

# Roswell Field Office 2004 Fire Management Plan



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## **I. Introduction**

### **A. Purpose:**

The purpose of the Bureau of Land Management (BLM), Roswell Field Office Fire Management Plan (FMP) is to review and up-date the 1998 FMP to meet current national policy and direction. This FMP will identify and integrate all wildland fire management guidance, direction and activities required to implement National Fire Plan policy and fire management direction. Specific direction and guidance for utilizing fire as a resource tool have been taken from the Roswell Field Office 1997 Resource Management Plan (RMP), and the 2004 Fire and Fuels Resource Management Plan Amendment.

The federal Wildland Fire Management Policy states that every area with burnable vegetation must have an approved fire management plan. This FMP is a strategic plan that defines a program to manage wildland and prescribed fires based on the approved land management plan. This FMP provides for firefighter and public safety, it includes fire management strategies, tactics and alternatives, and values to be protected. It addresses public health issues and is consistent with resource management objectives, activities of the area, and environmental laws and regulations.

Overall direction from the RMP and associated activity plans (i.e. ACEC plans) may allow for fire to be used as an integral part of the ecosystem to meet resource management objectives and to improve protection of life and property through the reduction of hazardous fuels.

This FMP addresses the full range of fire management activities. This includes fire planning, fire management strategies, tactics and alternatives, prevention, preparedness and education. It addresses the role of mitigation, post-fire rehabilitation, fuels reduction, and restoration activities in fire management.

The FMP provides future direction and guidance to the Field Office staff in planning and implementing a cost efficient fire suppression and fuels program. It highlights management direction in the areas of staffing, facility development and implementation of future fire management strategies.

Implementation of this FMP will provide a safe, cost effective fire management program in support of land and resource management plans through planning, staffing, training, equipment, and management oversight.

A glossary of terms and acronyms is provided at the end of this document to assist in clarifying technical terms.

## **B. Relationship to Environmental Compliance**

The Roswell Field Office FMP is a document that compiles land use decisions related to fire management from the Resource Management Plan and the 2004 Plan Amendment and is generally considered categorically excluded from further NEPA analysis. The FMP does not make any decisions other than those in the RMP, the 2004 RMP plan amendment and other planning documents.

Future site specific and project specific proposals to implement decisions from the RMP will require additional environmental analysis and compliance with other relevant laws and regulations.

## **C. Collaboration**

The Roswell Field Office fire program is located within the Lincoln Fire Zone of Southeast New Mexico. The program maintains close collaboration with various local, state and federal agencies. Examples of this are found in the operation of the Roswell Air Tanker Base (with Fish & Wildlife Service), the Pecos Valley Interagency Dispatch Office (with the USFS, National Park Service, and Fish & Wildlife Service), and prescribed fire (with Fish & Wildlife Service).

The Roswell Field Office, Fire Management Plan is a strategic document identifying approved fire management direction determined by the 1997 RMP and 2004 RMP amendment. The 2004 RMP amendment was developed with input and consultation with representatives from the U.S. Forest Service, U.S. Fish & Wildlife Service, the National Park Service, the State of New Mexico and interested private citizens. Several public meetings and forums were held throughout New Mexico, including the Roswell area, to gather public comments and input on the plan amendment. Additional mailings were made to solicit input from those interested citizens who could not take part in the public meetings.

The FMP has addressed collaborative opportunities with the Forest Service the Fish & Wildlife Service and the State of New Mexico, Capitan Forestry Division. These opportunities which include the Joint Powers Operating Plan for the Lincoln Zone, and several Memorandums of Understanding (MOU's) for fire operations in the Pecos Valley will continue to be addressed during the implementation phase of this up-dated plan.

## **D. Authorities**

Authorities for the development of the Roswell Fire Management Plan are listed below:

- Protection Act of September 20, 1922 (42 Stat. 857; U.S.C. 594)
- Taylor Grazing Act of June 28, 1934 (48 Stat. 1269; U.S.C. 315)
- Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66. U.S.C. 1856, 1856a)
- Economy Act of June 30, 1932 (47 Stat. 417; U.S.C. 686)
- The Federal Land Management and Policy Act of 1976 (FLPMA) (Public Law 94-579; 43 U.S.C. 1701)
- Disaster Relief Act, Section 417 (Public Law 93-288)
- Annual Appropriation Acts for the Department of the Interior
- United States Department of the Interior Manual (910 DM 1.3)
- 1995 Federal Wildland Fire Management Policy
- 2001 Updated Federal Wildland Fire Management Policy (of the 1995 Policy)
- 1998 Department Manual 620, Chapter 1, Wildland Fire Management General Policy and Procedures

## **II. Relationship to Land Management Planning/Fire Policy**

The Roswell Field Office Fire Management Plan derives overall program guidance from the following agency management policy as it relates to fire management.

- BLM: “*Roswell Approved Resource Management Plan and Record of Decision*” October 1997. This RMP provides a comprehensive plan for the management of all resources and uses on public lands in the Roswell Field Office.
- BLM Handbook 9214, “*Prescribed Fire Management*” July 2000. This handbook describes policy and authority for using prescribed fire on public lands administered by the BLM.

- BLM Handbook H-1742-1, “*Draft Emergency Fire Rehabilitation Handbook*” 2003, This handbook describes policy and procedures for implementing emergency fire rehabilitation projects.
- BLM Handbook 9213-1, “*Standards for Fire and Fire Aviation Operations*” 2004. This annual handbook describes policy and guidance in wildland fire operations. This handbook supplements Department Manual (910 DM)
- Legislation: “*Healthy Forest-An Initiative for Wildfire Prevention and Stronger Communities*” August 22, 2002. This is the Healthy Forest legislation that was introduced in Congress after the 2002 fire season.
- Legislation: “*A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment*” (P.L. 106-291) August 2001. This law provides wildland fire agencies the foundation to work together to reduce fire risk to communities and the environment.
- BLM: “*New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management*” February 1999. This document provides standards for rangeland health on public lands within the State of New Mexico.
- BLM: “*Fort Stanton Area of Critical Environmental Concern (ACEC) Activity Plan*” 2001. This plan addresses issues and management direction for the Fort Stanton ACEC.
- BLM: “*Overflow Wetlands Area of Critical Environmental Concern (ACEC) Activity Plan and Environmental Assessment*” 2003. This plan addresses issues and management direction for the Overflow Wetlands ACEC.
- BLM: “*Interim Management Policy For Lands Under Wilderness Review,*” (H-8550-1), January 1, 1995. This document provides policy and guidance for fire management activities in BLM Wilderness Study Areas (WSA).

The following section summarizes the broad programmatic direction found in the above Land Use Plans (LUP) and associated activity level plans. This section will provide guidance, in general terms, on how the FMP will help meet the direction from the LUP and the associated level plans. It will described goals, objectives and desired future conditions as they pertain to fire management activities.

### **Goals, Standards, Objectives and/or Desired Future Condition**

- Protect life, property, soil, water and/or vegetation resources.

- Wherever possible, restore fire to its natural role in the ecosystem through the use of prescribed fire.
- Use Resource Advisors to provide advice on tactics employed during suppression under either the modified or full fire suppression response levels.
- Modified suppression responses will be conducted by restricting the use of bulldozers in critical habitat areas, wetlands, archeological sites, playas, cave-karst areas, Kuenzler’s hedgehog cactus protection areas, the Border Hills Structure Zone, the Mathers Study Area and on any slopes over 30 percent.
- Protect the wilderness character of the Lava Flow WSA by minimizing human impacts caused by fire suppression activity.
- Reduce the fire risk to Wildland Urban Interface communities by developing and implementing multi-stage fuels treatment and forest restoration projects, in collaboration with local governments and private citizens.
- Use fire prevention strategies and education opportunities that reduce unplanned human ignitions occurrence in and around public lands.
- Maintain air quality to meet or exceed applicable federal and state standards and regulations.
- Reduce the invasion and establishment of undesirable or invasive species of vegetation.
- Utilize a full range of fire and fuels management practices to help achieve ecosystem sustainability, including its interrelated ecological, economic and social component.

### **III. Wildland Fire Management Strategies**

#### **A. General Management Considerations**

The first priority in the Roswell fire program is to provide for firefighter and public safety. The protection of human life is the single, overriding suppression priority. Setting priorities among protecting communities, properties, improvements, natural and cultural resources, will be done based on the values to be protected, human health and safety, and the cost of protection. Once people have been committed to an incident, these human resources become the highest



value to be protected. Every effort will be made to suppress fires at a minimum cost, but never at the expense of firefighter and public safety.

The fire program at Roswell has undergone significant change since the last planning cycle. In 2001, the Roswell and Carlsbad fire programs were split off from each other and each became their own independent program.

The Roswell fire program is centralized out of the Division of Resource Management, located in the Roswell Field Office. The Roswell fire program is an active participant in the Lincoln Interagency Zone (LNZ). The Roswell Field Office Fire Management Officer is a voting member of the Zone Board.

Due to great distances and the large land area, the fire program has entered into several agreements and cooperative efforts to provide wildland fire protective services within the Field Office boundaries. The Roswell Field Office works closely with State Forestry and local fire agencies, through the Chaves County Fire Board, to provide a cooperative wildland fire services for all citizens in Chaves County.

The BLM, Roswell Field Office is a partner in the “New Mexico Joint Powers Agreement for Interagency Wildland Fire Protection,” (JPA). This is an agreement among the federal wildland fire management agencies and the New Mexico State Forestry division to coordinate wildland fire management activities. Under the JPA, New Mexico is divided into initial attack areas. In each of these areas, one agency agrees to take the lead in providing initial attack protection to all lands, regardless of ownership. This provides an equitable exchange of protection and workload, and allows the use of the “closest forces” concept for fire suppression. The net result is a more efficient and effective suppression organization throughout the state.

The Roswell Field Office has initial attack responsibility for over 1.4 million acres of BLM administered public lands in the Pecos Valley. Through the JPA agreement with New Mexico State Forestry, the BLM also maintains initial attack fire response responsibilities for an additional 2.1 million acres of state and private lands in Chaves, Lincoln and DeBaca Counties.

This Roswell Field Office provides mutual aid support for wildland fire activities on BLM administered lands in Lincoln County. Current direction for these lands has been to include them in an initial attack agreement with State Forestry, which provides wildland fire suppression in Lincoln County in exchange for BLM providing in-kind services in areas of Chaves County. This agreement is covered in the “Lincoln Zone Operating Plan” which is part of the State Joint Powers Agreement.

In 2002, the Roswell Field Office signed a Memorandum of Understanding (MOU) with the U.S. Fish & Wildlife Service, Bitter Lake National Wildlife

Refuge. This MOU will allow, encourage and promote the use of agency personnel and equipment across agency boundaries to manage both agencies' fire and fuels programs. It will allow the sharing of professional and technical expertise to assist each other in accomplishing their mission.

The Roswell Field Office has an agreement with the City of Roswell to lease space for the air tanker reload base at the Roswell International Air Center. The BLM and the City of Roswell have worked cooperatively for many years to make improvements to facilities and ramp space to enhance this operation and to meet national interagency air tanker base standards.

The Roswell fire management program is based on a foundation of sound science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results of these efforts will be made available to managers and will be used in the development of the FMP and implementation plans.

The Roswell Field Office have collaborated with Texas Tech University through the Joint Fire Science program for fire research on salt cedar control and the effects of fire on the Kuentzler's hedgehog cactus. Future projects with Texas Tech. and New Mexico State University are anticipated.

The Roswell Field Office is a partner in wildland urban interface projects in the Ruidoso/Lincoln Valley area in the Sacramento Mountains. The field office staff periodically meets with interagency partners to plan and implement plans and strategies that will mitigate the extreme fire risk and hazard in this populated area.

The BLM will work closely with interagency partners to implement wildland fire management direction in all future fire planning efforts. For fire planning purposes, the Roswell Field Office will remain a part of the Pecos Valley. The Pecos Valley will consists of the federal land management agencies such as the Carlsbad Field Office, the Bitter Lake NWR and Dexter Fish Hatchery, Carlsbad Caverns Nat'l Park, the Guadalupe R.D. of the Lincoln N.F. and state and private lands. Federal areas are administered under policy and guidance which is found in National Fire Plan, agency Land Use Plans, the BLM 9200 Manual and site specific ACEC and Wilderness Plans.

## **B. Wildland Fire Management Goals**

The following are broad wildland fire management goals for the Roswell Field Office that will provide guidance to meet national policies and broad land use plans (LUP) goals and objectives as identified in Chapter II.

- Provide for public and fire fighter safety.
- Provide a mosaic of vegetation age classes in the perennial grassland vegetation type.
- Reduce and/or reverse the conversion of annual/perennial grasslands to desert shrub, salt cedar, and Pinyon-Juniper vegetation types.
- Control the spread of invasive vegetation species.
- Protect riparian and wetland communities, cultural sites, cave-karst resources and threatened and endangered species and their habitat.
- Reduce the wildland fire hazard in Wildland Urban Interface communities.
- Protect private property and improvements.

### **C. Wildland Fire Management Options**

The BLM, Roswell Field Office, within the Pecos Valley, will provide an appropriate management response on all wildland fires, with emphasis on fire fighter and public safety, minimizing suppression costs and with benefits and values to be protected consistent with resource objectives, standards and guidelines. Every attempt will be made to respond to each wildland fire in a timely manner with a mixture of firefighting resources, based upon established fire management direction as documented in an approved management plan. The use of appropriate management response will allow managers to tailor preplanned wildland fire dispatch strategies (i.e. - run cards) to meet objectives established in resource management plans and their associated implementation plans.

The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components. The field office staff will conduct fuels treatment, community assistance, education/mitigation programs and rehabilitation/restoration actions to implement management plan direction.

Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which the fire occurs, and its likely consequences, dictate the appropriate response to the fire.

#### **D. Description of Wildland Fire Management Strategies by Fire Management Unit**

The following Fire Management Units were developed for the Roswell Field Office 2004 Land Use Plan Amendment. These units have been prioritized in the following table.

**Fire Management Units  
Priority Table**

<b>Fire Management Units</b>	<b>Suppression</b>	<b>Prescribed Fire</b>	<b>Community Assistance</b>
<b>Special Management Areas</b>	<i>High</i>	<i>Moderate</i>	<i>Low</i>
<b>Lava Flow</b>	<i>Low</i>	<i>Low</i>	<i>Low</i>
<b>Pecos Plains</b>	<i>High</i>	<i>Moderate</i>	<i>Moderate</i>
<b>Ft. Stanton/Rio Bonito</b>	<i>High</i>	<i>Moderate</i>	<i>High</i>

## Special Management Areas Unit

9/18/2007

### Fire Management Unit – Special Management Areas Category - C

#### 1. Location

See accompanying map. Unit includes the **North Pecos River ACEC**, the **Overflow Wetlands ACEC**, and the **Habitat Protection Zone**. Ownership acreages are as follows:

BLM	21,298 acres
State	6,008 acres
Private	21,329 acres
Fish & Wildlife Service	23,569 acres
<u>State Parks</u>	<u>3 acres</u>
Total	72,207 acres

#### 2. Characteristics

##### Topography –

The FMU's topography is dominated by the Pecos River. Elevation ranges from 3,300 feet above sea level to 4,000 feet. Rough breaks and badlands occur as bluffs on the east side of the river.

##### Vegetation –

The vegetation within these areas consists of annual and perennial grasses, and a mix of exotic invaders species, such as cactus, weeds, Russian olive and salt cedar. Fire may be used to control and reduce the spread of many fire intolerant species of plants returning the vegetation to native condition. Desired Plant Communities (DPC's) are described in the 1997 Roswell Resource Management Plan (RMP). DPCs within the FMU are the Grassland Community and the Riparian-Wetlands Community.

##### Lands/Realty/ROW –

Major highways are US 70, US 285 and US 380. There are several utility corridors along with scattered pockets of oil and gas well facilities throughout these areas.

##### Air Quality –

The RMP emphasizes the maintenance of the Class II air quality of the area. The RMP also states BLM-initiated activities will be designed to have a minimal effect on air

quality and retain the Class II standard. Fire may have a minimal impact on air quality within this area.

### **Water Quality** –

The FMU is dominated by the Pecos River, its tributaries, and its associated aquifers. The RMP states the primary emphasis will be on preserving water quality through the development of best management practices. High intensity fire may have a moderate to severe impact on water quality within these areas.

### **Soils** –

The RMP states activities are to minimize sedimentation as a cause of non-point source pollution to surface waters. Soil types range from deep, sandy riparian soils in the stream bottoms to very shallow, stony loams on the uplands. They are generally well-drained, permeability is typically moderate, and runoff is medium to rapid. The hazard of water erosion can be moderate to high, and wind erosion is moderate.

### **Terrestrial and Aquatic Wildlife Habitat** –

The FMU supports a wide range of wildlife dependent on the high plains and desert riparian areas. T&E species that can be found in the FMU include Interior Least Tern, Pecos gambusia, Pecos bluntnose shiner and the Pecos sunflower. Special status species in the FMU include the Pecos pupfish, Noel's amphipod, Roswell spring snail, Koster's tryonia, Pecos assiminea snail, and black-tailed prairie dog. Some T & E species may be affected by moderate to high intensity fire.

### **Cultural Resources** –

Within these special management areas, records review show that predominately prehistoric sites have already been recorded. One prehistoric architectural site, one stone tipi ring and four historic homestead/historic trash sites have been recorded. In addition, there are approximately 50 sites that are categorized as quarry, lithic scatters, ceramic/lithic scatters and open campsites.

## **3. Wildland Fire History:**

Fire history records for wildland fires in this FMU indicate that approximately two out of every three fires is human caused. These human caused fires are caused by equipment use and agricultural burning. Because of the remoteness and lack of access into several of these areas, fire size often gets larger than the Field Office average. The largest fire found on record was 841 acres. Fires in salt cedar can get quite large and control is difficult. Numerous fires of 100-500 acres have occurred in this FMU during the 1980-2002 time period.

Wildfires typically occur between March 1 and June 30. However, wildfires

may burn at any time of the year. Summer temperatures can easily exceed 100 degrees. Rainfall comes during the summer monsoons and during the winter. Fire behavior can be extreme in the salt cedar (bosque-local term for forest) and sacaton grass.

#### **4. Fire regime/condition class:**

It is estimated that approximately 80 percent of this area is in Fire Regime/Condition Class (FRCC) 2 or 3. This is due to aggressive fire suppression and extensive vegetation control due to local grazing activities. In some small areas, private land owners and the BLM have been burning plots for many years trying to maintain the FRCC at a class 1 or 2.

#### **5. Values at Risk/Resource Protection Constraints:**

The areas making up this FMU contain key habitat or drainages that provide key aquatic habitat for T&E species (see #2 above). Aerial fire retardant will not to be used near water and bladed dozer lines, should be avoided unless life and property are threatened.

Cultural resources: If bladed dozer fire lines are needed for fire suppression the Field Office archeologist will be called to determine if significant cultural resources could be impacted. Fire line redesign and relocation may be necessary to avoid cultural resources.

#### **6. Communities at Risk:**

There are no identified communities at risk in this FMU.

#### **7. Fire Management Objectives:**

##### **Goals**

1. Provide a mosaic of native vegetation age class in annual and perennial grass, forbs and brush species.
2. Reduce and/or reverse the conversion of annual and perennial native grasses to exotic invader species such as weeds, cactus, salt cedar and Russian olive.
3. Protect riparian and aquatic resources, cultural sites, and T&E habitat from suppression activities. Utilize Minimum Impact Suppression Strategies (MIST) on all wildland fires within the FMU.
4. Protect private property and improvements from high intensity fire.
5. Provide for public and firefighter safety.

##### **Suppression Objectives:**

- Provide for public and firefighter safety on 100 percent of all fires.
- Control all fires at FIL 1 to 3 at less than 30 acres, 95 percent of the time.
- Control all fires at FIL 4 to 6 at less than 1000 acres, 95 percent of the time.
- No more than 20 percent of the FMU will be burned over a 10 year period.

- Protect all cultural resources in the FMU.
- Use of heavy earth disturbing equipment (dozers, graders) will be restricted in the FMU in order to prevent damage to cave-karst geologic features of the area. Use of this equipment will only be authorized after consultation with the Field Office Archeologist and Resource Advisor.

**Fire Use and Prescribed Fire Objectives:**

- Fire use for resource benefit is not planned in this FMU.
- Prescribed fire will be used to treat exotic and invasive species, and to create a mosaic of age classes in the FMU.
- On normal precipitation years, in which there is adequate vegetation, approximately 2500 acres may be treated annually using prescribed fire.

**Non-Fire Fuels Treatment Objectives:**

- Multi stage fuel treatments will be used to reduce exotic vegetation species, and create diversity of habitat for terrestrial and aquatic animals.
- Up to 1000 acres may be treated per year over a 10 year period. Most of this work will be in the removal of salt cedar and Russian olive.

**Post Fire Rehabilitation and/or Restoration Objectives:**

- Post fire rehabilitation and restoration may be initiated after review by an interdisciplinary team of specialists on wildfires at fire intensity level 4 or above.
- The primary objective of post fire rehabilitation and restoration will be to control the invasion of exotic and invasive plant species.

**Communities Protection/communities Assistance Objectives:**

- There are no identified communities at risk in this FMU.

**8. Fire Management Strategies.**

**Suppression:**

Whenever the fire poses a threat to adjacent private property, the appropriate suppression strategy will allow for aggressive suppression tactics. This includes the use of aircraft and/or bladed dozer line when prior approval is obtained.

MIST will be utilized when ever the situation will allow. MIST will allow for the use of natural and/or man-made barriers for fire breaks. The priority for MIST is to prevent fire suppression activities from doing more damage than the damage from the fire.



All fires at FIL 4 to 6 and /or greater than 30 acres will have a Resource Advisor assigned.

The use of aerial fire retardants and foam products will be prohibited on all suppression operations in and around riparian and wetland areas. Single Engine Air Tanker and helicopter operations will utilize water only on any fire suppression mission. Retardant may be allowed on areas well away from wetlands and water ways.

Heavy equipment, such as dozer and graders, will only be allowed after consultation with and approval by the Field Office Archeologist and Resource Advisor.

**Wildland Fire Use:**

No wildland fire use for resource benefit will occur in this FMU.

**Prescribed Fire:**

During normal precipitation years, when sufficient grasses are present, prescribed fire may be used to treat up to 2500 acres per year. Emphasis will be on treating areas where exotic and invasive plant species are threatening to become the dominant species. Prescribed fire may include large broadcast burns, smaller block type burns and pile burning of slash.

The fire staff will utilize information and best management practices that was gathered from Texas Tech Universities, Joint Science Program funded study, to plan and implement future prescribed fire treatments in the salt cedar forest in these areas

**Non-Fire Fuels Treatment:**

Non-fire fuels treatment (mechanical and chemical) may be considered as needed by site-specific plans. Non-fire fuels treatments may be used in conjunction with multi-stage fuels treatments such as prescribed fire, chemical and mechanical removal.

**Restoration and Rehabilitation:**

On high fire intensity level fires, an interdisciplinary team of specialist will be called upon to assess damage and make recommendations for any rehabilitation to the burned area.

Any restoration and rehabilitation will emphasize the reestablishment of habitat diversity and restoration of wetlands and riparian areas with control of exotic and invasive plant species a priority to treat.

Other measures may include temporary fencing, erosion control, soil stabilization and the restriction of grazing in the fire area.

**Community Protection/Community Assistance Objectives:**

There are no identified communities at risk in this FMU. The Fire Prevention Education/Mitigation Specialist will continue to conduct fire prevention activities, which will emphasize wildland fire protection strategies and measures to prevent resource and improvement loss during periods of high fire activity.

BLM will initiate periodic fire patrols in these areas during periods of high fire danger or anticipated heavy public activity (i.e. hunting season).

# Lava Flow WSA Unit

9/18/2007

**Fire Management Unit – Lava Flow WSA                      Category - C**

## **1. Location:**

The FMU is located in western Lincoln County, east of Carrizozo, NM, astride US Highway 380. The Lava Flow Wilderness Study Area (WSA) has been designated by Congress to be managed as an interim wilderness area. See attached map for the location of the FMU. Ownership acres within this FMU are as follows:

BLM    28,820 acres  
State    3,232 acres  
Private    76 acres  
Total    32,128 acres

## **2. Characteristics**

### **Topography** –

The WSA boundary is also the boundary of the FMU. The FMU's topography is dominated by the lava flow originating at the northern end of the Tularosa Basin. The lava flow consists of broken terrain that marks it as badlands. Elevation ranges approximately from 4,500 feet to 6,000 feet.

### **Vegetation** –

Most of the FMU is non-vegetation lava flow. There are small islands (less than 1 acre) of vegetation, called Kipukas, located throughout the FMU. Vegetation in these Kipukas is a scattering of evergreen trees, grasses and small brush species. Desired Plant Communities are described in the 1997 Roswell Resource Management Plan (RMP).

### **Lands/Realty/ROW** –

The major highway is US 380. There are no major utility corridors or other developments in this FMU.

### **Air Quality** –

Since wildfires are small within the FMU, smoke management concerns are minimal. Fires rarely burn for more than a couple of days and impacts are minimal. The RMP emphasizes the maintenance of the Class II air quality of the area. The RMP also states BLM-initiated activities will be designed to have a minimal effect on air quality and retain the Class II standard.

### **Water Quality** –

The FMU is located in the Tularosa Basin. Rainfall and runoff from the surrounding mountains are the source of surface water in the Basin. The RMP states the primary emphasis will be on preserving water quality through the development of best management practices. Water quality will not be significantly impacted by fire activity within the FMU.

### **Soils** –

The RMP states activities are to minimize sedimentation as a cause of non-point source pollution to surface waters. Soils are based on material, through either weathering or erosion that has accumulated in the rocks. What soils are present are shallow. The possibility of water erosion can be moderate to high, and wind erosion is moderate.

### **Terrestrial and Aquatic Wildlife Habitat** –

The FMU supports a wide range of wildlife dependent on the Mixed Shrub Malpais plant community. The WSAs are habitat to a variety of small animals that have adapted to the dark colors of the lava flow. No T&E species are known to exist in the WSAs.

### **Cultural Resources** –

The inhospitable landscape no doubt is responsible for the almost total lack of recorded cultural resources in this fire management unit. There has been very little cultural inventory but it not very likely that people would have occupied this area. Today the majority of this FMU is avoided for earth disturbing activities. A lithic/ceramic scatter has been recorded at the Valley Of Fires Recreation Area.

### **Wilderness Study Areas** –

The Carrizozo Lava Flow and Little Black Peak Wilderness Study Areas (WSA) are recent lava flows that have been recommended by BLM New Mexico to Congress as part of the National Wilderness Preservation System. The total acreage of the WSAs is 26,159 acres. For the most part the WSA ends at the edge of the lava flow. There are kipukas (non lava areas) within the WSAs and these are part of the WSA. The WSAs are separated by highway US 380.

### **Valley of Fires Recreation Area** –

Located along the eastern edge of the lava and south of US 380, the area is a developed recreation area. This facility is open year-round.

### **3. Wildland Fire History:**

Current fire records do not show any wildland fires within the Lava Flow FMU. However, in talking to local residents and BLM employees working in the area, the FMU does experience lightning in the spring and summer. There have been “local reports” of “single tree” fires within the Lava Flow which were monitored until they went out. There have been no reports of anyone ever walking into a wildland fire in the Lava Flow for the purpose of suppressing the fire.

On BLM land adjacent to the Lava Flow, there have been several larger fires which were suppressed by State Forestry and local Volunteer Fire Departments. These wildland fires often do not show up in the BLM fire reporting system because they are never reported to BLM.

### **4. Fire regime/condition class:**

Because of the remoteness of the FMU, fires have been allowed to play a natural role and have not been suppressed. Therefore, fire regime within the Lava Flow have been characterized as a FRCC class 1.

### **5. Values at Risk/Resource Protection Constraints:**

Fire management within the FMU should consist of monitoring until it burns itself out. This Appropriate Management Response (AMR) considers fire fighter safety the highest priority. Under a monitoring strategy, all wildfires will be allowed to burn to limit the risk to firefighters who will not need to take suppression action on them. No mechanical suppression actions, such as dozer lines, will be constructed on any fire within the FMU. No aerial fire retardants or foam treatments will be applied in the FMU.

### **6. Communities at Risk:**

There are no identified communities at risk within or adjacent to this FMU.

### **7. Fire Management Objectives:**

Goals:

1. Fire fighter safety will be the priority in this FMU. Because of concerns for fire fighter safety in the Lava Flow, all wildland fires will be monitored and allowed to burn in a natural state until they burn themselves out.
2. Protect private property and improvements on private and state lands adjacent to the boundary and surrounding the FMU.
3. Protect cave-karst and cultural resources within the FMU.

**Suppression Objectives:**

- Provide for public and firefighter safety on 100 percent of all fires.
- The safety of fire fighters will be priority within the WSA. All fires will be monitored daily until out. Employees will monitor all wildland fires until they are no longer visible, utilizing aerial patrols and long distance visual monitoring.
- Use of heavy equipment (dozers and graders) will be prohibited on BLM lands within the FMU in order to protect cultural, natural and cave resources.
- No aerial fire retardant or fire suppressant foams will be dropped on any fire located within the area of the FMU boundary.

**Fire Use and Prescribed Fire Objectives:**

- There are no plans to use prescribed fire or fire use for resource benefit within this FMU.
- Because of the lack of sustainable fuels and fuel continuity within the lava flow, fire use for resource benefit is not a viable option and will not be used within the WSA . The cost/benefit analysis to establish a viable fire use for resource benefit program is not warranted for this planning period.

**Non-Fire Fuels Treatment Objectives:**

- None

**Post Fire Rehabilitation and/or Restoration Objectives:**

- There will be no need for post fire rehabilitation on fires within the FMU.

**Community Protection/Community Assistance Objectives:**

- There are no identified communities at risk in this FMU.

**8. Fire Management Strategies****Suppression:**

The fire management strategy will be to monitor a wildfire until it goes out. This strategy is being used to minimize the safety risk to fire fighters and reduce resource damage from fire suppression activities on wildfires in the FMUs. Any wildfires adjacent to the boundary of the FMU will be suppressed using AMR. (the lava flow has a distinct boundary in most places. Any wildfire within the lava flow, that starts within 50 yards of this boundary, may be suppressed in order to alleviate public concerns)

Heavy equipment, such as dozers and graders will not be permitted with the FMU. In some instances, in areas near the boundary, where fire lines need to be built on BLM lands, an on-site archeologist/resource advisor will monitor all earth disturbing activities.

**Wildland Fire Use:**

Fire use for resource benefit will not be used due to the absence of significant vegetation to allow a fire to spread.

**Prescribed Fire:**

The use of prescribed fire is not anticipated at this time.

**Non-Fire Fuels Treatment:**

No chemical or mechanical fuels treatment will be conducted within the FMU.

**Restoration and Rehabilitation:**

There will be no need for restoration and rehabilitation projects within the FMU.

**Communities Protection/Community Assistance Objectives:**

There are no identified communities at risk in this FMU. The staff of the Valley of the Fires Recreation Area and the Fire Prevention Education/Mitigation Specialist may conduct fire prevention activities, which will emphasize wildland fire prevention and fire protection strategies to both visitors and local residents. These programs will present the fire prevention program in broad, national terms.

## Pecos Plains Unit

9/18/2007

**Fire Management Unit - Pecos Plains**

**Category - D**

### 1. Location:

This FMU is the majority of the area managed by the Roswell Field Office. See attached map for the location of the FMU. Ownership acreages are as follows:

BLM	1,389,964 acres
Forest Service	395,422 acres
State	1,746,483 acres
Defense Dept	210,203 acres
Fish & Wildlife Service	3,890 acres
Private	10,067,441 acres
Bureau of Reclamation	3,168 acres
<u>State Parks</u>	<u>1,782 acres</u>
Total	13,818,373 acres

### 2. Characteristics:

#### Topography –

The FMU's topography is dominated by rolling plains bisected by the Pecos River. Elevation ranges from 3,300 feet above sea level to 6,000 feet. Rough breaks and badlands occur as bluffs on the east side of the river.

#### Vegetation –

Current vegetation consists of a combination of Prairie Grasslands and a mix (transition zone) of Grasslands, Mixed Desert Shrubs and Pinyon-Juniper Grasslands. Desired Plant Communities are described in the 1997 Roswell Resource Management Plan (RMP). DPCs within the FMU are the Grassland Community, the Shinnery Oak-Dune Community, the Mixed Desert Shrub Community, and the Pinyon-Juniper Grassland Community.

#### Lands/Realty/ROW –

Major highways are US 285, US 70, and US 380. The major utility corridors are pipelines, transmission line and scattered oil and gas fields and facilities.



### **Air Quality** –

The RMP emphasizes the maintenance of the Class II air quality of the area. The RMP also states BLM-initiated activities will be designed to have a minimal effect on air quality and retain the Class II standard. Fire activities will have a short term effect on air quality that may only last one to two days.

### **Water Quality** –

The FMU is dominated by the Pecos River, its tributaries, and its associated aquifers. The RMP states the primary emphasis will be on preserving water quality through the development of best management practices. Fires that burn near the Pecos River may create a short-term degradation of water quality in the FMU.

### **Soils** –

The RMP states activities are to minimize sedimentation as a cause of non-point source pollution to surface waters. Soil types range from deep, sandy riparian soils in the stream bottoms to very shallow, stony loams on the uplands. They are generally well-drained, permeability is typically moderate, and runoff is medium to rapid. The hazard of water erosion can be moderate to high, and wind erosion is moderate. Wind erosion after a high intensity fire may be severe.

### **Terrestrial and Aquatic Wildlife Habitat** –

The FMU supports a wide range of wildlife dependent on the high plains and the Chihuahuan Desert. T&E species that can be found in the FMU include Interior Least Tern, Pecos gambusia, Pecos bluntnose shiner, Pecos sunflower, and northern aplomado falcon. Special status species in the FMU include lesser prairie chicken, Pecos pupfish, swift fox, sand dune lizard, and black-tailed prairie dog.

### **Cultural Resources** –

This unit includes paleoindian through historic era sites. The majority of the prehistoric cultural resources are lithic and/or ceramic scatters or open camp sites. Pit houses and above ground structures have been recorded as well as historic homesteads. The proposed Haystack Butte and Cacklebur Lakes Archeological Districts and the Garnsey Bison Kill Site are mapped in RFO's GIS.

In most cases, wildfire will not severely impact cultural resources. The greatest threat to these resources is from firefighters and their ground disturbing activities, such as constructing firelines through known sites.

### **3. Wildland Fire History:**

Human caused ignitions account for 67 percent of all unplanned wildfires; the remainder are from lightning. Approximately 72 percent of all fires are less than 1 acre. The most common size class fire is ¼ acre to 1 acre in size. In 8 out of 10 years there was a minimum of one or more fires that were larger than 300 acres. Fire reports indicate that an average of 4735 acres burn per year. The largest fire occurrence happened in 1993 and 1994. There is a direct correlation between severity of the fire season and the amount of grass growth from the previous rainy season.

Wildfires occur in all months of the year. Records indicate that the months of March and June have the highest fire occurrence. In most years, the FMU experiences two distinct fire seasons, February and March and May, June and July. The onset of the summer monsoons limits fires in August and September.

Equipment (roadside fires) and agricultural (field and ditch burning) fires are the number one human-caused ignition.

Fire spread is predominately carried in the grass models (Fire Behavior Prediction System). The primary fuel model in the FMU is Fuel Model 1, short grass. Areas of tall grass, Fuel Model 3, are found in the Pecos River corridor and tributaries. Most of the area's larger fires are the result of high winds, and these fires can burn for great distances, but usually go out when the wind stops. In some areas in the FMU, fires can burn in salt cedar (Fuel Model 4), Mesquite and Shinnery Oak (Fuel Model 5). Fires that burn in salt cedar, burn at a much lower rate of spread but have greater fire intensity and are very hard to control.

### **4. Fire regime/condition class:**

The historical natural fire regime (prior to 1860) was one of frequent moderate intensity grass fires with a return interval of 0 to 35 years. The principle cause was lightning. Because of aggressive fire suppression, fire has not played a significant role in maintaining the nature fire regime in the FMU. The Fire Regime/ Condition Class (FRCC) are 2 and 3 over most of the FMU.

### **5. Values at Risk/Resource Protection Constraints:**

Where dozer/grader fireline clearing is planned in this unit, the RFO archeologist will determine if any known significant cultural resources could be impacted. Fireline redesign to avoid cultural resources may be necessary.

The key resources within the Garnsey Bison Kill Site are the archeological data and paleontological remains that jut out of the sides of Garnsey Wash. These archeological/paleontological remains are fragile and are protected. No surface disturbance should

occur within the confines of the Garnsey Bison Kill Site as described in the 1997 Roswell RMP. No dozer work or blading should occur within the area. Aerial fire retardants and foam will not be allowed within the area. Wildfires and controlled burns should be allowed to sweep through the area and be contained when they reach the edge of the Bison Kill Area boundary.

Mathers Instant Study Area (ISA) was recommended by BLM, New Mexico to Congress, as part of the National Wilderness Preservation System. The total acreage of the ISA is 362 acres. A portion of the ISA is fenced; the remainder of the area is not fenced and cannot be distinguished from other BLM lands within the area. Fire management within the ISA should consist of a monitoring and Minimum Impact Suppression Tactics (MIST). No dozer/grader work should be performed on any fire within the ISA. No aerial fire retardants or foams should be applied to the ISA to alter its wilderness characteristics.

The Haystack Butte Archeological District and the Cacklebur Lakes Archeological District - wildfires and prescribed burns can be allowed to spread through these areas but dozer lines will not be allowed in these districts.

The 1997 Roswell RMP established the Roswell Cave Complex ACEC. These areas, although small, represent significant caves or cave-karst features that are protected. Cave ACEC areas should be noted on the fire map at the Pecos Valley Dispatch. No heavy equipment (dozers and heavy fire trucks) should be used within these areas because of the possibility of damage to the cave-karst systems and damage to fire equipment. Aerial fire retardants and foams should not be used on fires within the Cave ACEC. The incorporation of fire retardant chemicals into the cave-karst features could be damaging to the biota within the system and damage to the water aquifer underlying the cave-karst feature. Handline construction or MIST is preferred within these areas.

## **6. Communities at Risk:**

There are no identified communities at risk within this FMU

## **7. Fire Management Objectives:**

### **Goals:**

- 1) Provide a mosaic of vegetation age classes in the perennial grassland vegetation type.
- 2) Reduce and/or reverse the conversion of annual/perennial grasslands to desert succulent/desert shrub.
- 3) Control the spread of invasive vegetation species.
- 4) Protect private property and improvements.
- 5) Protect cave-karst sites, cultural sites, special study areas and T & E habitat.
- 6) Provide for public and firefighter safety.

### **Suppression Objectives:**

- Provide for public and firefighter safety on 100 percent of all fires.
- Control all fires at FIL 1 to 3 at less than 30 acres, 95 percent of the time.
- Control all fires at FIL 4 to 6 at less than 1000 acres, 95 percent of the time.
- Protect cave-karst areas, special study areas and cultural resources sites from suppression damage 100 percent of the time.

### **Fire Use and Prescribed Fire Objectives:**

- No more than 5 percent of the FMU will be burned over a ten-year period. Use prescribed fire and mechanical/chemical treatments to create vegetation mosaic and to control desert shrub communities and invasive weeds; returning targeted sites from a FRCC 3 and 2 to a FRCC 1 on approximately 12,500 to 25,000 acres over the next 10 years, where identified in specific site plans.
- To use prescribed fire to burn approximately 2,500 acres per year.
- To meet all State and local air quality standards 100 percent of the time.
- There is no opportunity for fire use for resource benefit in this FMU.

### **Non-Fire Fuels Treatment Objectives:**

- To use multi stage fuels treatments, including chemical and mechanical treatments, to reduce salt cedar, mesquite and other invasive species to reduce competition with native plant species.
- Plan to average no more than 5,000 acres per year using non-fire treatments.

### **Post Fire Rehabilitation and/or Restoration Objectives:**

- On wildfires at FIL 4 or above, initiate an interdisciplinary team to assess damage and make recommendations on post fire rehabilitation.
- In identified key plant communities (native grasslands, wetlands and T & E habitat), post fire rehabilitation and restoration will be initiated to facilitate the reestablishment of native grasses and plants.

### **Community Protection/Community Assistance Objectives:**

- There are no identified communities at risk in this FMU

## **8. Fire Management Strategies:**

### **Suppression:**

The priority is to prevent wildland fire from spreading to private lands and to prevent fire spread from damaging improvements. Aggressive fire suppression

will be conducted on all wildland fires which threaten private property. This will include the use of aerial initial attack using air tankers, SEATs and helicopters.

In special areas where either cultural sites are known or suspected and in areas where there are cave-karst features, heavy equipment (dozers and heavy fire trucks) use will not be used. When any surface disturbing actions (dozer/grader firelines) take place, an on-site archeologist will monitor all work activities. In special study areas dozer/grader lines will not be allowed.

**Wildland Fire Use:**

No wildland fire use for resource benefit will occur in this FMU.

**Prescribed Fire:**

During normal precipitation years and when sufficient vegetation is available prescribed fires may be used to treat up to 2,500 acres per year. Prescribed fire may include large broadcast burns, smaller block burns and the burning of piles of slash.

The fire staff will utilize information and best management practices that was gathered and developed from Texas Tech Universities, Joint Science Program, funded study, to plan and implement future prescribed fire treatments in the salt cedar forest along the Pecos River.

**Non-Fire Fuels Treatment:**

Non-fire, fuel treatments (mechanical and chemical) may be considered as needed by individual site-specific plans. Non-fire treatments may be used in conjunction with multi-stage fuels treatments such as prescribed fire, chemical and mechanical removal.

**Restoration and Rehabilitation:**

Historically, very little emergency rehabilitation has been done in the Pecos Plains. Restoration and rehabilitation will emphasize the reestablishment of habitat diversity and the reintroduction of native vegetation species.

On high intensity fires, a team of resource advisors may be called upon to assess damage and to make recommendations on restoration and rehabilitation of the burnt area. Measures may include temporary fencing, erosion control, soil stabilization and the restriction of grazing in the burnt area.

**Community Protection/Community Assistance Objectives:**

There are no identified communities at risk in this FMU. The Fire Prevention Education/Mitigation Specialist will continue to conduct fire prevention activities, which will emphasize wildland fire protection strategies and measures to prevent resource and improvement loss during periods of high fire activity.

# Fort Stanton/Rio Bonito Unit

9/18/2007

**Fire Management Unit – Fort Stanton/Rio Bonito**

**Category - B**

## **1. Location:**

See accompanying map. Unit is located in Lincoln County along US Highway 380 between Capitan, NM, and Lincoln, NM. Ownership acres within this FMU are:

BLM 25,786 acres

State 2,660 acres

Private 7,893 acres

Total 36,339 acres

## **2. Characteristics:**

### **Topography** –

This FMU is situated in the foothills of the Sierra Blanca and Capitan Mountains. Elevation ranges from 5,800 feet at the lower end of Rio Bonito to 7,020 feet on the west side of Fort Stanton. The FMU contains rolling hills and canyons which drains into Little Eagle Creek to the south, and Salado Creek/Rio Bonito to the north. The acquired lands are valley bottom areas adjacent to the Rio Bonito in the Lincoln Valley.

The FMU includes the Fort Stanton ACEC and the acquired lands within Lincoln Valley.

### **Vegetation** -

Perennial grasslands, Pinyon-juniper (PJ) and riparian are the major vegetation communities. The grassland vegetation type, found on less hilly sites and mesas, is dominated by blue grama communities. Pinyon and juniper are the predominant tree species with the scattered wavyleaf oak and skunkbush sumac. The understory of this community is typically forbs, commonly western yarrow, coast wallflower, purple geranium, and the half-shrub tasselflower brickellia.

Riparian areas consist of coyote willow, peachleaf willow, narrowleaf cottonwood, lanceleaf cottonwood, Arizona walnut, boxelder, black walnut, Russian olive and salt cedar. Kentucky bluegrass, bentgrass, bulrush, cattail, inland rush, gaura, summer-cypress, horseweed, poison hemlock, and stickseed are the typical wetland grasses and forbs.

### **Lands/Realty/ROW** -

New Mexico Highway 220 connects U.S. Highway 380 with Alto, New Mexico via Fort Stanton and the airport. Lincoln County Road 007 junctions with NM 220 east of the

airport and connects with U.S. Highway 70 to the south. The water line serving the state land (including historic Fort Stanton) is south of the Rio Bonito running from the west boundary of the ACEC to the fort. Power lines in utility corridors supply electricity to the fort, the airport and private residences.

### **Air Quality** -

The FMU is surrounded by U. S. Forest Service lands, State Lands and private property. The Capitan Wilderness is located approximately nine miles northeast of the FMU and the White Mountain Wilderness is located approximately eight miles west of the FMU. Both are classified as Class I airsheds. The Wilderness Act, Public Law 88-577, provides for the preservation of the pristine scene, meaning, any significant amounts of smoke from a prescribed fire may impact the scenic values of this area. Sierra Blanca Regional Airport is in the southern portion of the ACEC and is surrounded by BLM land at Fort Stanton.

Heavy smoke from a significant wildfire or prescribed fire may impact local residents and class 1 airsheds.

### **Water Quality** -

The FMU is in the upper Rio Hondo drainage basin, which consists of the Rio Bonito and Rio Ruidoso watersheds. The Rio Bonito flows for approximately nine miles through Fort Stanton, and an additional 12 miles through the acquired lands.

Any major wildfire in the immediate area may affect the water quality of the Rio Salado and Rio Bonito.

### **Soils** -

The *Soil Survey of Lincoln County Area, New Mexico (USDA Soil Conservation Service, 1983)* was used to describe and analyze impacts to soils.

Valley Bottoms - these soils are derived from alluvium, are deep and well-drained. Surface textures range from loam to gravelly sandy loam. Permeability is typically slow and runoff is moderate. The hazards of water and wind erosion are moderate.

Uplands - these soils are derived from alluvium and limestone. Texture range from a very cobbly loam to a deep loam. They are generally well-drained and range in depth from very shallow to very deep. Permeability is typically moderate, and runoff medium to rapid. The hazard of water erosion can be moderate to high, and wind erosion can be slight to moderate.

### **Terrestrial and Aquatic Wildlife Habitat** -

The FMU provides diverse habitats for approximately 151 species of birds, 38 species of mammals and 9 species of fish.



Bird species include the common flicker, ladderbacked woodpecker, acorn woodpecker, pinyon jay, scrub jay, mountain chickadee, common bushtit, plain titmouse, white-breasted nuthatch, blue-gray gnatcatcher, gray vireo, rock wren, Montezuma quail, scaled quail, roadrunner, western meadowlark, Northern harrier, brown-headed cowbird, vesper sparrow, lark bunting, rufous-crowned sparrow, horned lark, acorn woodpecker, killdeer, mourning dove, mallard, bufflehead, belted kingfisher, blue grosbeak, lesser goldfinch, yellow-rumped warbler, Northern waterthrush, and yellow-breasted chat. In addition, the bald eagle winters throughout the area, and the Rio Bonito drainage is an important wintering area.

The diversity of small mammals provides for an excellent prey base for carnivores such as the coyote, gray fox, bobcat, raccoon, badger, striped skunk, long-tailed weasel, and occasionally black bear and mountain lion. Other mammal species include the spotted ground squirrel, pocket gopher, silky pocket mouse, Ord's kangaroo rat, bannertail kangaroo rat, northern grasshopper mouse, southern plains woodrat, and the pronghorn antelope. Mule deer occur throughout the area and some migrate from the higher elevations of the Sierra Blanca Mountains to the area. A number of Rocky Mountain elk have used the area on a year-round basis.

Beavers use the riparian habitat to the exclusion of upland habitat. Over the past years, beavers have built dams and lodges on the Rio Bonito. Floods that wash out the dams and low water levels from Bonito Lake seem to be the most serious problem for beavers.

Fish species found in the Rio Bonito are the Rio Grande sucker, brook trout, rainbow trout, cutthroat trout, fathead minnow, white sucker, Rio Grande chub, longnose dace, and mosquitofish.

High intensity fires may impact all of these species by damaging their habitat.

### **Threatened and Endangered Species** -

Kuenzler's hedgehog cactus is listed as an endangered species by the federal government and the State of New Mexico. The ACEC supports the largest known population of the cactus in New Mexico. It is found in the west one-half of the ACEC (about 14,000 acres).

Currently, Texas Tech University is doing research on the affects of fire on the Kuenzler's hedgehog cactus through a grant with the Joint Science Program. Information gained in this study will help develop best management practices to be used by fire managers in future fire applications in this FMU.

### **Cultural Resources** -

Human occupation of the Fort Stanton area extends back in time to about 9,000 years before the present. The variety of prehistoric sites ranges from open sites to rock shelter, cave, architectural sites and petroglyphs. Site density is high along major drainages such

as the Rio Bonito. There are also two known historic sites affiliated with Fort Stanton that could contain buried cultural material. Fire would have a significant impact on the prehistoric and historic sites, including buildings at Fort Stanton.

### **Cave/Karst Resources** -

The Fort Stanton ACEC has a number of significant caves/karst features. The use of heavy equipment such as dozers may severely impact the Fort Stanton cave and other cave sites.

### **Outdoor Recreation** -

The ACEC contains areas of high potential for recreation activities. Activities include equestrian, mountain bike and foot trails within the area. Presently there are recreation developments at the Fort Stanton Cave/campground and the Horse Trails Parking Lot.

## **3. Wildland Fire History:**

Official fire records indicate that there have been 18 wildfires in the Fort Stanton/Rio Bonito area since 1980. Unofficial records indicate that there have been two to three wildland fires per year within this FMU.

About half of these fires have been human caused and half have been lightning. The largest wildland fire during this period was 700 acres. Fires typically occur between May 1 and August 1. In dry years, the area will experience a warm, dry fall fire season. This usually occurs in the months of October and November.

Historical weather data indicates that frost at the higher elevations (7000') occurs eight months out of the year. The summer monsoons arrive in July and last to early September. The area receives some snow during the months of December and January.

### **4. Fire regime/condition class:**

Currently the entire FMU is in Fire Regime/Condition (FRCC) Class 3. The long term objective will be to convert approximately 5000 acres of this FMU to FRCC 1 within the next 20 years.

Historically, the area experienced a fire regime of frequent, low intensity fires which kept the vegetation more of savannah grasslands. With the start of aggressive fire suppression around 1900, fires have been suppressed, creating a change of vegetation into the current Pinyon-Juniper forest type. This change in vegetation has created a change in FRCC from a 1 to a 3.

### **5. Values at Risk/Resource Protection Constraints:**

RFO's GIS map delineates designated areas within the ACEC where no surface disturbance is required to protect the Kuenzler's hedgehog cactus, the passages of Fort Stanton Cave, and the Feather Cave Archeological Complex. This restriction includes the use of bulldozers to build fireline. Where the locations of significant cultural sites are known, the Field Office archeologist will be notified in the event that dozer fire line work is planned near these sites. The archeologist can then work with the fire suppression staff to avoid damaging cultural resources.

The proximity of populated subdivisions and other buildings to the boundary of the FMU, will limit fire suppression to full suppression and may limit prescribed fire in some areas.

## **6. Communities at Risk:**

Currently the following communities are listed in the Federal Register as Communities at Risk: Lincoln and Ruidoso, New Mexico. These two areas encompass numerous, smaller communities and subdivisions such as Ranches of Sonterra, Eagle Creek, Vista Rio Bonito, Rancho Ruidoso, Capitan, and Alto. All of these communities meet the criteria of communities at risk.

## **7. Fire Management Objectives:**

### **Goals**

1. Reverse the conversion from Pinyon-Juniper to natural savanna grasslands.
2. Remove invasive tree species in valley bottoms and riparian areas.
3. Protect private property adjacent to FMU boundary.
4. Protect cultural, natural, T&E plants and cave resources in the FMU.
5. Reduce the fire hazard within all areas of the FMU.
6. Provide for public and firefighter safety.

### **Suppression Objectives:**

- Provide for public and firefighter safety on 100 percent of all fires.
- Control all fires at FIL 1-3 at less than 30 acres 100 percent of the time.
- Control all fires at FIL 4 to 6 at less than 1000 acres 95 percent of the time.
- Protect cultural and cave sites from suppression damage/disturbance.
- Prevent 95 percent of all wildland fires from crossing the FMU boundary onto private property.
- Restrict heavy equipment to roads in areas where there are cave, cultural or T & E species in the natural area of the FMU.

### **Fire Use and Prescribed Fire:**

- Use prescribed fire and mechanical/chemical treatments to control invasive plant species returning targeted sites (approximately 35 percent of the area) from a FRCC 3 and 2 to a FRCC 1.
- To meet all State and local air quality standards.
- To reduce by mechanical, chemical or prescribed fire, the surface fire hazard in approximately 35 percent of the Wildland Urban Interface within the FMU.
- Fire use for resource benefit will not be permitted in this FMU.

### **Non-Fire Fuels Treatment Objectives:**

- Convert approximately 35 percent of existing P-J vegetation into a natural grassland savanna over the next 10 years in identified areas adjacent to private property and improvements.

### **Post Fire Rehabilitation and/or Restoration Objectives:**

- On all high intensity fires, an interdisciplinary team will be called together to assess the damage and to make recommendations for post fire rehabilitation and/or restoration.
- On a case by case basis, use aggressive post fire rehabilitation and restoration to facilitate the reestablishment of native grasses and plants. Aggressive rehabilitation may be needed in some areas where water run-off and soil movement from heavy rains, may cause down stream damage on the Rio Bonito and Rio Salado

### **Community Protection/Community Assistance Objectives:**

There are two communities at risk within the FMU:

- **Lincoln** is located on the east end of the FMU. From 1999 to 2003, vegetation management has been completed around the village to mitigate the threat of wildland fire to the community. All previously treated areas will receive 100 percent maintenance work over the next five years to insure that unwanted vegetation does not return. Individual private property parcels will also be treated where cooperative agreements exist with the property owner.
- **Ruidoso** and subdivisions of Ruidoso are located south and west of the FMU. From 2000 to 2003, vegetation management has taken place along the south and west boundary of the FMU. Further work will be planned and implemented to complete 95 percent of planned work over the next 10 years. All previously treated areas will receive 100 percent maintenance work over the next five years to insure that

unwanted vegetation does not return.

The operational role of the BLM in wildland/urban interface are, wildland firefighting, hazardous fuels reduction, cooperative fire prevention and education and technical assistance. Structural fire suppression is the responsibility of tribal, state, or local governments, as described in the Interagency Standards for Fire and Fire Aviation Operations.

The BLM will not directly fight structure fires in the wildland urban interface. Fire suppression strategies in the WUI areas will be to create defensible zones around structures and to support wildland suppression in WUI areas by providing manpower and equipment under formal fire protection agreements.

## **8. Fire Management Strategies:**

### **Suppression:**

All wildland fires will be suppressed. Aggressive fire suppression will be done on all wildfires that may threaten to escape from the FMU onto private lands and adjacent residential subdivisions. The Roswell Fire Management Officer will pre-plan suppression strategies with the Capitan District Fire Management Officer to insure quick and aggressive suppression on state protected BLM lands.

In areas where there are known cultural sites and in the Natural Area of Fort Stanton, dozer use will not be allowed. Heavy equipment will not be used in areas where the Kuenzler's hedgehog cactus is found. When any dozer lines are constructed, an on-site archeologist/Resource Advisor will monitor all work activities.

Follow established national guidelines for restricting aerial fire retardant applications near streams and riparian areas.

Emphasis will be placed on using existing roads and fuel modification zones for the construction of firelines, anchor points, etc.

### **Wildland Fire Use:**

No wildland fire use for resource benefit will occur in this FMU.

### **Prescribed Fire:**

During normal precipitation years and when there is adequate vegetation to carry the fire, prescribed fire will be used to treat between 250 to 500 acres per year. This burning may be a combination of broadcast burning

and/or pile burning.

Projects will be prioritized around reducing the fire hazard in the Wildland Urban Interface(WUI) and control of invasive plant species.

The fire staff is participating with Texas Tech Universities, Joint Science Program funded study on the effects of prescribed fire on the Kuenzler's hedgehog cactus. This study will determine if and when prescribed fire can be used in areas where this T & E species is found.

### **Non-Fire Fuels Treatment:**

Non-fire fuels treatments (mechanical and chemical) may be considered as needed by a site-specific plan. Non-fire treatments may be used in conjunction with multi-stage fuels treatments such as prescribed fire, chemical and mechanical removal.

### **Restoration and Rehabilitation:**

Because of the topography of the area, emergency restoration and rehabilitation may be required to stabilize soils and watersheds after a high intensity wildland fire. Restoration and rehabilitation will emphasize the reestablishment of habitat diversity and reintroduction of native vegetation species. On a case by case basis, reseeded with native grasses, erosion control (water bars) and soil stabilization will be utilized to rehabilitate the damaged area.

Rehabilitation efforts will take an interagency, interdisciplinary planning approach. This may include collaboration with state and federal partners.

### **Community Protection/Community Assistance**

The Fire Prevention Education/Mitigation Specialist will work closely with interagency partners in developing strategies to education the public and local residents in fire prevention and mitigating fire risk. The Field Office Fire Prevention Plan addresses strategies for accomplishing many fire prevention goals.

Using programs such as Firewise, and community assistance grants, the fire and fuels staff will aggressively work with local communities to eliminate and/or reduce the fire hazard around Ft Stanton and in the Lincoln Valley.

## **IV. Fire Management Components:**

### **1. Fire Planning Unit Fire History**

During the period of 1982-2002, Pecos Valley averaged 63 suppression actions per year, burning an average of 4,735 acres annually. Approximately 87 percent of these fires were less than 300 acres. On average, human caused fires account for approximately 67 percent of all fires with lightning causing the remaining 33 percent.

Most fires within the Pecos Valley are wind driven fires and vary in size and intensity. Generally, only in the Pecos River corridor do high intensity fires (FIL 4 and higher) occur. Most fires at the lower intensity level (FIL <3) can burn a lot of acreage and are suppressed for the protection of private property and for public safety.

### **2. Suppression/Preparedness Actions**

The Roswell fire staff will suppress all fires in accordance with management objectives based on current conditions and fire location. Fires will be suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.

An appropriate response can vary from an aggressive initial direct attack action to an indirect attack in the sand country. Many times, suppression action will be modified or minimized on wildfires where the suppression action would do more damage than good. On these fires, the appropriate response may be to monitor the fire progress and hot spot those areas that may threaten private property and improvements.

In the wildland urban interface of Fort Stanton, the BLM will partner with other federal and state agencies in wildland firefighting, hazard fuels reduction, cooperative fire prevention and education and technical assistance. Structural fire suppression is the responsibility of the state and local governments. The BLM may assist with exterior protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding.

Suppression strategies will be tailored to address areas such as Areas of Critical Environmental Concern (ACECs), critical habitat for T&E species, areas of cave-karst features, riparian and wetlands, known cultural resources, and areas of safety concerns around gas and oil facilities due to high levels of hydrogen-sulfide gas or other dangers.

Suppression strategies within the Lava Flow Wilderness Study Area (WSA) will be to allow the ignition to burn until it burns itself out. The terrain is so hazardous that fire fighter safety would be compromised if suppression actions were to take place on any wildland fire. All fires within the WSA will be monitored from the air or from a safe ground vantage point. Fuel continuity is broken due to extensive lava flows and tubes, so that any fire spread will be very minimal and most fires go out within 24 hours.

Requirements for fire operations and suppression plans can be found in the Interagency Standards for Fire and Fire Aviation Operations, (Red Book) and in the BLM 9200 Manuals. Various local plans and supplements for fire and resource personnel use can be accessed at the Pecos Valley Dispatch Office at the Roswell Field Office.

See Section V-A of this document for a complete summary of the preparedness organization including staffing, budget equipment and facilities.

### **3. Fire Prevention, Community Education, Community Risk Assessment, and Other Community Assistance Activities (Firewise).**

#### **a. Annual Prevention Program**

Due to the fact the approximately 67 percent of wildland fires with the FPA are human-caused, fire education/mitigation has become a key component of the Roswell fire program. In 2003 the field office developed a Wildland Fire Prevention Plan. Details of the prevention program may be found in this plan which is on file in the Fire Management Officer office. Training, prevention materials and full-time funding for one position is in the current budget request.

Community risks assessments and mitigation activities are annually conducted in partnership with New Mexico State Forestry, Capitan Forestry Division, and with local communities in the Ruidoso/Lincoln Wildland Urban Interface.

The Field Office will staff a Fire Education/Mitigation Specialist. The person will work closely with the Lincoln Zone Fire Prevention team in conducting interagency fire prevention and education programs. This person will also work with the Southwest Region Fire Prevention Committee in establishing and implementing broad fire prevention strategies in the state.

#### **b. Special Orders and Closures**

All fire restrictions and closures will be coordinated with zone cooperators, recommended by the Field Office Fire Management Officer and approved by the Roswell Field Office Manager. Normal coordination for all fire restrictions and closures starts within the Lincoln Zone Fire Management Board which evaluates



weather trends, fire activity and NFDRS indices and makes recommendation for further action. (reference the Roswell Fire Prevention Plan). Restrictions have always been coordinated with actions taken by the Lincoln National Forest so as to not to confuse the public on what is not allowed/allowed on public lands in adjoining areas.

### **c. Industrial Operations and Fire Precautions**

The primary industrial operation that takes place within the Pecos Valley is oil and gas exploration and production. Although not a frequent cause of wildland fires, this industry has a high risk from many of their activities. (Reference the Roswell Fire Prevention Plan).

In recent years, major highway construction has occurred on US Highways 70 and 285. There have not been any reported wildland fires that have occurred from this activity. Normally, the New Mexico Highway and Transportation Department monitors all environmental compliance, including fire prevention, on these large projects.

The Burlington Northern Railroad maintains a main rail line through Chaves County. Several railroad caused wildfires have occurred over the years. The railroad company generally does a good job of keeping their right-away clean of vegetation and maintaining patrols during periods of extreme fire conditions.

Agricultural operations cause a significant amount of wildfire starts each year. Fire prevention and education will be tailored to reach farmers and ranchers with the fire prevention message, through personal contacts and media outreach. The Education/Mitigation Specialist will work closely with the Chaves County Fire Board and the Chaves County Sheriffs Department in developing strategies which will reduce the number of agricultural burning wildfires.

## **4. Annual Fire Training Activities**

### **a. Qualifications and Fireline Refresher**

Annual fire refreshers will be given to approximately 35 employees, a minimum of twice a year (March and May). Appropriate levels of Work Capacity Test (WCT) will be given starting in February and will be prerequisite for issuance of a Red Card. Fire suppression personnel will be required to pass the WCT by March 30<sup>th</sup> each year. Temporary employees, whom are required to meet arduous duty standards, will be required to pass the WCT prior to starting to work each year.

### **b. Fire Season Readiness**

The strength of force dates for the Roswell Field Office is February 10<sup>th</sup> to August 8<sup>th</sup>.

Requirements and standards for preparedness and operational plans are found in the Interagency Standards for Fire and Fire Aviation Operations, and are also located in Field Office District Plans binder in Pecos Valley Dispatch.

**c. Agency Administrator and Employee Roles**

The Field Office Manager and the Fire Management Officer will ensure that all employees receive proper training and certification for fire positions that they are interested in. This will include positions in operations, administrative and/or other skills in support of the fire program. The Field Office Manager will ensure that all qualified employees are made available for local and national assignments as the situation demands.

**5. Detection**

Ninety-nine percent of all fire detected within the Pecos Valley come from 911 emergency calls to one of the local County Emergency Dispatch Centers. The Roswell Field Office does not utilize fire towers or other traditional means of fire detection. During periods of high lightning activity, the fire staff can request aerial detection flights on an as-needed basis. These flights are usually done on a joint basis with the Lincoln National Forest and other state and federal agencies

**6. Fire Weather and Fire Danger**

The Roswell Field Office maintains four Remote Automated Weather Stations (RAWS) within the Pecos Valley. Two of these stations are actually located in the Carlsbad Field Office. These stations are:

<b>Name</b>	<b>NWS ID</b>	<b>NESDIS ID</b>	<b>Elevation</b>	<b>Latitude</b>	<b>Longitude</b>
8 Mile	292301	327CA1D2	3740'	33'39.2	104'19.17
Dunken	292302	325B41FA	5500'	32'49.29	105'10.57
Caprock	293104	325B241C	4200'	32'55.37	103'51.25
Paduca	293202	325B6716	3519'	32'10.45	103'43.19

The Logistic-Coordinator for the Pecos Valley Dispatch Center is responsible for recurrent daily activities to manage RAWS data and for input of key dates to initiate seasonal data collection and termination.

The Roswell Field Office currently has two portable RAWS station available. These units are currently located in the WUI areas of Fort Stanton and Lincoln. These units are used to collect data and assess trends for projects in these site specific areas.

All RAWS units use the NFDRS fuel model A along with the Burning Index (BI) to develop Fire Danger Ratings on a daily basis.

The Pecos Valley utilizes the National Weather Service office in Midland, Texas for fire weather services. For activities in the Fort Stanton/Rio Bonito FMU, the El Paso, Texas NWS office is contacted.

A copy of the *Fire Danger Operating Plan* is located in the Pecos Valley Dispatch office in Roswell. This plan provides staffing guidance based upon the current and expected fire weather and NFDRS indices.

## **7. Aviation Management**

The Roswell Air Tanker Base is located at the Roswell Industrial Air Center. This facility is a full support facility for the loading of both Type 1-3 air tankers and Type 4, Single Engine Air Tankers (SEATs). The facility has two loading pits and a capacity for storing 20,000 gallons of liquid concentrate retardant product. The base can produce a maximum of 100,000 gallons of aerial fire retardant per day. Currently, there is no dedicated staffing for this operation. Training, materials and funding for an Air Tanker Base Manager are in the current budget request.

The Roswell Fire Management Officer is currently providing oversight as the Single Engine Air Tanker (SEAT) specialist for the Lincoln Zone. This includes SEAT operations that occur from Carlsbad and Sierra Blanca airports.

There are no local vendors signed up under the OAS aircraft rental agreement (ARA) to provide point-to-point transportation, aerial ignition platforms, reconnaissance missions or other resource management activities (deer herd counts, etc.). These types of aircraft and services are brought in from Albuquerque or El Paso at a considerable expense.

The use of helicopters for fire fighting in the Roswell Field Office has been limited. They are periodically ordered and used on “bosque fires” along the Pecos River to drop water on the fires. This practice has proven very practical and will continue to be used in the future. The Roswell Field Office water tender is set up with equipment to supply water for water dropping bucket operations.

The Roswell Field Office will continue to seek funding for a SEAT contract for the months of May and June.

Copies of the *Roswell Aviation Plan* and the *Roswell Air Tanker Base Standard Operating Plan* are located at Pecos Valley Dispatch and at the Roswell Air Tanker Base.

Because of the significant amount of fire and resource aviation activity in the Lincoln Zone, full time funding for a Zone Aviation Manager is in the current budget request. The potential for this position is that the BLM will support the

FTE and 50% funding, and the Lincoln National Forest will fund the remaining 50% of the position.

## **8. Initial Attack**

All wildland fires with the Pecos Valley will be managed with suppression actions consistent with preplanned dispatch protocols (run cards and/or preplanned dispatch plans) in conformance with resource management objectives identified in this plan. Fire suppression tactics and strategies will be based on the current and predicted fire weather and anticipated fire behavior. Fire fighter and public safety has been and is always the first priority in initial attack action. Resource Advisors will be assigned to any suppression action that may adversely impact sensitive areas.

Use the following information for determining initial attack priorities.

The highest priority FMU's within the Pecos Valley for initial attack are ranked as follows:

1. Pecos Plains/Fort Stanton - (high) based upon private property and public safety.
2. Special Management Areas - (high) based upon natural resource affected and private property.
3. Lava Flow WSA - (low)

As the wildland fire complexity increases, and initial attack moves toward an extended attack, additional staffing will be requested as appropriate and consistent with incident complexity guidance. An Incident Complexity Analysis will be used as a guide for agency administrators/fire managers to identify and mitigate certain complexity or safety issues of an incident. This guidance is found in the Interagency Standards for Fire and Fire Aviation Operations.

## **9. Extended Attack and Large Fire Suppression**

Guidance for extended attack and large fire suppression is located in the Interagency Standards for Fire and Fire Aviation Operations, Chapter 10.

## **10. Other Fire Suppression Considerations**

In several areas, the Appropriate Management Response will be to utilize roads and barriers to contain the fire. In these areas, conventional direct attack with engines and other equipment may not be safe because of the following natural hazards. These areas are exceptions to fire management objectives as discussed in previous sections. They are:

- 1) Mescalero Sands - many square miles of sand dunes and soft sand which is impossible to drive in without specialized vehicles.
- 2) Special Management Areas - numerous sinkholes and areas of subsidence are found which restrict the use of heavier vehicles and engines. T&E species habitat may impacted by fire suppression.
- 3) Lava Flow badlands – Because of the extremely rough lava flows and tubes, foot traffic is very dangerous. The potential for serious injury and death is high.

In the above areas, a modified suppression response is required for fire fighter safety. This modified response may be to allow the fire to burn to it runs into barriers or to areas where safer suppression action is allowed. Because of the risk to fire fighter safety and the potential damage to the resource by traditional suppression action, Minimum Impact Suppression Strategy (MIST) will be followed in these areas.

## **B. Wildland Fire Use:**

No wildland fire for resource benefit is proposed in this document. Wildland fire use for resource benefit was considered in the planning process. However, it has not been further considered because of land ownership patterns, local considerations, and the number of improvements and facilities located on BLM lands.

## **C. Prescribed Fire**

### **1. Planning and Documentation:**

The Roswell Field Office maintains a small supply of ignition devices such as drip torches and aerial flares. The Field Office maintains a formal relationship with Bitter Lake NWR, which has a terra torch that can be used by BLM in prescribed fire operations. The BLM currently has two (2) terra torch operators and will seek to maintain those qualifications. Since there are no independent prescribed fire contractors which meet BLM standards, all prescribed fire projects will continue to be conducted by BLM and other federal agency personnel. All Burn Boss assignments on BLM lands will be a BLM employee unless prior approval from the Field Office Manager is obtained.

Projects priorities to treat in the Pecos Valley are as follows:

- Watershed restoration and protection on the Pecos River and tributaries.
- Restoration of fire dependent ecosystems from Condition Class 2 to Condition Class 1.

- Control of invasive species in traditionally prairie ecosystems. Use multi-stage treatments in treating condition class 3 toward Condition Class 2 or 1.

Projects to treat in the Fort Stanton/Rio Bonito FMU are prioritized as follows:

- Reduce fire hazard in the wildland urban interface.
- Control of invasive species by multi-stage treatments. Use multi-stage treatments in treating Condition Class 3 toward Condition Class 2 or 1.

The Fire Management Officer will maintain an Interdisciplinary Team (I.D. team) of specialists which will review and plan all site specific prescribed fire projects. All projects will be analyzed through the NEPA process and other state and federal regulatory compliance processes, documenting the purpose and need for treatment. This NEPA analysis will identify goals and objectives that the prescribed fire treatment is intended to achieve.

The primary burn window will occur in the spring months. Burning may also be accomplished in summer and fall. Pile burning is primarily done in the winter months but may also be done during the summer monsoon season.

Future project workloads will be planned, evaluated and analyzed in the Risk Assessment and Mitigation Strategies (RAMS). This workload analysis is planned to be implemented by 2004 or 2005 in New Mexico. All accomplishments will be reported as required in MIS and NFPORS.

The Roswell Field Office will seek to maintain prescribed fire qualifications for Type II operations as follows; two (2) Type II Burn Bosses, 5 Type II Ignition Specialist and 5 Holding Specialist. The Field Office will seek to keep a minimum of two (2) employees qualified on the Bitter Lake NWR Terra Torch.

The Roswell Field Office will provide assistance to and will request assistance from the Bitter Lake NWR for prescribed fire projects that are near or adjacent to jurisdictional boundaries.

Prescribed Burn Bosses will be required to conduct First Order Fire Effects Monitoring (FOFEM) each day to assess prescriptive parameters and whether burn objectives have been met. These evaluations will be documented on the appropriate forms and maintained as part of the project file. Long term fire monitoring will be accomplished by the Fuels Specialist and the project implementation leader (i.e. wildlife biologist, range management specialist) by analysis of vegetation transects or other

approved methods established prior to treatment. This monitoring is subsequently re-assessed on a periodic basis to evaluate change over time. This data is documented in the appropriate format as agreed upon in the Resource Management Division. See Section VI of this plan on Monitoring and Evaluation.

Maps displaying prescribed fire treatments are maintained in the Geographic Information System (GIS). Future prescribed fire treatments will be placed in the GIS data base.

## **2. Air Quality and Smoke Management**

Air Quality across the Pecos Valley is generally very good. All areas meet Environmental Protection Agency (EPA) air quality attainment standards.

There are two Class 1 airsheds near or adjacent to the FPU, both of which could be impacted from smoke emissions from BLM prescribed fires. These are the Salt Creek Wilderness (US F&WS) and the Capitan Wilderness (USFS). Generally, the most impact will be on the Salt Creek Wilderness which is located 20 miles northeast of the town of Roswell. This area is surrounded by BLM lands, many of which are planned for future prescribed fire projects. Burning has been done around Salt Creek Wilderness in the past and personnel have developed a lot of experience in mitigating smoke impacts on this area. Any impacts have been short term because of the nature of the fuel (grasses) that have been burned around this area. The Capitan Wilderness is surrounded by Forest Service lands and BLM does not burn within 10 miles of this airshed.

All resource management prescribed burning will be conducted under the Guidance Document of the New Mexico Environment Department's Air Quality Bureau (AQB) Smoke Management Program (SMP). The SMP is applicable in all of New Mexico, except tribal lands and Bernalillo County.

All prescribed fire projects will be evaluated as to whether they meet the requirements of Open Burning Regulations or Smoke Management Program/Rule. This is evaluated by burn size in acres, or volume of piles per day. Since most BLM prescribed fire projects fall under the SMP rules, comprehensive guidance and policy is addressed in the SMP 2.2 and 2.3. These sections define such requirements as; alternatives to burning, actions to minimize emissions, evaluation of smoke dispersion, air quality monitoring, public notification, burn authorization and fire activity tracking.

The SMP also requires that wildland fires under suppression require fire activity tracking for all fires over 100 acres in size. This information must

be submitted to the AQB within six weeks after fire fighting activity has been completed. Additional information on this requirement is found in part 2.3.1 of the Guidance Document.

The SMP document is on file in the Fuels Specialist's office.

## **D. Non-Fire Fuel Treatments**

Non-fire fuels treatments are planned for up to 1000 acres of public land per year over the next ten years. Most of this work will be in salt cedar control within areas of the Pecos River corridor. Much of this work will be a combination of chemical control, mechanical removal and mechanical piling for burning. These areas will be converted from Condition Class 3 to Condition Class 2. At this time, there is no proposal to convert from Condition Class 2 to 1. Other potential projects will include small chain saw projects with salt cedar and Pinyon-juniper being the target species to remove from the project area. These projects will be cooperatively funded out of Sikes Act, Watershed Improvement funds, Clean Water Act funds and other program funds.

All projects will be subject to a site specific E.A. being completed prior to any work being done.

The Field Office will continue to chemically treat mesquite and other invasive plants using Range Improvement funds (8100 projects). Many of these projects will be followed up with prescribed fire to reduce or eliminate the dead biomass created by these projects.

The BLM will continue to conduct mechanical treatments of Pinyon-juniper within the Fort Stanton/Lincoln FMU. The goal in this area is to convert approximately 30% of this area from a Condition Class 3 to a Condition Class 1 in approximately 20 years. Most of this work is being done in the wildland urban interface of Ruidoso and Lincoln.

Most of this treatment will be by tree removal with chainsaws. A combination of chipping and burning will be used to dispose of the wood by-product. The Field Office staff is current working with several local entrepreneurs on utilization of the wood by-products. Wherever possible and accessible, the wood by-products will be offered to the public as firewood. Future plans call for firewood permits to be sold by the Roswell Field Office.

Treatments will be done by a combination of local contractors and BLM employees.



## **E. Emergency Stabilization and Rehabilitation**

Historically, the Emergency Stabilization and Rehabilitation (ESR) workload has been very light. Although large grass fires have been a common occurrence in the Pecos Plains, resource managers have found it more cost effective not to rehabilitate the damaged lands, but to let natural processes do the job. In individual situations, the Field Office staff may require that temporary fences be built and that livestock grazing be deferred until sufficient vegetation returns.

Because of the relative flatness of the country and fragileness of the soils, it has been determined that stabilization is not necessary to protect soils and vegetation from further damage.

The only exception may be in some areas in the Eastern Pecos Plains. In the “Shinnery Oak Country”, in the aftermath of a high intensity level fire (FIL 4-6), resource managers may elect to implement long term re-seeding in order to reestablish a mosaic of native grasses for the restoration of Lesser Prairie Chicken habitat. This strategy may be pursued after the final Prairie Chicken plan has been approved.

In the Fort Stanton/Rio Bonito FMU, there may be a case by case need to provide short term and long term ESR in order to promote soil stability, reduce the establishment of non-native, invasive vegetation species and to reduce potential degradation to the Rio Salado and Rio Bonito. Short term ESR would primarily be aimed at repairing suppression damage such as roads, fences and installing water bars and rehabilitation of firelines. Long term ESR might include the aerial planting of native grasses and shrubs on critical slopes and in sensitive areas to prevent watershed damage and soil movement, and the loss of critical T & E habitat.

## **F. Community Protection/Community Assistance**

Two (2) communities, Ruidoso and Lincoln, are located adjacent to the Fort Stanton/Rio Bonito FMU, and are listed in the Federal Register as communities-at-risk. Both communities have had risk assessments conducted by the New Mexico State Forestry Department. Both communities have very active fire prevention programs which include risk assessments. Several Firewise Workshops have been conducted in both communities.

New Mexico State Forestry and Lincoln National Forest are lead agencies, and BLM is a cooperating agency, in the community protection/community assistance for both communities.

In the Pecos Plains FMU there are currently no listed communities at risk.

BLM has completed Rural Fire Assistance Agreements for the following communities over the past three years:

Ruidoso Fire Department,  
Village of Lincoln Rural Fire Department  
White Oak Rural Fire District,  
Village of Dexter Fire Department  
Rio Felix Rural Fire District  
Midway Rural Fire District  
District Eight Rural Fire District

Specific items purchased include personnel protective equipment, small pieces of equipment and several larger community projects such as installation of fire hydrants and water storage facilities. Several rural fire departments have funded fire prevention activities and acquired training materials with this grant funding.

## V. Organization and Budget

### A. Budget and Organization

The following section explains the existing organization as broken down into two categories; facilities and staffing.

#### **Facilities:**

##### **Pecos Plains FPU**

**Roswell Fire Station** located at the Roswell Field Office. This current facility will support the fire staff and one or more engine modules.

**Roswell Fire Cache** located at the Roswell Field Office. This cache provides equipment and supplies for the field office support and engine replacement cache.

**Pecos Valley Dispatch.** Located at the Roswell Field Office. This operation provides interagency fire dispatching for the Pecos Valley.

**Roswell Air Tanker Base** located at the Roswell Air Center. This facility will support initial attack and extended attack aviation operations and is capable of reloading all size air tankers from SEATs to the “super heavy” air tanker.

**(Proposed) Comanche Hills Fire Station:** located at the New Mexico Army National Guard training site on Comanche Hill, 10 miles east of Roswell. The facility will support one engine module during fire season. This station will be open from March 1<sup>st</sup> through the end of July. The BLM will be studying opportunities to joint fund this facility with the New Mexico Army National Guard and with Chaves County.

**Lincoln /Fort Stanton Area**

**(Proposed) Fort Stanton Fire Station** located at Fort Stanton, NM. During fire season this facility will support one engine module and a small fuels crew. This station will be open from early May until mid July. Currently this facility is the former New Mexico State University research station which is under ownership of the State of New Mexico. The BLM is negotiating a lease to use this building as an administrative site at Fort Stanton.

**(Proposed) Sierra Blanca SEAT Base**

BLM may partner with other state and federal agencies to further development of the Single Engine Air Tanker base at Sierra Blanca Regional Airport. Development will include facilities, staffing and operating procedures.

**Staffing:**

The normal year readiness program will change very little from the previous fire planning period (approved table of organization, 2001).

The following chart describes the budget/organization needed to accomplish program objectives as summarized in this Plan. There have been several positions which were previously identified in past fire plans which have not been funded to this point. This includes positions at the Roswell Air Tanker Base.

Resource	Current Staffing	Desired Staffing	Normal Activation	Sub Activity	Cost
FMO	1	1 (pft)	Yearly	2810	\$ 57,600
Type 4 Engine	5	5(1 pft)	Feb-Aug	2810	\$148,000
Type 4 Engine	5	5(1 pft)	Feb-Aug	2810	\$148,000
Type 6 Engine	5	5(1 pft)	Feb-Aug	2810	\$148,800
Watertender	2	2(1 pft)	Feb-Aug	2810	\$ 59,200
ATBM +1	0	2	March-Aug	2810	\$ 66,600*
Educ/Mitigation Specialist	1	1(1 pft)	Yearly	2810	\$ 44,400
Dispatch	3	3(1 pft)	Yearly	2810	\$172,800
Program Assistant	1	1(1 pft)	Yearly	2810	\$ 44,400
Fuels Specialist	1	1(1 pft)	Yearly	2823/2824	\$ 57,600
Fuels Crew	6	6	May-Sept	2823/2824	\$ 88,800
Adm. Support	1	1	Yearly	2810/2823	\$ 44,400
Aviation Mgr	0	1(1 pft)**	Yearly	2810	\$ 25,000*

\* New positions in the next planning cycle include an Interagency Aviation Manager, an Air Tanker Base Manager and one temporary helper for the air tanker base. Positions may be interagency co-funded.

The budget needs for salary for the above organization will be approximately \$ **937,000** per year. This will fully fund the Roswell Air Tanker Base, the four suppression modules, Pecos Valley Dispatch, an Interagency Aviation Manager\* and overhead support.

\*\* proposed co-funded with the Lincoln National Forest.

## **B. Assistance Agreements and Intra/Interagency Agreements**

The following Cooperative Agreements and Assistance Agreements are in place and are available to view in the FMO's office.

- a. New Mexico Joint Powers Agreement
- b. New Mexico JPA Operating Plan for Lincoln Zone
- c. Radio Frequency Agreements (RFA) with Chaves County
- d. MOU for fire management cooperation with Bitter Lake NWR
- e. Assistance Agreements with Lincoln County
- f. Assistance Agreements with Village of Ruidoso
- g. Assistance Agreements with Town of Dexter
- h. Assistance Agreements with Chaves County

## **C. Equipment Rental Agreements**

The Contracting Officer for the Lincoln National Forest negotiates Emergency Equipment Rental Agreements (EERA's) with local vendors within the Lincoln Zone. Copies of these agreements are available as part of the *Service and Supply Plan* and are located in the Pecos Valley Dispatch Office.

## **D. Contract Suppression and Prescribed Fire Resources**

Contract vendors providing fire suppression services are limited in the local area. Several fire vendors in New Mexico are forming a New Mexico Contractors Association and will be negotiating rates and services with the Forest Service in the near future. They may or may not be a part of the National Fire Contractors Association. The Forest Service has been delegated the lead agency in working with these contractors/vendors.

The Roswell Field Office will order contractors/vendors by placing orders through the Resource Ordering Supply System (ROSS) through the Lincoln Zone Coordination Center.

## **VI. Monitoring and Evaluation**

A systematic approach for monitoring prescribed fire and non-fire treatments has been developed for the Roswell Field Office.

Current vegetation monitoring strategies are to utilize existing range monitoring protocols (Rangeland-Vegetation Monitoring Studies) to assess the condition study plots in pre-identified areas within the Field Office boundary. Starting in 2003, an additional monitoring protocol was instituted to study the over-all condition of vegetation on public lands. This protocol, known as the Standards and Guides Assessment is used to assess the health of rangelands within the Roswell Field Office. The data collected from these monitoring studies will be used to assess performance in meeting fire/resource management objectives as outlined in the Roswell Field Office Land Use Plan and other activity plans.

Project-level monitoring will occur on all prescribed fire projects. Specific fire monitoring protocols have not been adopted. Currently, photo plots are the preferred method of monitoring the short and long term change after treatment. At some time in the future, it may be necessary to develop monitoring protocols, such as vegetation studies using random transects to analyze the success of vegetation and fuel treatments.

Project monitoring will also require that the Burn Boss conduct First Order Fire Effects Monitoring. This protocol consists of the development of prescriptive parameters (i.e. weather, fuel loading, fuel moistures, etc.) to meet desired objectives, then to evaluating the success or failure of the parameters in meeting the objectives of the treatment. The Burn Boss will insure that either he/she or a subordinate will document such items as: burn patterns, consumption, plant mortality, scorch height, air quality and other requirements related to fire treatment objectives. The Burn Boss will compile all data and file in the appropriate project file.

Program evaluation will continue to be a high priority. Periodic fire and fuels program reviews will be conducted to evaluate the Aviation, Fire, Fuels and the prescribed fire program to insure that the overall program is meeting bureau standards. This will consist of formal Readiness Reviews and/or informal evaluations/site visits of specific projects and programs. All reviews and evaluations will be documented and results will be given to the Roswell Field Office Manager and the Fire Management staff.

Periodic safety inspections and reviews will be conducted by the State Safety Engineer, on all facilities and random site specific operations. The evaluator will ensure that all BLM and OSHA standards are being met and that safety violations are corrected and documented. The Roswell Field Office Management Team may elect to conduct additional reviews or request "outside reviews" of specific projects to insure compliance to all applicable codes and regulations.

A U.S. Forest Service and/or BLM Air Tanker Base Specialist will periodically inspect the Roswell Air Tanker Base to evaluate the bases preparedness level and to assess compliance to the *Interagency Air Tanker Base Operating Guide (IATBOG)*. A written evaluation of this inspection will be reviewed with the air base staff and FMO upon completion.

## Glossary of Terms and Acronyms

**Adjective Rating** – A descriptive title used to communicate wildfire danger, as determined by NFDRS, to the public. Five classes exist: Low, Moderate, High, Very High and Extreme.

**Aggressive Attack** – Usually follows fire discovery immediately and with sufficient force to affect control at the earliest possible time with minimum acres burned.

**Agency Administrator** –responsible line officer

**Agency Representative** – Individual assigned to an incident from an assisting or cooperating agency, which has been delegated full authority to make decisions on all matters affecting that agency's participation in the incident.

**Air Quality** - The general term alluding to how clean or dirty the atmosphere is from undesirable substances (gases, liquids or solid particles).

**Appropriate Management Response** – Suppression response composed of confine, contain, control, or a combination that most efficiently meets fire management direction under current and expected burning condition with the minimum use of people and equipment.

**Area of critical Environmental Concern (ACEC)** - An area where special management attention is needed to protect and prevent irreparable damage to important historical, cultural, scenic or other natural resource systems.

**Backfire** – A fire set along the inner edge of a fireline which burns against the wind and is used to consume the fuel in the path of a wildfire.

**Burning Conditions** – The state of the combined factors of the environment that affect fire behavior in a specified fuel type.

**Cave-Karst** - An area of geological features based upon the presence of naturally occurring caves, pits, sinkholes and underground passages.

**Class of Fire** – (as to size of wildland fires)

Class A – A fire of one-fourth acre or less. (0 acres to 0.25 acres)

Class B – A fire of more than one-fourth acres, but less than 10 acres. (0.26 acres to 9.99 acres)

Class C – A fire of 10 acres or more, but less than 100 acres (10 acres to 99.9 acres)

Class D – A fire of 100 acres or more but less than 300 acres (100 acres to 299.9 acres)

Class E – A fire of 300 acres or more, but less than 1,000 acres. (300 acres to 999.9 acres)

Class F – A fire of 1,000 acres or more, but less than 5,000 acres. (1,000 acres to 4999.9 acres)

Class G – A fire of 5,000 acres or more. (5,000 acres +)

**Command Staff** – staff that report directly to the incident commander, for example the safety officer.

**Community Assistance** - A collaborative process among multiple levels of government, which is characterized by a common strategy, with the goal of community protection, diminished risk and consequences of severe wildland fires.

**Communities at Risk** - Area of human development that have been identified by a collaborative process as having the potential of extensive damage from wildland urban interface type fires

**Containment** – The completion of a control line around a fire and any associated spot fires which can reasonably be expected to check the fire’s spread.

**Debris Burn** – a fire used to dispose of scattered, piled or windrowed dead biomass, generally in the absence of an overstory. Examples are windrows, piles, stubble and residue burns, etc.

**Desired Plant Community** - The plant community which provides the vegetation attributes required for meeting or exceeding RMP vegetation objectives.

**Dozer line** - The removal of vegetative material by using the blade of a bulldozer to push it aside, creating a fireline to mineral soil.

**Energy Release Component** – the NFDRS index defined as the total heat release per unit area within the fire front at the head of the moving fire.

**Escaped Fire** – Wildfires that cannot be successfully controlled by initial attack forces and prescribed fires that escape prescription and burn as wildfires.

**Fire Adapted Species** – species that remain on site within a burned area and adjust their feeding habits and habitat requirements to post burn conditions. No significant increases or decreases in the population are attributed directly to the fire.



**Fire Behavior** – The response of fire to its environment of fuel, weather, and terrain including its ignition, spread, and development of other phenomena such as turbulent and convective winds and mass gas combustion.

**Fire Danger Rating** – fire management system that integrates fire danger factors into qualitative or numerical indices which indicate the need for current levels of fire protection preparedness or activity.

**Fire Dependent or Fire Maintained Ecosystems** – An ecosystem can be called fire dependent or fire maintained if periodic perturbations by fire are essential to the functioning of the system.

**Fire Dependent Species** – species that rely on fire as a proliferating event. In the absence of fire, marked declines in the population are detected over time.

**Fire Family** – statistical analysis program fed by the National Weather Library, capable of reproducing NFDRS components and currently in use for specific locations.

**Fire Intolerant Species** – species that leave a burned over area and its proximity immediately following fire and do not return until many years post burn or until preburn conditions are again duplicated. No reproduction of species within burned area is documented.

**Fire Impervious Species** – species that remain unaffected by fire since due to habitat preference (areas that will not burn) or morphological/physiographic defenses (barrier) to the environment.

**Fire Management Objectives** – The planned, measurable result to be obtained from fire protection and use.

**Fire Management Unit (FMU)** – A distinct parcel of land that can be recognized and mapped by its external features and in which suppression responses to fire have been predetermined.

**Fire Monitoring** – The systematic process of collection and recording fire-related data, particularly with regard to fuels, topography, weather, fire behavior, fire effects, smoke, and fire location.

**Fire Occurrence Map** – A map that shows by suitable symbols the starting points of all fires of various causes for a given period.

**Fire Prescription** – A written statement defining the objectives to be attained, and the conditions of temperature, humidity, wind direction and speed, and fuel moisture, under which a fire will be allowed to burn.

**Fire Season** – The portion of the year during which fires are likely to occur, spread, and do sufficient damage to warrant organized fire control. Strongly dependent on climate.

**Fire Program Analysis (FPA)**- A new fire analysis software program which will analyze initial attack resources at the Fire Planning Unit level.

**Fire Planning Unit (FPU)**- The FPU is defined to describe the geographic planning area. It can cross jurisdictional boundaries, including BLM office lands and/or other partners lands.

**Fire Prevention** – Activities directed at reducing the number of fires that start, including public education, law enforcement, personal contact and reduction of fuel hazards.

**Foam** – Compounds introduced into a stream of water by special nozzles or proportioning devices to develop a stream of bubbles surrounded by a tenacious film of water and foaming agent capable of smothering fire.

**Fuel Loading** – Oven-dry weight of fuel per unit area, referenced by fuel size or time lag categories.

**Fuel Model** – Simulated fuel complex for which all fuel descriptions required for the solution of a mathematical rate of spread have been specified.

**Fuel Type** – An identifiable association of fuel elements including species, form, size arrangement or other characteristics that will cause a predictable rate of spread or resistance to control under specified weather conditions.

**Handline** - The removal of vegetative material using shovels, Mcleods and other tools in order to create a fireline to mineral soil.

**Head Fire** – fire front spreading or ignited to spread with the gradient (with the wind).

**Helitorch** – Aerial ignition device slung from or mounted on a helicopter that dispenses ignited globs of gelled gasoline.

**Incident Command System** – Combination of facilities, equipment, personnel, procedures and communications operating within a common organizational structure and responsibility for assigned resources to effectively accomplish stated objectives pertaining to an incident.

**Incident Commander** – the person responsible for the management of all activities on an incident; exercises the command function.

**Initial Attack** - An aggressive response to a wildland fire based on values to be protected, benefits of response, and reasonable cost of response.

**Inversion** – Departure from the usual increase or decrease in temperature with altitude (increase in temperature with increasing height).

**Management Ignited Prescribed Fire** – fire purposely set under a predetermined prescription (set of weather or fire behavior conditions) for purposes of achieving a specific response management objective.

**Minimum Impact Suppression Strategy (MIST)** - A suppression strategy which allows fire fighters to fight a wildland fire with tactics commensurate with the fires potential or existing behavior, yet leave minimal environmental impact

**Memorandum of Understanding (MOU)** - An agreement between two governmental agencies which allow them to provide services to one another with certain stipulations.

**Mutual Aid** - Any form of direct assistance from one fire agency to another during an emergency, based upon a pre-arrangement between agencies involved and generally made upon the request of the receiving agency.

**National Fire Danger Rating System (NFDRS)** -- A system which uses historical analysis of fire weather data to identify thresholds for staffing class, adjective rating and preparedness levels.

**Normal Fire Year** – The year with the third greatest number of fires in the last ten.

**Normal Unit Strength** – The amount of non-capitalized fire fighting equipment need by the station to meet 70% of its fire suppression needs.

**Prescribed Fire Units** – stratification of a land parcel by the same fuel type, vegetation type or resource management objective for purposes of managing the application of prescribed fire on a rotational basis.

**Prescription** – written statement defining burning objectives to be attained through the application of prescribed fire including temperature, humidity, wind direction and wind speed, fuel moisture content, etc., generally expressed as acceptable ranges of the various indices.

**Presuppression** – Activities undertaken in advance of fire occurrence to help ensure more effective fire suppression, including planning, recruitment and training of fire personnel, procurement and maintenance of equipment and supplies, fuel treatments and maintenance of fuel break network.

**Rate of Spread** – Relative activity of a fire in extending its horizontal dimension, expressed as a rate of increase of fire perimeter, in total area or fire length of the active fire front, depending on the intended use of the information; generally expressed in chains per hour.

**Red Card** – A qualification card issued to fire rated persons showing their qualification to fill given positions and also their training needs.

**Red Flag** – Term used by fire weather forecasters to alert fire management personnel to special or adverse weather conditions that present a high probability of extreme fire behavior.

**Resource Advisor** - An trained person who has the education and experience which allows him/her to analyze fire behavior, potential and conditions and make recommendations as to suppression strategies and tactics in order to protect sensitive resources and sites.

**Riparian Area** - Situated on or pertaining to the bank of a river, stream or other body of water. Normally refers to plants and other types of vegetation from along banks.

**Run Cards** - Individual cards which tell the dispatcher what suppression resources that are to be sent to a wildland fire. They are preplanned and based upon fire weather, indices and suppression strategies for the particular area where the fire is located in.

**Smoke Sensitive Area** – Area in which smoke from outside sources is intolerable, for reasons such as heavy population, existing air pollution, or intensive recreation or tourist use, location of medical facilities, retirement communities, etc.

**Staffing Level** – A readiness class of one to five determined by NFDRS and related to fire danger to trigger presuppression and readiness actions.

**Step Up Plan** – A series of preplanned actions or steps taken at various staffing levels to maximize wildfire prevention and preparedness.

**Spot Weather Forecast** – special prediction of atmospheric conditions at a specific site, usually requested by personnel managing a wildfire or a prescribed fire.

**Suppression** – All the work of extinguishing or confining a fire beginning with its discovery.

**Timelag Fuels** – The time necessary under specified conditions, for a fuel partial to lose approximately 63% of the difference between its initial moisture content and the equilibrium content.

**Values at Risk** - The value of natural resources in relationship to how easily it can be restored or replaced should it be damaged or destroyed by human or natural causes.

**Ventilation Factor** – A numerical value relating the potential of the atmosphere to disperse airborne pollutants from a stationary source calculated by multiplying the mixing height by the transport wind speed.

**Wetlands** – Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support vegetation typically adapted for life in saturated soil conditions.

**Wetline** – A line of water or chemical and water, sprayed along the ground and serves as a temporary control line from which to ignite or stop a low intensity fire.

**Wilderness Study Area (WSA)** - A “roadless” area which has been determined to have wilderness characteristics.

**Wildland Fire for Resource Benefit** - The term used for a natural ignition which will be managed as a wildfire under limited suppression strategy in order to provide a resource benefit to a fire dependent ecosystem.

**Wildfire** – A free burning fire not within prescription. All fires, other than prescribed fires, that occur on wildlands.

**Wildland Fire Management** – All activities related to the prevention, control or use of fire burning through vegetation under specific prescriptions for the purpose of achieving fire management objectives.

**Wildland Urban Interface** - WUI is defined as the line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

**Work Capacity Test (WCT)** - A physical fitness test that all fire fighters must pass before they are allowed an assignment on the fireline.

## Glossary of Acronyms

ACEC	Area of Critical Environmental Concern
AMR	Appropriate Management Response
BI	Burning Index
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
DOI	Department of Interior
DPC	Desired Plant Community
EPA	Environmental Protection Agency
ERC	Energy Release Component
ESR	Emergency Stabilization and Rehabilitation
FIL	Fire Intensity Level
FMO	Fire Management Officer
FMP	Fire Management Plan
FMU	Fire Management Unit
FPU	Fire Planning Unit
FRCC	Fire Regime Condition Class
FTE	Full Time Equivalency
IA	Initial Attack
IC	Incident Commander
JPA	Joint Powers Agreement
LAL	Lightning Activity Level
LNZ	Lincoln Zone
MIST	Minimum Impact Suppression Strategy
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NFDRS	National Fire Danger Rating System
NIFC	National Interagency Fire Center
NIFQS	National Interagency Fire Qualification System
NIIMS	National Interagency Incident Management System
NWCG	National Wildfire Coordinating Group
RAWS	Remote Automatic Weather Station
RMP	Resource Management Plan
SMP	Smoke Management Program/Rule
SWC	Southwest Coordination Center
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WIMS	Weather Information Management System
WSA	Wilderness Study Area
WUI	Wildland Urban Interface
WCT	Work Capacity Test