so as to be inconspicuous to visitors and camouflage where possible.

- Flush cut stumps, camouflage with soil and moss.

Aircraft

Helicopters
- Minimize use.
- Restore helispots.

Retardant Aircraft
- Retardant drops require Superintendent's approval.
- Use water drops where practical.
- Minimize number of drops to what is essential for control of the fire.

Appendix C - Yearly Readiness Checklist

YEAR–ROUND

- Return any and all defective equipment to the BLCA District Ranger.

JANUARY

- Determine in–park fire training needs and establish training dates. This includes agency administer training, the annual 8-hour fire fighter safety refresher, B3, chainsaw safety refresher, etc.
- Complete previous year's data summary reports for fire monitoring.
- Update fire history and 1202 database in GIS.
- Complete all annual fire reports and required reports.
- Inventory cache and order supplies.
- Write burn plans for any prescribed burn projects.
- Submit burn plans for Superintendent's signature.

FERUARY

- Develop cache needs list.
- Submit smoke permit requests for any prescribed burn projects.
- Begin updating WFSA prep files.

MARCH

- Send copies of burn plans to MIDC.
- Send all mechanized fire equipment out for service, e.g., chainsaws, portable pumps.
- Continue updating WFSA prep files.

APRIL

- Annual meeting with MIDC.
- Begin pack testing.
- Begin collecting weather station observations from the Black Canyon and Blue Mesa area weather stations.
- Update step-up plan.
- Update fire fighter pocket cards.
- Issue Red Cards.
- Update FMP.

MAY

- Finish updating WFSA prep files.
- Conduct annual pre-season supervisory ranger and engine crew leader operations meeting.
- Continue pack testing.
- Issue Red Cards.
- Begin collecting fire weather observations and calculating fire danger ratings.
- Begin collecting fuel moisture data.
- Field test any mechanized fire equipment, e.g., chainsaws and portable pumps.

JUNE

- Present annual required training, e.g., Right -to-Know, Prevention of Sexual Harassment, etc.
- Conduct prescribed burn preparation activities.
- Conduct prescribed burning of approved units in prescription.
- Conduct hydrant flow tests.
- Pressure test fire hose, pumps, and any engine resources.
- Perform annual review all approved helispots and submit evaluation to the Regional Aviation Manager.
- Complete Readiness Review.
- Continue pack testing.
- Issue Red Cards.
- Perform daily fire readiness check of vehicles, equipment, and PPE.
- Continue collecting fuel moisture data.

JULY

- Conduct employee fire extinguisher use training.
- Conduct weekly and/or daily training on safety, engine operations, chainsaws, portable pumps, and helicopter use.
- Continue burn preparation activities.
- Conduct prescribed burning of approved units in prescription.
- Continue proficiency training.
- Continue collecting fuel moisture data.
- Begin mechanical hazard fuel reduction projects.
- Perform daily fire readiness check of vehicles, equipment, and PPE.

AUGUST

- Continue proficiency training.
- Continue daily and weekly training.
- Continue burn preparation activities.
- Conduct prescribed burning of approved units in prescription.
- Continue collecting fuel moisture data.
- Continue mechanical hazard fuel reduction projects.
- Perform daily fire readiness check of vehicles, equipment, and PPE.

SEPTEMBER

- Continue proficiency training.
- Continue daily and weekly training.
- Continue burn preparation activities.
- Conduct prescribed burning of approved units in prescription.
- Continue collecting fuel moisture data.
- Continue mechanical hazard fuel reduction projects.
- Perform daily fire readiness check of vehicles, equipment, and PPE.

OCTOBER

- Continue burn preparation activities.

- Conduct prescribed burning of approved units in prescription.
- Continue mechanical hazard fuel reduction projects.
- Begin end–of-season equipment winterizing.
- Collect updated experience and training (EZ form) for input into Incident Qualification Certification System (IQCS).

NOVEMBER

- Begin input of 1202 data into Shared Application Computer System (SACS).
- Begin input of EZ form data into IQCS.
- Finish end-of-season equipment winterizing.
- Complete end-of-year season review with supervisory rangers and engine foreman.

DECEMBER

- Finish input of 1202 data into SACS.
- Finish input of EZ form data into IQCS.

Appendix D – Public Information Plan

Public Information

Many individuals, including visitors, potential visitors and local neighbors plan their vacations and/or special events around their local National Park areas. It is for this reason that a plan concerning the way in which information will be presented to the public during times of fire is needed. This plan will map out the responsibilities of the Division of Interpretation, Education and Technology in communicating with visitors, neighbors, local businesses and the community in general.

A concerted effort will be made to make the public aware of fire concerns at BLCA and CURE including fire prevention messages when the fire danger indices are very high or extreme, when fire bans are in effect and during the presence of on-going fires. This effort will be conducted through postings on bulletin boards, live programs and demonstrations, and other outlets as is warranted.

Prescribed Burn Activities:

Prior to prescribed fires, the BLCA District Ranger will inform the park PIO on details of the burn. Information will be coordinated with the MIDC and the PIO will initiate press contacts, and landowners or agencies located near the prescribed burn will be contacted. On the day of the burn, all staff should be notified as to the burn's location and any special safety warnings to pass on to visitors.

Key visitor use or access sites where visitors could likely observe or approach the burn area should have temporary signs indicating a management fire is in progress. The effort of signage should be aimed at public safety and education, and to reduce multiple reporting of the fire.

Fire Information Objectives:

A primary objective of the public information effort is to meet needs of the following members of the community through regular communication of complete and useful information during and after periods of fire at either or both parks. Through the timely and efficient sharing of information pertaining to a given fire situation, the parks seek to insure support for management decisions made during a fire and public trust in actions taken by the incident command as the event develops.

- Park Neighbors and Land Owners – These people may have special concerns, and regular communication and updates will be significant.

- Current Visitors – Depending on the fire situation, reaching these people may be difficult.
- Local Businesses – Depending on the fire situation, they could realize a loss of income, and communication with them will be important as well.
- Potential Visitors – Both during and after a fire it will be important to communicate with these people. As has been seen in the past, neighboring parks (local, state, and national) are common resources to reach these people.
- Local, State, and Federal elected officials – While communication with these people may be critical, depending on the fire situation, the Superintendent will be the person to assign conversations with this group.

Public Information Officer:

The PIO position will typically be held by the Chief of Interpretation, Education and Technology. If this person is not available, the duties will fall to one of the Interpretive Specialists in an acting capacity. The PIO will prepare press releases and handle other press inquires, especially of a regional and national interest. Any media access to fires will be in compliance with safety guidelines, and at the discretion of the IC.

If a fire on outside lands burns onto NPS lands and is already being managed by other agency personnel with a Public Information Officer assigned, the PIO for the NPS will coordinate activities to minimize confusion. Depending on the fire situation, a Fire Information Officer (FIO) may be ordered from outside the park.

The PIO will also assign other tasks listed below, depending on the fire situation, and the communication needs during the incident. The public information needs will be addresses prior to any fire management project to include prescribed fire, WFU, hazard fuel reduction or suppression operations. Some assignments may be made to more than one person, and one person may be responsible for more than one task.

As demand for information will depend on the fire situation, assignments and work undertaken will depend on that situation.

Image Coordinator:

This person gains access to the fire to take photographs (primarily digital) that are essential to assist in creating a strong correspondence with concerned local neighbors, business owners and the public. While access to fire areas may not always be possible, the work conducted by this person will be crucial to the goals of building support for management decisions during and after the course of a fire. This person will coordinate their activities with the Website Manager to ensure the photos are quickly accessible to the public.

Website Manager:

This position will use digital images and up-to-date fire information from the PIO and IC (if available) to update park websites daily, and more frequently if required. As most initial press inquiries will be directed to the website, the work done by this person is also crucial.

Community Coordinator:

This person makes initial contact to local neighbors (land owners) and businesses to notify them of any park closures, current fire updates and where future fire updates can found. Personal meetings or phone calls with individual land owners may be important to insure clear and accurate information is shared during an incident. The PIO may conduct or participate in open community meetings.

Depending on the incident, it may be advisable to provide printed materials, or possibly conduct meetings with business groups to provide information and insure support for management decisions. This person may also be directed to talk with local print, radio, and TV media outlets to provide on-air information that would reach the largest local audience possible. As fire activity winds down and closed areas are opened, this person will share that information through these outlets.

For businesses directly involved in the tourism industry, it may be important to get outreach and program information to this group of people, and to interface with the Outreach Coordinator.

Outreach Coordinator and Rangers:

The Outreach Coordinator will seek arrangements with local or area visitor centers to place staff members at those locations, and may coordinate opportunities to conduct programs (with appropriate publicity) relevant to the incident at various venues in the community. These programs (day or in the evenings) at surrounding community venues will provide up-to-date fire information and support for management decisions. Staff members will be assigned to local visitor centers to notify the potential visiting public of the current fire status and of other places to visit in the region.

Regional Interpretive Coordinator:

This person interfaces with state welcome centers and parks not only in Colorado, but neighboring states to update staff so that accurate and timely information is disseminated to travelers. Depending on the incident, as it is winding down and closed areas are reopened, information pertaining to services and facilities that are restored needs to also be shared.

Post Fire-Prescribed Fire Activities:

Post-season or post-fire activities will include those tasks necessary to adequately assess how the local public and cooperators received the park's fire management efforts. This will be accomplished through coordination with neighbors, local groups and so on.

A file of public comments received concerning any prescribed fire management activity will be maintained, and they will be used to improve communication efforts targeted at increased support for fire management.

Appendix E – Wildland Fire Incident Management Records Filing Guidance – March 9, 2004 Version

Wildland Fire Incident Management Records Filing Guidance
March 9, 2004 Version, per Project Teleconference

Permanent Fire Incident Records to National Archives after 20 years

- Individual Fire Report FS 5100-29, DI-1202
- Wildland Fire Situation Analysis
- Delegation of Authority
- Fire Behavior Analyst Report
- Fire Narrative Report
- New Releases/Reports/Clippings
- Final Statement of Costs
- Fire Maps
- Photos essential**

Operational Fire Incident Management Records 7 Year Retention

- Incident Transition Plan/Guidelines for Takeover
- Incident Action Plans – IAPs
- Fire Complexity Analysis
- Incident Briefings (ICS 201)
- Incident Status Summary Report (ICS 209)
- Check-In List (ICS 211)
- Safety Inspection Checklist (ICS 212& OPF 296)
- General Message Forms (ICS 213)
- Unit Log (ICS 214)
- Planning Worksheets (ICS 215)
- Support & Transportation Vehicle Inventory (ISC 218)
- T-Cards (ICS 219)
- Demobilization Checkout (ICS 221)
- Daily Cost Estimates
- Cost Apportionment Agreement
- Fire Behavior Message/Weather Forecast
- Raw Weather Data Files*
- Firing operations plans
- Evacuation Plans
- Air Operations/Helibase Records
- Safety Officer Reports/Accident Logs
- Incident Critical Stress Management Documentation
- Training Specialist Narrative
- Incident Communications Logs
- Resource Advisor Information
- Air quality monitoring plans
- Notification to IMT Heritage Cultural Resources
- Request for Mechanical Equipment Use in Wilderness
- Cache Issue Return Report/Requisitions (OF 315)s
- Waybills
- Photos non-essential
- Thanks you letters to public/community partners

Non Records

Copies of records
Destroy when no longer needed
for administrative purposes

Includes copies of records that are filed elsewhere, such as:

- Copies of Resource Orders (ROSS/MIRPS)
- Copies of Firefighter Time Reports
- Copies of Crew Time Reports
- Copies of Equipment Time Reports
- Copies of Contracts (including EERAs)
- Copies of Training Documentation
- Copies of Performance Evaluations
- Fire Qualifications (Red Cards)
- Copies of Equipment Work Orders

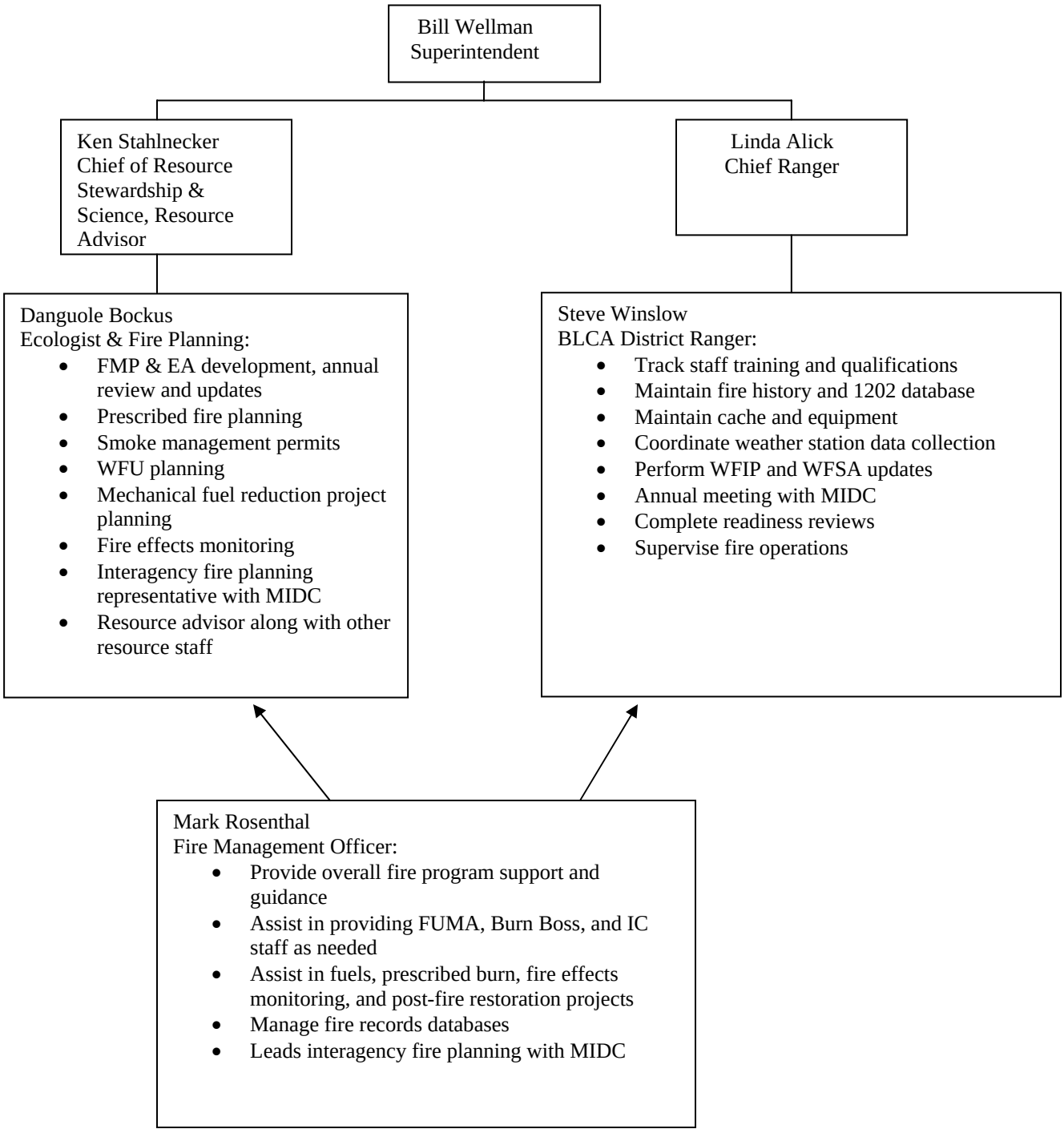
**All photos essential for understanding the history of the fire from inception to completion should be labeled and placed with the permanent records and maintained as such.
All duplicate and non-essential photos should be treated as temporary.

*All raw weather data not captured elsewhere should be placed with the permanent records and maintain as such.
All raw weather data entered and maintained in an electronic system should be treated as temporary. The data in the electronic system will be scheduled elsewhere.

Appendix F – Five-year Fuels Plan – BLCA/CURE

BLACK CANYON / CURECANTI 5 YEAR FUELS PLAN														
		FIRE REGIME %					COND. CLASS %			CALENDAR YEAR - ACRES				
TYPE	**NAME OF PROJECT**	**I**	**II**	**III**	**IV**	**V**	**1**	**2**	**3**	**07**	**08**	**09**	**10**	**11**
Manual	CULTURAL SITES FUEL REDUCTION			30%		70%		40%	60%	5				
Rx	BEAVER SOAP I BROADCAST			100%					100%		90			
Mechanical	BEAVER SOAP I MECHANICAL			100%					100%	10				
Rx	GREEN GRIZZLY BROADCAST			100%				100%				80		
Cut, Pile and Burn	GREEN GRIZZLY CUT AND PILE			100%				100			20			
Rx	SOUTH BLUE MESA			100%					100%				100	
Rx	BEAVER SOAP II BROADCAST			100%					100%					80
Cut, Pile and Burn	BEAVER SOAP II CUT AND PILE			100%					100%				20	
Manual	SOAP CREEK I MANUAL	100%						100%		40				
Rx	SOAP CREEK I BROADCAST	100%						100%			40			

Appendix G – Fire Organizational Chart – BLCA/CURE



Appendix H – Park Evacuation Plan

Black Canyon of the Gunnison NP and Curecanti NRA - Evacuation Plan

Introduction

This evacuation plan for Black Canyon NP and Curecanti NRA to expedite the evacuation of visitors, employees[1] and residents from the park in the event of a major incident, e.g., wildland fire, dam collapse, or natural disaster that threatens human life and/or property.

During an emergency evacuation, GOALS for the park(s) are:

1. To prevent disaster.
2. Protect human life, property and resources from the threat of natural or man-made disasters, e.g., wildfire, dam collapse or natural occurrences.
3. Establish capabilities for protecting park visitors, employees and local residents from the effects of disaster.
4. Respond effectively to the actual occurrence of disaster.
5. Provide for the recovery in the aftermath of emergencies involving extensive damage or other incapacitating influence on the normal pattern of life within the work place and community.

Public and employee safety is the highest management concern in the event of a disaster in or near the park(s). It maybe necessary for the Park Superintendent to partially or fully close the park(s) to public visitation, to ensure visitor safety, efficient use of park(s) personnel and resources and for efficient, safe management of the evacuation.

Objectives for the Evacuation Plan:

1. Provide the most effective use of park and other available resources to accomplish the evacuation.
2. Establish general guidelines to ensure a fast, efficient, safe and organized evacuation.
3. Provide organizational and operational continuity.
4. Serve as a briefing guide for the employee.
5. Serve as a reference guide for response personnel, park communications, Incident Management Team (IMT) and park management.

1 Employees…

[1] Refers to persons employed by an entity who may perform duties within or adjacent to park boundaries; including NPS, BLM, FS, USBR, WAPA, CDOW, Uncompahgre Valley Water Users personnel, etc.

Determining Factors: The decision to enact either partial or total park closure needs to be made early during the incident to have adequate time to implement a safe and organized evacuation. Delaying the decision may leave visitors, employees and local residents and their families at risk of being injured or trapped. The following factors need to be considered by the IMT in the decision to close the park:

1. Location of a wildfire in relation to the park roads and visitor use areas.
2. Observed fire behavior.
3. Direction and rate of spread.
4. Forecasted fire weather.
5. Topography.
6. Fuels information: fuel type, loading, moisture, arrangement, continuity, and availability.
7. Number of wildfires burning and the availability of resources and response time.

Park Operations Preparedness Evacuation Set-Up Plan: The following levels coincide with the park's operational preparedness levels. Threat levels will be announced by park dispatch. Supervisors are responsible for ensuring that all of their staff is aware of the current preparedness levels.

Threat Level Definitions: As soon as an emergency event has been identified that could impact operations, it will be classified by the IC into one of the following categories:

***Threat Level One** - Potential emergency situation
(Heightened evacuation awareness)

Park Operations Actions:

1. Division chiefs and work group should review their specific evacuation plan.
2. Division chiefs will identify essential and non-essential employees and provide updated lists to the Chief Ranger and park dispatch.
3. Division chiefs and supervisors will ensure that all staff know their role in the evacuation implementation process and will specifically identify staff members responsible for implementing their divisional evacuation plan.

***Threat Level Two** - Very high probability that disaster will occur
(24-hour evacuation preparedness)

Park Operations Actions:

1. All divisions and work groups will take the necessary steps to be ready to evacuate within 24-hours and be away for an indefinite time period.
2. Alternate work schedules will be implemented so that division staff responsible for the implementation of the plan will be on duty 7 days/week.

*** Threat Level Three** - Disaster is imminent or has occurred
(1-hour evacuation)

Park Operations Actions:
1. Division operations and all work groups will be prepared to evacuate within ONE HOUR of notification. Division evacuation plans will be implemented.
2. The evacuation group supervisor position will be filled.
3. Employees identified as non-essential will evacuate at the order of the evacuation supervisor after assisting with the group's evacuation plan.
4. Employees identified as essential will activate their personal plans for evacuating their residence and work place but will stay in the park until a **Threat Level Four** evacuation is ordered.

***Threat Level Four** – Immediate evacuation

Park Operations Actions:
1. Evacuate the park of all visitors and personnel as identified.
2. Continue fire suppression and structural protection.
3. Be prepared to transition to the IMT.
4. Non-fire staff departs.

Organization and Responsibilities - The park(s) will operate under the Incident Command System (ICS) to accomplish the first 12-hour operational period of an evacuation operation.

Superintendent or Acting Superintendent:

- Approves the evacuation plan.
- Authorizes park closure and evacuations.
- Approves news releases to the media.

Chief Ranger:

- Approves the evacuation plan.
- Recommends to the Superintendent the necessity for either a partial or total park closure or evacuation.
- Authorizes a park closure and evacuation in the event that the Superintendent or Acting Superintendent is unavailable.

Incident Commander:

- ENSURES the SAFETY of the public and employees.
- Provides the overall management of the incident.
- Conducts a thorough "size-up" of the incident.
- Activates the ICS.

- Recommends and/or authorizes park closures and evacuations.
- Identifies tactics and strategies.
- Acts as liaison between county, state and federal agencies that are involved.
- Provides for the most effective use of park resources to accomplish an evacuation.
- Develops and implements the incident action plan.
- Coordinates incident resources.
- Prepares action plan in accordance with park operations.
- Modifies the action plan as needed.
- Maintains command until it can be transferred.

Public Information Officer:

- Coordinates public information activities.
- Acts as liaison between the media, county, state and federal agencies for information.
- Develops news releases for the Superintendent's approval.
- Observes constraints on the release of information imposed by the Superintendent.
- Establishes a media area away from the incident.
- Updates the park intranet site with daily information.
- Attends daily incident briefing to obtain current information.
- Arranges tours or photo opportunities of the incident from safe areas.
- Arranges media access to the Incident Commander.

***BLCA District Ranger*:**

- Recommends to the Chief Ranger the necessity for either a partial or total park closure or evacuation.
- Assists the IC with tactical operations, etc.
- Collects and evaluates information.
- Designates a staging area/location where resources are to report.
- Establishes evacuation routes for visitors and non-essential personnel.
- Identifies critical systems/sites within the incident area, e.g., water supply, gas lines, archeological/historical sites.
- Identifies essential and non-essential employees through division chiefs.
- Maintains lists of available resources and their response times.
- Assists the IC with establishing ESCAPE ROUTES and SAFETY ZONES.
- Assigns resources to implement the evacuation plan.
- Establishes a clear organizational structure.

- Conducts annual evacuation plan reviews and updates.

Dispatch Office:

- Serves as the Incident Command Post for the evacuation.
- Coordinates radio traffic and records evacuation progress reports.
- Notifies ALL division chiefs, concession managers and park residents of the situation.
- Coordinates radio traffic between different agencies.
- Keeps IC updated on evacuation progress.
- Maintains list of KEY personnel and contact numbers.
- Provides updated information to visitors, employees and residents about evacuation.
- Directs all incoming telephone calls to appropriate personnel.
- Keeps evacuation personnel updated with latest fire activity reports.
- Coordinates telephone communications.
- Maintains accountability of ALL personnel.
- Notifies employees, visitors, concessions and park residents of escape routes and safety zones.

Park Ranger (Protection):

- Supervisory ranger coordinates evacuation procedures of their respective districts.
- Coordinates and assists with traffic control at critical intersections.
- Conducts road and trail sweeps.
- Informs the Dispatch Office of the evacuation progress and increased fire activity along escape routes.
- Provides Emergency Medical Services (EMS) as needed.
- Monitors and assesses safety hazards or unsafe situations and advises operations.
- Maintains field readiness for law enforcement, wildland fire, and Search and Rescue (SAR) operations.
- Maintains patrol vehicles with mobile SAR and EMS gear.
- Stages BLCA/CURE fire protection engines and equipment with qualified crew for wildland fire incidents.

Park Ranger (Interpretation):

- Cancels ALL tours and immediately discontinues tours in progress as needed.
- Closes ALL visitor facilities and interpretive sites as needed.
- Conducts sweeps of ALL facilities and tour routes.
- Provides information to visitors about the evacuation procedures.

- Identifies critical personnel within the division and relays to the Dispatch Office.
- Ensures personnel are informed of staging areas, evacuation routes, and safety zones.
- Maintains accountability of personnel.
- Monitors radio traffic from the Dispatch Office.

Concession Operator:

- Closes concession facilities as requested by IC.
- Provides information to visitors about the evacuation procedures.
- Ensures ALL concession employees understand and adhere to the evacuation procedures.
- Maintains accountability of all employees.
- Conducts sweeps of facilities before exiting the area.

Maintenance Staff:

- Moves vehicles and equipment to a safe area or out of park.
- Turns off all gas/propane when evacuating their immediate work area.
- Monitors the status of water supplies, water storage, and the distribution systems.
- Identifies critical personnel.
- Maintains accountability for ALL maintenance personnel.
- Provides equipment as needed.
- Fills resource orders as needed and qualified.
- Assists other divisions as needed with moving equipment and personnel.
- Assists with traffic control as requested by Protection Rangers or Dispatch Office.

Other Park Employee:

- Reports to staging area for assignment as needed .
- Serves as a member of the IC evacuation team as needed.
- Performs building and area sweeps for visitors and park residents.
- Moves vehicles and equipment either out of the park or to safe areas.
- Records assignments as needed: who, what, and where personnel are going for specific tasks.
- Updates the IC as to the level of resources available in the staging area.
- Maintains a minimum level of resources as determined by the IC.
- Responds to requests for personnel and equipment for the incident.

An emergency is any situation that threatens life or property. Our main concern in any emergency situation is to protect lives and property. We do not want to cause any undue excitement or panic. All employees need to assist during an emergency situation. Those employees not needed to assist during an emergency should continue to perform their designated duties until instructed otherwise. Alertness to your surroundings and quickness in reporting emergency situations or potential emergency situations could save valuable time.

Our *safety* depends on teamwork, all of us helping each other in emergencies!

General evacuation guidelines:

Large wildfires are often very unpredictable. Wind, along with heavy fuel loading, can cause a fire to quickly change direction, increase the rate of spread, or produce numerous spot fires up to 1 mile or more away from the head of the main fire. These spot fires can quickly increase in size and join with the main fire.

Black Canyon NP: The park entrance road (Hwy 347) is surrounded by Gambel oak and other potentially fire hazardous fuels. When a park evacuation takes place, the park visitors and employees will need to get well outside the park to the south before they are out of danger. A meeting point for both park visitors and employees would be at the intersection of Hwy 347 and Hwy 50 (Lions Park and the Black Canyon Store parking area). On the North Rim, a good location for gathering visitors and park employees would be in the area of the Poison Springs gate and intersection.

The park will monitor any fires around its boundaries due to the fact that both roads that lead to the South and North Rim areas of the park are the only way into and out of the park. At either location, there is a potential that park visitors or employees could become trapped if wildland fires are not closely monitored in their relationship to egress routes out of the park.

Again, it cannot be emphasized enough that an evacuation order must come early so an orderly evacuation can take place. Campers and backcountry users will need to be located and informed of this order.

1. **East Portal Area**: If a fire would block the exit road (Hwy 347) on the South Rim, a safety zone to evacuate visitors would be to the East Portal area. There would be places both indoors and outdoors to set up shelter, use telephones and restrooms, and USBR facilities as needed. There is also potable water and power to this location that would not be affected by a large wildland fire. There are locations at East Portal where a helicopter could evacuate a visitor if necessary.
2. **North Rim Ranger Station**: If a fire would trap visitors and/or employees in the North Rim area of the park the place to meet would be at the

Ranger Station. This building has defensible space around it and could accommodate a small group as a meeting place prior to evacuation. In addition, there are firefighting tools, equipment, and a water pump at this location to make this area more defensible. If air evacuation became necessary, there are large open areas and road intersections that would accommodate several medium sized helicopters.

Appendix I - Fire Equipment, Facilities, and Qualified Personnel for BLCA/CURE

BLCA/CURE Wildland Fire Cache Equipment:

Type 6 Engine. (1997) Outfitted with all required IA standard hoses, fittings, tools, etc.

Wajax-Pacific Slip-On Pumps – 4 ea.

Mark 3 Pump – 2 ea.

Float Pump – 1 ea.

IA Gear – 18 ea.

Red Packs – 16 ea.

FF Hand Tools – 20 person crew

Chain Saw – 1 ea.

Hose – 1.5 in. 300 ft.
1 in. 600 ft.
¾ in. 500 ft.

Tents – 8 ea.

Flight Helmets – 2 ea. and 9 ea. military surplus

Flight Suits – 4 ea.

Radio Harness – 12 ea.

Appendix I, continued – Facilities List

Facility Management Software System

Date: 9/23/2004

FMSS Asset Inventory (U/M Audit)

Region - IMR - Intermountain Region
Park: BLCA
Asset Code: ALL
Detail or Summary: Detail
Display: ALL
Occup ant: ALL

Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
Park: BLCA - Black Canyon of the Gunnison National Park			**$21,121,096**				**287,075**
Asset Code: 1100 (14 Locations/Assets) (Roads)							
—— Correct MI (14 Locations/Assets)							
84624	South Rim Drive - Hwy 347 Continuation - Rt 10	1100	$9,039,648	24	0.000	MI	8
84650	South Rim Campground Road - Route 0200	1100	$1,218,696	24	0.000	MI	1
84652	Last View Road - Route 0201	1100	$1,025,946	21	0.000	MI	6
84653	Chasm View Campground NR Rte 0202	1100	$153,078	21	0.000	MI	1
84654	South Rim Residence Road - Rte 400	1100	$94,656	19	0.000	MI	0
84655	South Rim C.G. Water Tank Road - Rte 0401	1100	$94,656	18	0.000	MI	0
84656	Pulpit Rock Water Tank Road - Rte 0402	1100	$7,994	18	0.000	MI	0
90808	NR North Rim Main Rd Rte 0011	1100	$549,335	N/A	0.000	MI	4
90810	NR North Rim - Rim Drive Rte 0012	1100	$725,122	N/A	0.000	MI	5
90811	SR Campground Loop Rd Rte 0203	1100	$132,954	N/A	0.000	MI	0
90812	SR Campground Loop A Rte 0205	1100	$107,386	N/A	0.000	MI	0
90814	SR Campground Loop B Rte 0206	1100	$102,272	N/A	0.000	MI	0
90815	SR Campground Loop C Rte 0207	1100	$97,159	N/A	0.000	MI	0
90816	SR Ranger Station Pullouts Rte 0917	1100	$35,795	N/A	0.000	MI	0
Asset Code: 1300 (24 Locations/Assets) (Parking Area)							
—— Correct SF (24 Locations/Assets)							
72258	Tomichi Point Parking Area - Rte 0911	1300	$50,787	15	0.000	SF	10,260
72281	Pulpit Rock Parking Area - Rte 0910	1300	$17,597	21	0.010	SF	3,555
72320	Cross Fissures Overlook Parking Area - Rte 0909	1300	$14,182	21	0.000	SF	2,865
72344	Rock Point Parking Area - Rte 0908	1300	$13,761	21	0.000	SF	2,780
72363	Devils Lookout Parking Area - Rte 0907	1300	$11,336	21	0.000	SF	2,290
72364	Chasm View Parking Area - Rte 0906	1300	$26,631	21	0.000	SF	5,380
72367	Painted Wall Parking Area - Rte 0905	1300	$10,643	21	0.011	SF	2,150
72370	Cedar Point Parking Area - Rte 0904	1300	$16,434	21	0.000	SF	3,320
72375	Dragon Point Parking Area - Rte 0903	1300	$12,524	21	0.011	SF	2,530
72377	Sunset Point (View) Parking Area - Rte 0902	1300	$41,679	21	0.059	SF	8,420
72382	High Point Parking Area - Rte 0901	1300	$86,288	21	0.000	SF	17,432
72600	Campground Parking Turn Around Rte 0204	1300	$30,231	15	0.000	SF	5,870
73354	S Rim VC Parking Area - Rte 0900	1300	$127,514	15	0.005	SF	24,760
84657	SR South Rim Residence Rd Parking - Rte 0912	1300	$28,254	18	0.000	SF	5,540
84658	SR South Rim Maintenance Area - Rte 0913	1300	$93,305	15	0.000	SF	18,295
84659	SR South Rim Campground Rd Parking - Rte 0914	1300	$29,937	20	0.000	SF	5,870
84660	SR South Rim Gift Shop Parking - Rte 0915	1300	$21,332	14	0.000	SF	6,000
84661	SR South Rim Maint Unpved Parking - Rte 0916	1300	$14,665	15	0.000	SF	4,125
90817	NR The Narrows Pullout Rte 0918	1300	$1,447	N/A	0.000	SF	583
90821	NR Balance Rock Pullout Rte 0919	1300	$1,284	N/A	0.000	SF	462
90822	NR Big Island Pullout Rte 0920	1300	$1,540	N/A	0.000	SF	682
90823	NR Island Peaks Pullout Rte 0921	1300	$1,926	N/A	0.000	SF	792

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Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
90824	NR Kneeling Camel Pullout Rte 0922	1300	$4,495	N/A	0.000	SF	1,914
90825	NR End of Road Parking Rte 0923	1300	$2,568	N/A	0.000	SF	902
Asset Code: 2100 (22 Locations/Assets) (Trail)							
—— Correct LF (22 Locations/Assets)							
72295	Pulpit Rock Trail SR	2100	$8,078	21	0.175	LF	164
72334	Cross Fissures Trail SR	2100	$9,244	21	0.074	LF	169
72353	Rock Point Trail SR	2100	$8,398	21	0.109	LF	614
72357	Devils Lookout Trail SR	2100	$12,125	21	0.058	LF	1,903
72366	Chasm View Trail SR	2100	$23,856	21	0.046	LF	169
73302	Painted Wall Trail SR	2100	$5,093	21	0.154	LF	588
73307	Cedar Point Trail SR	2100	$8,246	21	0.099	LF	901
73309	Dragon Point Trail SR	2100	$7,599	21	1.746	LF	731
73311	Sunset Point Trail SR	2100	$2,084	21	0.143	LF	121
73315	Warner Point Trail SR	2100	$35,765	15	8.165	LF	4,056
73369	S Rim VC Area Gunnison Point Trail SR	2100	$7,003	15	0.218	LF	477
73374	S Rim VC Area Oak Flat Trail SR	2100	$59,491	15	0.026	LF	5,280
73377	S Rim VC Area Rim Rock Trail SR	2100	$39,189	15	0.449	LF	5,280
73388	North Rim Narrows Trail NR	2100	$8,749	21	0.042	LF	820
73398	N. Rim Balanced Rock Trail NR	2100	$4,082	21	0.128	LF	156
73401	N. Rim Big Island Overlook Trail NR	2100	$1,583	21	0.000	LF	63
73405	N. Rim Island Peaks Trail NR	2100	$10,743	21	0.023	LF	1,404
73408	N. Rim Kneeling Camel Trail NR	2100	$4,663	21	0.165	LF	57
73413	N. Rim Dead Horse Trail NR	2100	$132,100	15	0.101	LF	10,560
73448	N.Rim North Vista Trail NR	2100	$170,468	15	0.088	LF	10,560
73541	N. Rim Campground Chasm Trail NR	2100	$23,856	15	0.026	LF	2,168
73547	Inner Canyon Trails	2100	$309,255	15	0.000	LF	44,880
Asset Code: 3600 (2 Locations/Assets) (Campground/Overnight Campsite)							
—— Correct SITE (2 Locations/Assets)							
71312	SR South Rim Campground	3600	$1,084,270	15	0.043	SITE	88
71316	N. Rim Campground NR	3600	$130,195	15	0.077	SITE	13
Asset Code: 4100 (29 Locations/Assets) (Building)							
—— Correct SF (29 Locations/Assets)							
72223	Hwy 50 & 347 comfort station	4100	$15,444	15	0.058	SF	100
72229	South Rim Entrance Station SR	4100	$16,759	13	0.000	SF	184
72234	S. Rim Entrance Comfort Station SR	4100	$3,659	15	0.269	SF	33
72274	Tomichi Point Comfort Station SR	4100	$29,938	15	0.033	SF	270
72290	Rim House SR	4100	$205,750	11	0.682	SF	850
72304	Pulpit Rock Comfort Station SR	4100	$19,958	15	0.000	SF	180
72379	Sunset Comfort Station SR	4100	$7,762	15	0.000	SF	70
72384	High Point Comfort Station SR	4100	$17,741	15	0.056	SF	160
72570	Storage building (Rangers)	4100	$42,887	19	0.052	SF	570
72571	Maintenance Shop	4100	$499,537	19	0.075	SF	3,456
72574	Storage Building (signs)	4100	$16,252	13	0.021	SF	216
72578	Welding Shop	4100	$180,388	19	0.014	SF	1,248
72586	Open End Shed	4100	$67,490	13	0.007	SF	897
72604	Loop A Comfort Stationx2	4100	$18,628	15	0.028	SF	84
72609	Loop B Comfort Station x2	4100	$18,628	15	0.043	SF	84
73333	Loop C Comfort Station x2	4100	$18,628	15	0.018	SF	84
73348	S Rim Campground Kiosk SR	4100	$2,915	15	0.057	SF	32
73357	S Rim Visitor Center Bldg SR	4100	$913,631	15	0.000	SF	3,418
73360	S Rim VC Comfort Station SR	4100	$17,741	15	0.005	SF	160
73415	N. Rim Old Ranger Station NR	4100	$51,836	1	0.000	SF	480

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Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
73429	N Rim VC Comfort Station NR	4100	$15,523	15	0.010	SF	140
73535	N Rim Campground Comfort Station NR	4100	$31,147	15	0.000	SF	270
73549	BLCA Inner Canyon Comfort Stations(2)	4100	$32,136	15	0.000	SF	100
79625	Kneeling Camel Comfort Station NR	4100	$15,523	15	0.015	SF	140
81586	NR Visitor Contact Station & Residence (NR-3)	4100	$299,112	19	0.040	SF	1,650
83631	NR Photovoltaic Generator Storage Building	4100	$9,598	13	0.214	SF	256
92496	NR Old Ranger Station Shop	4100	$81,500	N/A	0.000	SF	360
92497	NR Old Ranger Station Shower House	4100	$18,111	N/A	0.000	SF	80
92499	NR Old Ranger Station Bunk House	4100	$60,219	N/A	0.000	SF	266
Asset Code: 4300 (1 Locations/Assets) (Housing)							
—— Correct SF (1 Locations/Assets)							
72568	SR Building 15 Admin & Housing	4300	$884,762	19	0.062	SF	5,804
Asset Code: 5100 (5 Locations/Assets) (Water System)							
—— Correct GPD (5 Locations/Assets)							
72592	S. Rim Water System SR	5100	$245,622	13	0.000	GPD	10,000
73343	S Rim Campground Water System SR	5100	$161,804	15	0.000	GPD	10,000
73363	S Rim VC Water System SR	5100	$24,297	15	0.000	GPD	1,200
73436	N. Rim VC Water System NR	5100	$8,300	13	0.000	GPD	2,200
73539	N. Rim Campground Water System NR	5100	$79,500	15	0.108	GPD	520
Asset Code: 5200 (3 Locations/Assets) (Waste Water System)							
—— Correct GPD (3 Locations/Assets)							
72595	S. Rim Sewer System SR	5200	$126,544	13	0.000	GPD	12,000
73344	S Rim Campground Sewer System SR	5200	$63,558	15	0.000	GPD	60
73445	N. Rim Sewer System NR	5200	$28,195	13	0.000	GPD	1,320
Asset Code: 5400 (2 Locations/Assets) (Electrical System)							
—— Correct EA (2 Locations/Assets)							
72610	Loop B Electric System	5400	$123,114	15	0.000	EA	1
73433	N. Rim Photovoltaic System	5400	$22,450	13	0.000	EA	1
Asset Code: 5700 (4 Locations/Assets) (Fuel System)							
—— Correct EA (4 Locations/Assets)							
72590	S. Rim Propane System SR	5700	$34,947	13	0.000	EA	1
72599	SR S. Rim Fueling System	5700	$62,500	13	0.000	EA	1
73366	S Rim VC Propane System SR	5700	$30,749	15	0.000	EA	1
73440	NR VC Propane System	5700	$1,000	13	0.000	EA	1
Asset Code: 7900 (1 Locations/Assets) (Amphitheaters)							
—— Correct SEAT (1 Locations/Assets)							
73347	S. Rim Amphitheater SR	7900	$159,120	15	0.000	SEAT	100
Asset Code: 8999 (1 Locations/Assets) (Fleet)							
—— Correct EA (1 Locations/Assets)							
71319	BLCA Fleet	8999		N/A	0.000	EA	1
Asset Code: 9999 (1 Locations/Assets) (No Asset Code Available)							
—— Correct EA (1 Locations/Assets)							
73545	BLCA boundry fence	9999	$185,000	13	0.000	EA	1
	Total:		**$21,121,096**				**287,075**

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Facility Management Software System

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FMSS Asset Inventory (U/M Audit)

Region - IMR - Intermountain Region
Park: CURE
Asset Code: ALL
Detail or Summary: Detail
Display: ALL
Occup ant: ALL

Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
Park: CURE - Curecanti National Recreation Area			**$48,184,098**				**4,891,928**
Asset Code: 1100 (30 Locations/Assets) (Roads)							
—— Correct MI (30 Locations/Assets)							
75881	Soap Creek Road FS-721 Rte 0105	1100	$1,152,700	15	0.181	MI	7
75882	EE East Elk Creek Road Rte 0101	1100	$174,312	15	0.016	MI	1
75883	RC Red Creek Road Rte 0104	1100	$60,546	15	0.058	MI	0
75884	GV Gateview Road Rte 0107	1100	$837,026	15	0.032	MI	5
75885	North Willow Creek Road Rte 0225	1100	$47,091	15	0.040	MI	0
79442	EC Elk Creek Entrance Rd Rte 0010	1100	$562,497	19	0.000	MI	1
83617	Old US Hwy 50 Rte 0221	1100	$190,397	N/A	0.000	MI	0
90805	LF Lake Fork Campground Rd Rte 0100	1100	$66,896	N/A	0.000	MI	0
90831	Bay of Chickens Rd Rte 0102 BY	1100	$46,693	N/A	0.000	MI	1
90832	Dry Gulch Rd Rte 0103 DG	1100	$35,020	N/A	0.000	MI	0
90833	Ponderosa Rd Rte 0106 PO	1100	$225,456	N/A	0.000	MI	2
90834	IO Iola Rd Rte 0200	1100	$112,499	N/A	0.000	MI	0
90835	Willow Creek Rd Rte 0206	1100	$41,200	N/A	0.000	MI	0
90836	EC Elk Creek Campground Rd Rte 0207	1100	$264,374	N/A	0.000	MI	0
90837	EC Elk Creek Service Rd Rte 0220	1100	$118,124	N/A	0.000	MI	0
90838	EP East Portal Campground Access Rd Rte 0222	1100	$66,243	N/A	0.000	MI	0
90839	Sapinero Fishing Access Rd Rte 0223	1100	$9,338	N/A	0.000	MI	0
90840	LF Lake Fork Fishing Access Rd Rte 0224	1100	$135,274	N/A	0.000	MI	0
90842	EC Elk Creek Campground Loop A Rte 0226	1100	$175,908	N/A	0.000	MI	0
90843	EC Elk Creek Campground Loop B Rte 0227	1100	$130,908	N/A	0.000	MI	0
90844	EC Elk Creek Campground Loop C Rte 0228	1100	$118,636	N/A	0.000	MI	0
90845	EC Elk Creek Campground Loop D Rte 0229	1100	$130,908	N/A	0.000	MI	0
90846	CM Cimarron Campground Loop Rte 0230	1100	$163,493	N/A	0.000	MI	0
90847	SC Stevens Creek Campground Rd Rte 0231	1100	$147,272	N/A	0.000	MI	0
90848	SC Stevens Creek Campground Loop A Rte 0232	1100	$118,424	N/A	0.000	MI	0
90849	SC Stevens Creek Campground Loop B Rte 0233	1100	$112,499	N/A	0.000	MI	0
90850	SC Stevens Creek Campground Loop C Rte 0235	1100	$106,874	N/A	0.000	MI	0
90851	EC Elk Creek Maint Rd Rte 0400	1100	$213,749	N/A	0.000	MI	0
90852	EC Elk Creek Residence Rd Rte 0402	1100	$146,249	N/A	0.000	MI	0
90853	Maintenance Area Rte 0900	1100	$5,625	N/A	0.000	MI	0
Asset Code: 1300 (58 Locations/Assets) (Parking Area)							
—— Correct SF (55 Locations/Assets)							
75050	Blue Mesa Dam Overlook Parking Area Rte 0926	1300	$384,633	15	0.000	SF	74,686
75233	Elk Creek Marina Parking Area Rte 0904	1300	$1,029,526	15	0.155	SF	199,908
75411	Old Hwy 50 Parking Area Rte 0949	1300	$275,010	15	0.000	SF	53,400
75457	Pine Creek Parking Area	1300	$43,607	15	0.060	SF	11,664
75467	North Willow Parking Area Rte 0934	1300	$34,993	15	0.000	SF	9,747
75479	CP Coopers Corner Parking Area Rte 0945 Gunn R	1300	$40,812	15	0.000	SF	7,671
75743	MG McIntyre Gulch Parking Area Rte 0954	1300	$64,158	15	0.000	SF	17,163

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75835	Lake Fork VC/Marina Parking Area Rte 0910A, 09	1300	$1,245,744	15	0.000	SF	241,892
75839	LF Lake Fork Storage Area 50/92 Rte 0937	1300	$205,071	15	0.000	SF	56,760
75851	IO Iola Parking Area Rte 0916A, 0916B	1300	$64,130	15	0.000	SF	9,622
90854	Employee Parking Rte 0901	1300	$48,156	N/A	0.000	SF	13,832
90855	Housing Parking Rte 0902A, 0902B, 0902C, 0902D	1300	$67,418	N/A	0.000	SF	13,904
90856	VC Visitor Center Parking Rte 0903	1300	$436,403	N/A	0.000	SF	74,502
90857	EC Elk Creek Campground Host Parking Rte 0905	1300	$19,262	N/A	0.000	SF	3,564
90858	EC Elk Creek Picnic Area Parking Rte 0906	1300	$84,223	N/A	0.000	SF	13,440
90859	EC Elk Creek Sewer Dump Station Parking Rte 090	1300	$48,156	N/A	0.000	SF	8,740
90860	Wash Station Rte 0908	1300	$5,779	N/A	0.000	SF	2,750
90861	Kiosk Parking Rte 0909A, 0909B	1300	$12,842	N/A	0.000	SF	2,300
90862	LF Lake Fork Sewage Dump Station Rte 0911	1300	$38,098	N/A	0.000	SF	6,060
90864	LF Lake Fork Upper Campground Loop Rte 0912	1300	$608,571	N/A	0.000	SF	109,900
90865	LF Lake Fork Lower Campground Loop Rte 0913	1300	$243,805	N/A	0.000	SF	40,403
90866	LF Lake Fork Marina Parking Rte 0914A, 0914B	1300	$58,013	N/A	0.000	SF	9,372
90867	LF Lake Fork Handicap Parking Rte 0915	1300	$4,816	N/A	0.000	SF	840
90868	IO Iola Boat Parking Rte 0917	1300	$526,505	N/A	0.000	SF	94,385
90869	Neversink Parking Rte 0918 NS	1300	$52,008	N/A	0.000	SF	23,364
90870	Cooper Ranch Parking Rte 0919 CR	1300	$35,314	N/A	0.000	SF	6,315
90871	SC Stevens Creek Parking Rte 0920	1300	$45,688	N/A	0.000	SF	12,588
90872	Old Stevens Creek Parking Rte 0921 OSC	1300	$104,338	N/A	0.000	SF	18,715
90873	Dry Creek Parking Rte 0922 DC	1300	$30,499	N/A	0.000	SF	5,254
90874	Dillon Pinnacles Parking Rte 0923 DP	1300	$23,798	N/A	0.000	SF	2,863
90876	Pioneer Point Parking Rte 0924 PP	1300	$19,450	N/A	0.000	SF	2,700
90877	Hermits Rest Lookout Parking Rte 0925 HR	1300	$23,904	N/A	0.000	SF	2,640
90878	East Cimarron Parking Rte 0927 CM	1300	$8,026	N/A	0.000	SF	1,482
90881	CM Cimarron VC Parking Rte 0930A, 0930B	1300	$10,922	N/A	0.000	SF	1,875
90883	Beaver Creek Parking Rte 0932 BC	1300	$89,891	N/A	0.000	SF	16,120
90884	LC Lake City Bridge Parking Rte 0933	1300	$60,369	N/A	0.000	SF	10,197
90885	Swim Beach Parking Rte 0935	1300	$12,657	N/A	0.000	SF	3,168
90888	LF Lake Fork Bridge Pullout Parking Rte 0936	1300	$7,063	N/A	0.000	SF	2,910
90897	Morrow Point Dam Picnic Area Parking Rte 0939 M	1300	$224,327	N/A	0.000	SF	40,320
90898	Riverway Parking RW	1300	$27,609	N/A	0.000	SF	12,300
90899	Neversink Parking Area A Rte 0941 NS	1300	$4,816	N/A	0.000	SF	840
90900	Neversink Parking Area B Rte 0942 NS	1300	$37,883	N/A	0.000	SF	16,872
90901	Cooper Ranch Parking Area A Rte 0943 CR	1300	$10,915	N/A	0.000	SF	4,713
90902	Cooper Ranch Parking Area B Rte 0944 CR	1300	$7,063	N/A	0.000	SF	2,958
90903	Wilson Landing North Side Parking Rte 0946 WL	1300	$60,998	N/A	0.000	SF	27,300
90904	Wilson Landing South Side Parking Rte 0947 WL	1300	$30,178	N/A	0.000	SF	13,570
90905	East Elk Creek Parking Rte 0950 EE	1300	$14,768	N/A	0.000	SF	6,735
90906	Bay of Chickens Parking Rte 0951 BY	1300	$17,978	N/A	0.000	SF	8,000
90907	Dry Gulch Parking Rte 0952 DG	1300	$20,547	N/A	0.000	SF	9,000
90908	Red Creek Parking Rte 0953 RC	1300	$10,915	N/A	0.000	SF	4,900
90909	McIntire Gulch Parking B Rte 0955 MG	1300		N/A		SF	3,500
90910	Ponderosa Road Parking Rte 0956 PO	1300	$21,831	N/A	0.000	SF	9,750
90911	Crystal Parking Area Rte 0957 CY	1300	$12,200	N/A	0.000	SF	5,500
90912	Gateview Road Parking Rte 0958 GV	1300	$7,063	N/A	0.000	SF	3,000
90913	Upper Residence Parking Rte 0959	1300	$65,813	N/A	0.000	SF	11,802
——	**Missing U/M or Qty SF (3 Locations/Assets)**						
90880	CM Cimarron Dump Station Parking Rte 0929	1300		N/A		SF	
90882	CM Cimarron Employee Parking Rte 0931	1300		N/A		SF	
90891	CM Cimarron Maint Area Parking Rte 0938	1300		N/A		SF	

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Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
Asset Code: 2100 (10 Locations/Assets) (Trail)							
—— Correct LF (10 Locations/Assets)							
75061	Curecanti Creek Trail CC	2100	$98,190	15	0.070	LF	9,504
75073	Hermits Rest Trail HR	2100	$122,087	15	0.168	LF	13,680
75077	Crystal Creek Trail CY	2100	$75,205	15	0.077	LF	8,448
75456	Dillon Pinnacles Trail DP	2100	$23,756	15	0.214	LF	10,344
75461	Pine Creek Trail PC	2100	$41,742	15	0.169	LF	4,752
75477	Beaver Creek Trail BC	2100	$37,199	15	0.000	LF	520
75485	Coopers Ranch Trail CR	2100	$28,500	15	0.436	LF	300
75489	Neversink Trail NS	2100	$27,512	15	0.214	LF	1,092
75698	Mesa Creek Trail MC	2100	$35,953	15	0.244	LF	3,004
75741	Ponderosa River Trail PO	2100	$18,949	15	0.000	LF	7,472
Asset Code: 2300 (1 Locations/Assets) (Trail Tunnel (Substantial))							
—— Correct SF (1 Locations/Assets)							
75474	Beaver Creek Ped. Tunnel BC	2300	$375,000	15	0.000	SF	260
Asset Code: 3100 (1 Locations/Assets) (Maintained Landscapes)							
—— Correct AC (1 Locations/Assets)							
75665	CM Cimarron Stockyard	3100	$86,150	15	0.089	AC	0
Asset Code: 3600 (17 Locations/Assets) (Campground/Overnight Campsite)							
—— Correct SITE (17 Locations/Assets)							
74985	SC Stevens Creek Campground	3600	$558,197	15	0.248	SITE	54
75185	East Portal Campground EP	3600	$155,055	15	0.036	SITE	15
75269	Elk Creek Campground EC	3600	$2,081,088	15	0.080	SITE	179
75415	East Elk Creek Group Campground EE	3600	$27,150	15	0.367	SITE	2
75433	Dry Gulch Campground DG	3600	$103,370	15	0.070	SITE	10
75442	Red Creek Campground RC	3600	$75,597	15	0.064	SITE	7
75670	Cimarron Campground CM	3600	$227,414	15	0.077	SITE	22
75710	Ponderosa Campground PO	3600	$299,772	15	0.628	SITE	29
75808	Turtle Rock Boat In Campground TR	3600	$20,674	15	0.280	SITE	2
75812	Cebolla Creek Campground CB	3600	$20,674	15	0.391	SITE	2
75814	West Elk Campground WE	3600	$20,674	15	0.000	SITE	2
75816	Lake Fork Boat In Campground LF	3600	$31,011	15	0.262	SITE	3
75818	Curecanti Creek Boat In Campground CC	3600	$20,674	15	0.350	SITE	2
75820	Hermits Rest Boat In Campground HR3	3600	$155,055	15	0.067	SITE	15
75822	Crystal Creek Boat In Campground CY	3600	$31,011	15	0.186	SITE	3
75824	Lake Fork Campground LF	3600	$930,328	15	0.048	SITE	90
75876	Gateview Campground GV	3600	$72,359	15	0.000	SITE	7
Asset Code: 3700 (16 Locations/Assets) (Picnic Area)							
—— Correct SITE (16 Locations/Assets)							
75053	Pioneer Point Picnic Area PP	3700	$44,972	15	0.109	SITE	5
75065	Hermits Rest Picnic Area HR	3700	$65,202	15	0.096	SITE	1
75194	East Portal Picnic Area EP	3700	$80,193	15	0.020	SITE	4
75250	Elk Creek Picnic Area EC	3700	$107,680	15	1.436	SITE	3
75413	East Elk Creek Picnic Area EE	3700	$21,831	15	0.108	SITE	2
75454	Dillon Pinnacles Picnic Area DP	3700	$14,991	15	0.000	SITE	2
75462	East Cimmaron Picnic Area CM	3700	$29,981	15	0.267	SITE	5
75464	Dry Creek Picnic Area DC	3700	$65,202	15	0.053	SITE	1
75470	Old Stevens Picnic Area OSC	3700	$44,972	15	0.417	SITE	6
75473	Beaver Creek Picnic Area BC	3700	$44,972	15	0.301	SITE	7
75481	Coopers Ranch Picnic Area CR	3700	$117,669	15	0.229	SITE	9
75486	Neversink Picnic Area NS	3700	$52,467	15	0.305	SITE	9

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Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
75490	River Way Picnic Area RW	3700	$87,688	15	0.116	SITE	5
75640	Cimarron Picnic Area CM	3700	$80,193	15	0.015	SITE	1
75679	Morrow Point Picnic Area MP	3700	$28,419	15	0.185	SITE	2
75849	Lake City Bridge Picnic Area LC	3700	$22,486	15	0.421	SITE	2
Asset Code: 4100 (93 Locations/Assets) (Building)							
—— Correct SF (93 Locations/Assets)							
74991	Stevens Creek Campground Loop A Comfort Statio	4100	$24,110	15	0.069	SF	209
75001	Stevens Creek Loop B Comfort Station SC2	4100	$24,110	15	0.092	SF	209
75010	Stevens Creek Loop C Comfort Station SC6	4100	$24,110	15	0.066	SF	209
75013	Stevens Creek Fish Clean & Comfort Sta SC3	4100	$22,149	15	0.111	SF	192
75019	Stevens Creek Pumphouse SC5	4100	$7,699	15	0.395	SF	115
75046	Blue Mesa Dam Comfort Station BMD1	4100	$3,807	15	0.247	SF	33
75057	Pioneer Point Comfort Station PP1	4100	$16,150	15	0.074	SF	140
75067	Hermits Rest Comfort Station HR1	4100	$16,150	15	0.021	SF	140
75076	Crystal Creek Comfort Station CY1	4100	$3,692	15	0.208	SF	32
75184	East Portal Garage /Storage Bldg EP2	4100	$21,918	13	0.013	SF	280
75187	East Portal Campgroud Upper Comfort Station EP3	4100	$16,150	15	0.007	SF	140
75189	East Portal Lower Comfort Station EP4	4100	$16,150	15	0.007	SF	140
75192	East Portal Well House EP5	4100	$21,655	15	0.025	SF	144
75198	East Portal Picnic Area Comfort Station EP7	4100	$16,150	15	0.006	SF	140
75215	Elk Creek Ranger Cache/ Offices EC8	4100	$760,882	13	0.198	SF	4,560
75218	Elk Creek Boat/ Equiment Shop EC9	4100	$537,287	13	0.228	SF	3,680
75220	Elk Creek Maintenance Offices EC10	4100	$878,231	13	0.140	SF	5,840
75239	Elk Creek Fish Cleaning Station EC11	4100	$15,656	15	0.154	SF	200
75242	Elk Creek Marina Comfort Station EC12	4100	$115,371	15	0.010	SF	425
75246	Elk Creek Marina Showers/Comfort Station EC13	4100	$253,043	15	0.207	SF	1,011
75261	Elk Creek Campgound Kiosk EC19	4100	$37,904	15	0.000	SF	400
75265	Elk Creek Maintenance Bldg EC18	4100	$173,500	13	0.003	SF	2,580
75272	Elk Creek Campground Comfort Station EC20	4100	$121,391	15	0.002	SF	485
75279	Elk Creek Campground Loop A Comfort Station EC:	4100	$121,391	15	0.013	SF	485
75285	Elk Creek Camp. Loop B Comfort/Pump House EC2	4100	$141,414	15	0.009	SF	565
75364	Elk Creek Campground Loop C Comfort Station EC:	4100	$115,371	15	0.002	SF	425
75374	Elk Creek Campground Loop D Comfort Station EC	4100	$115,371	15	0.003	SF	425
75375	Elk Creek Campground Loop D Comfort Station EC	4100	$115,371	15	0.045	SF	425
75379	Elk Creek Administration Bldg EC27	4100	$797,760	13	0.199	SF	4,781
75381	Elk Creek Visitor Center EC28	4100	$1,667,210	18	0.059	SF	5,995
75417	East Elk Creek Comfort Station EE1	4100	$16,150	15	0.021	SF	140
75419	East Elk Creek Pump House EE2	4100	$4,258	15	0.046	SF	64
75429	Bay Of Chickens Pump house BY1	4100	$11,315	18	0.019	SF	169
75431	Bay of Chickens Comfort Station BY2	4100	$9,344	15	0.032	SF	81
75434	Dry Gulch Pump House DG1	4100	$9,373	15	0.034	SF	140
75436	Dry Gulch Comfort Station DG2	4100	$6,922	15	0.110	SF	60
75445	Red Creek Campground Pump House RC1	4100	$9,373	15	0.050	SF	140
75447	Red Creek Campground Comfort Station RC2	4100	$6,922	15	0.057	SF	60
75449	Red Creek Campground Comfort Station RC3	4100	$6,922	15	0.083	SF	60
75455	Dillon Pinnacles Comfort Station DP1	4100	$16,150	15	0.104	SF	140
75458	Pine Creek Comfort Station PC1	4100	$27,686	15	0.018	SF	240
75460	Pine Creek Comfort Sta/Boat loading ramp PC6	4100	$6,922	15	0.341	SF	60
75463	East Cimarron Comfort Station CM1	4100	$16,150	15	0.166	SF	140
75465	Dry Creek Comfort Station DC1	4100	$16,150	15	0.094	SF	140
75468	North Willow Comfort Station NW1	4100	$8,998	15	0.000	SF	78
75471	Old Stevens Comfort Station OS1	4100	$16,150	15	0.000	SF	140
75472	Wilsons Landing Comfort Station WL1	4100	$3,807	15	0.041	SF	33

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Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
75476	Beaver Creek Comfort Station BC1	4100	$16,150	15	0.100	SF	140
75480	Coopers Corner Comfort Station CP1	4100	$7,383	15	0.000	SF	64
75483	Coopers Ranch Comfort Station CR2	4100	$16,150	15	0.093	SF	140
75488	Neversink Comfort Station NS1	4100	$16,150	15	0.006	SF	140
75491	River Way Comfort Station RW2	4100	$18,500	15	0.186	SF	140
75635	Cimarron Maintenance Bldg 4 Bay CM8	4100	$85,482	13	0.000	SF	1,092
75636	Cimarron Maintenance Bldg 6 Bay CM9	4100	$123,056	13	0.000	SF	1,572
75637	Cimarron Maintenance Bldg 6 Bay CM10	4100	$123,056	13	0.000	SF	1,572
75638	Cimarron Maintenance Bldg 4 Bay CM11	4100	$131,510	13	0.000	SF	1,680
75639	Cimarron Maintenance Bldg 3 Bay CM12	4100	$142,783	13	0.000	SF	1,824
75641	Cimarron Picnic Area Comfort Station CM13	4100	$101,367	15	0.005	SF	405
75644	Cimarron VC/Fire Cache/Curatorial Stor/Housing C	4100	$685,045	19	0.149	SF	2,720
75674	Cimarron Comfort Station/Pump House CM5	4100	$153,177	15	0.074	SF	612
75677	Morrow Point Comfort Station CM2	4100	$16,150	15	0.015	SF	140
75716	Ponderosa Upper Comfort Station PO2	4100	$16,150	15	0.720	SF	140
75719	Ponderosa Middle Comfort Station PO3	4100	$16,150	15	1.093	SF	140
75722	Ponderosa Lower Comfort Station PO4	4100	$16,150	15	0.775	SF	140
75728	Ponderosa Pump House PO1	4100	$1,879	15	0.045	SF	24
75746	McIntre Gulch Comfort Station MG1	4100	$16,150	15	0.044	SF	140
75810	Turtle Rock Comfort Station TR1	4100	$16,068	15	0.000	SF	100
75813	Cebolla Creek Comfort Station CB1	4100	$16,068	15	0.000	SF	100
75815	West Elk Comfort Station WE1	4100	$16,068	15	0.000	SF	100
75817	Lake Fork Boat In Comfort Station LFB1	4100	$16,068	15	0.000	SF	100
75819	Curecanti Creek Boat In Comfort Station CC1	4100	$16,068	15	0.461	SF	100
75821	Hermits Rest Boat In Comfort Station HR3	4100	$16,068	15	0.015	SF	100
75823	Crystal Creek Boat In Comfort Station CL1	4100	$4,153	15	0.000	SF	36
75825	Lake Fork Comfort Station East LF1	4100	$156,181	15	0.005	SF	624
75827	Lake Fork Comfort Station West LF2	4100	$156,181	15	0.002	SF	624
75829	Lake Fork Pump House LF4	4100	$31,312	15	0.035	SF	400
75830	Lake Fork Lower Comfort Station LF5	4100	$153,177	15	0.040	SF	612
75831	Lake Fork Fish Cleaning Station LF6	4100	$15,656	15	0.429	SF	200
75832	Lake Fork Mid Comfort Station LF7	4100	$129,650	15	0.001	SF	518
75841	Lake Fork Storage Bldg 6 Bay LF9	4100	$123,056	13	0.000	SF	1,572
75844	Lake Fork Storage Bldg 1 Bay LF10	4100	$120,238	13	0.000	SF	1,536
75846	Lake Fork Maintenance Shop LF11	4100	$200,397	13	0.006	SF	2,560
75850	Lake City Bridge Comfort Station LC1	4100	$18,500	15	0.146	SF	140
75858	Iola Fish Cleaning Station IO 2	4100	$39,688	15	0.004	SF	507
75864	Iola Comfort Station IO1	4100	$134,656	15	0.030	SF	538
75869	Iola Pump House IO 6	4100	$3,348	15	0.136	SF	50
75874	Gateview Picnic Area Comfort Station GV1	4100	$1,154	15	0.000	SF	10
75878	Gateview Campground Comfort Station GV3	4100	$3,807	15	0.000	SF	33
75879	Gateview Pump house/Water System GV2	4100	$16,150	15	0.000	SF	140
85527	Lake Fork Shower LFC2	4100	$35,595	18	0.000	SF	212
85528	Lake Fork Marina Store LFC1	4100	$39,496	18	0.000	SF	776
85529	Elk Creek Restaurant EC	4100	$425,244	18	0.000	SF	1,296
85530	Elk Creek Marina Store ECC1	4100	$41,486	18	0.000	SF	1,495
Asset Code: 4300 (9 Locations/Assets) (Housing)							
—— Correct SF (9 Locations/Assets)							
75183	E Portal Ranger Sta. (EP1) & Housing EP1A & EP1	4300	$509,515	19	0.124	SF	2,673
75203	Elk Creek EC1 A to F Apartment Bldg	4300	$629,371	13	0.249	SF	4,560
75205	Elk Creek EC2 House	4300	$349,747	11	0.188	SF	1,820
75206	Elk Creek EC3 House	4300	$349,747	11	0.202	SF	1,820
75208	Elk Creek EC4 House	4300	$349,747	11	0.212	SF	1,925

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Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
75209	Elk Creek EC5 Ato F Apartment Bldg	4300	$793,615	13	0.189	SF	5,750
75211	Elk Creek EC6 Dormitory	4300	$397,774	13	0.255	SF	2,882
75213	Elk Creek EC7 Dormitory	4300	$397,774	11	0.245	SF	2,882
75834	Lake Fork VC (LF8) & Duplex (LF8A & LF8B)	4300	$450,285	19	0.144	SF	2,483
Asset Code: 5100 (10 Locations/Assets) (Water System)							
—— Correct GPD (10 Locations/Assets)							
75024	Stevens Creek Water System SC	5100	$146,054	15	0.454	GPD	109,450
75199	East Portal Water System EP	5100	$151,582	15	0.000	GPD	75,000
75422	East Elk Creek Water System EE	5100	$18,500	15	0.000	GPD	990
75438	Dry Gulch Water System DG	5100	$18,500	15	0.000	GPD	1,150
75450	Red Creek Water System RC	5100	$18,500	15	0.000	GPD	690
75705	Cimarron Water System CM	5100	$1,253,555	15	0.019	GPD	58,530
75730	Ponderosa Water System PO	5100	$141,625	15	0.018	GPD	30,650
75836	Lake Fork Water System LF	5100	$640,223	15	0.146	GPD	349,400
75871	Iola Water System IO	5100	$162,361	20	1.110	GPD	32,570
84533	Elk Creek Water System EC	5100	$1,338,250	17	0.014	GPD	1,047,000
Asset Code: 5200 (10 Locations/Assets) (Waste Water System)							
—— Correct GPD (10 Locations/Assets)							
75033	Stevens CreekSewer System SC	5200	$45,611	15	0.000	GPD	9,450
75201	East Portal Sewer System EP	5200	$76,500	15	0.000	GPD	33,750
75258	Elk Creek Dump Station EC	5200	$60,500	15	0.011	GPD	157,050
75384	Elk Creek Sewage System EC	5200	$1,327,200	15	0.015	GPD	696,150
75643	Cimarron Dump Station CM	5200	$14,235	15	0.000	GPD	93,087
75707	Cimarron Wastewater System CM	5200	$314,354	15	0.000	GPD	35,115
75739	Ponderosa Sewer System PO	5200	$75,500	13	0.000	GPD	30
75837	Lake Fork Sewer System LF	5200	$625,000	15	0.064	GPD	510,255
75847	Lake Fork Dump Station LF	5200	$27,500	15	0.000	GPD	73,374
75873	Iola Sewer System IO	5200	$28,195	17	0.000	GPD	19,542
Asset Code: 5400 (9 Locations/Assets) (Electrical System)							
—— Correct EA (9 Locations/Assets)							
75027	Stevens Creek Electrical System	5400	$105,225	15	0.064	EA	1
75377	Elk Creek Campground Loop D Electric System	5400	$105,500	15	0.000	EA	1
75424	East Elk Creek Photovoltiac System	5400	$12,500	15	0.000	EA	1
75440	Dry Gulch Photovoltaic System	5400	$12,500	15	0.000	EA	1
75451	Red Creek Photovoltaic System	5400	$12,500	15	0.000	EA	1
75484	Coopers Ranch Electric System	5400	$18,500	15	0.000	EA	1
75732	Ponderosa Photovoltaic System	5400	$28,500	15	0.002	EA	1
75735	Ponderosa Portable Photovoltaic System	5400	$13,500	13	0.000	EA	1
75880	Gateview Photovoltaic System	5400	$9,750	15	0.000	EA	1
Asset Code: 5700 (2 Locations/Assets) (Fuel System)							
—— Correct EA (2 Locations/Assets)							
75385	Elk Creek Propane System	5700	$75,000	15	0.084	EA	1
75387	EC Elk Creek Fuel System	5700	$63,500	15	0.000	EA	1
Asset Code: 6300 (8 Locations/Assets) (Marina/Waterfront System)							
—— Correct LF (8 Locations/Assets)							
75036	SC Stevens Creek Boat Launch Ramp	6300	$467,702	15	0.000	LF	624
75235	EC Elk Creek Marina	6300	$1,602,629	15	0.010	LF	848
75724	Ponderosa Boat Launch Ramp	6300	$224,606	15	0.000	LF	406
75838	LF Lake Fork Marina	6300	$1,534,649	15	0.043	LF	675
75852	Iola Boat Launch Ramp	6300	$1,172,655	15	0.000	LF	34,500
83644	Morrow Point Fueling Docks	6300	$31,296	22	0.510	LF	320

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Location	Description	Asset Code	CRV	API	FCI	U/M	Unit Total
88150	Breakwaters	6300	$875,000	30	0.000	LF	2,820
88242	CY Crystal Dock	6300	$70,000	19	1.073	LF	20
Asset Code: 7100 (9 Locations/Assets) (Outdoor Sculptures/Monu/Interp)							
—— Correct EA (9 Locations/Assets)							
75649	Cimarron RR Stock Car1 CM	7100	$190,000	21	0.387	EA	1
75653	Cimarron RR Stock Car2 CM	7100	$186,780	21	0.400	EA	1
75655	Cimarron RR Maintenance Car CM	7100	$190,000	21	0.396	EA	1
75657	Cimarron RR Rail Tender Car CM	7100	$120,000	21	0.390	EA	1
75661	Cimarron RR Track CM	7100	$106,337	21	0.000	EA	1
75689	Cimarron Steam Locomotive CM	7100	$363,570	21	0.400	EA	1
75691	Cimarron Locomotive Tender CM	7100	$150,000	21	0.394	EA	1
75693	Cimarron RR Box Car CM	7100	$125,000	21	0.385	EA	1
75695	Cimarron RR Caboose CM	7100	$290,000	21	0.396	EA	1
Asset Code: 7900 (3 Locations/Assets) (Amphitheaters)							
—— Correct SEAT (3 Locations/Assets)							
75276	Elk Creek Amphitheater EC21	7900	$20,000	15	0.171	SEAT	233
75646	Cimarron Amphitheater CM	7900	$72,306	15	0.000	SEAT	45
75828	Lake Fork Amphitheater LF3	7900	$67,500	15	0.021	SEAT	130
Asset Code: 8999 (1 Locations/Assets) (Fleet)							
—— Correct EA (1 Locations/Assets)							
73577	CURE Fleet	8999		N/A	0.000	EA	1
	Total:		**$48,184,098**				**4,891,928**

Appendix I, continued – Personnel and Qualifications List

Employee	Park	Qualifications
Andrews, Mark	CURE	FFT1, FFT2, EMT-B, Faller Class A, HECM(T)
Bigford, Lloyd	CURE	FFT2
Binsbacher, Rudd	CURE	FFT2
Bockus, Danguole	BLCA	FFT2, READ
Cadoff, Joel	CURE	FFT2
Cigrand, Shawn M.	BLCA	FFT2, EMT-B, SMEC, HECM(T)
Cumbie, Laddie	CURE	BCMG, GSUL
Curtin, Stuart	BLCA	FFT2, HECM
Hallock, Brandon	CURE	FFT2
Hinds, Kate	CURE	FFT2, HECM-T
Kay, Steven	CURE	FFT2
Mims, Brent	BLCA	FFT2, HECM, Faller - A
Post, Melissa	CURE	FFT2, EMT-B
Ross, Colleen	BLCA	FFT2, HECM.
Skibski, Julie	BLCA	FFT2
Tillotson, Jason	CURE	FFT2, EMT-B
Westenfelder, Jamie	CURE	FFT2
Thrush, Ryan	BLCA	FFT2, HECM, S-290, S-211, S-231,
Winslow, Steve	BLCA	FFT1, HECM, HELB-T
Yee, Liz	CURE	S-357-T (Food Unit Leader),

Appendix J – Example Delegation of Authority (DOA)

Delegation of Authority

Black Canyon of the Gunnison National Park/Curecanti National Recreation Area

As superintendent of Black Canyon of the Gunnison National Park and Curecanti National Recreation Area, I have the ultimate responsibility for protection of the parks' resources and the lives of park visitors and employees. Your expertise in the area of fire management will assist me in fulfilling that responsibility during this wildland fire. By means of this memorandum, as of (time) hours, (date), I have delegated authority to manage the (name of fire), Black Canyon of the Gunnison NP or Curecanti NRA, to Incident Commander (name) and the Incident Management Team.

The fire which originated on (date), is burning in the parks' backcountry. My considerations for management of this fire are:

1. Provide for firefighter safety.
2. I would like the fire to be managed as a wildland fire. It should be managed within the identified Maximum Manageable Area (MMA) identified in the Wildland Fire Situation Analysis with as little environmental damage as possible.
3. There are cultural, historical and natural features requiring priority protection within the MMA.
4. Key resource considerations: Avoid any irreversible resource damage.
5. Restrictions for holding or suppression actions are no dozer use, vehicle use is restricted, retardant is approved for both actions, minimal chainsaw use is approved, but care must be taken to reduce the visual from the cuts, light hand on the land tactics must be used for line construction. Black lining is preferred over ground disturbance.
6. All holding and suppression actions must be rehabilitated before demobilization.
7. My agency Advisor will be park Fire Management Officer, (name). A planning meeting will be held after every day shift with the Superintendent for the daily approval.
8. Manage the fire cost-effectively.
9. Minimum disruption of visitor access of the main park road consistent with public safety.

_____

Bill E. Wellman
Superintendent
Black Canyon of the Gunnison NP/Curecanti NRA
(date)

Appendix K - Environmental Assessment/ Assessment of Effect

Appendix L – Fire Management A,B,C,D Area Map