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Chapter 1 Introduction

Farmington District Fire Management Plan

Chapter 1. Introduction

Purpose and Need

In September of 2009 a collaborative decision was made by New Mexico BLM fire management staff to create a district-wide fire management plan for the Farmington and Taos Field Offices. The purpose of the district-wide fire management plan is to assist fire managers in determining the appropriate management response to fire events and to conduct planned fuel treatments on public lands within the Farmington District fire management area.

The district wide fire management plan is a document that is needed so that fire managers have overall strategic and tactical guidance options based on the objectives outlined in office Resource Management Plans. The *Guidance for Implementation of Federal Wildland Fire Management Policy (February 2009)* states that every area with burnable vegetation must have an approved fire management plan. The district-wide fire management plan will be called the Farmington District Fire Management Plan, hereinafter referred to as the District FMP. The administrative act of combining the two office FMP's into one District FMP is a major revision therefore the district fire planners are required to follow the direction outlined in *Instruction Memorandum No. 2009-146 (June 2009)*. This IM requires FMPs undergoing major revisions to follow the template outlined by the *Interagency Fire Management Plan Template (April 2009)*.

The District FMP is designed to encompass all aspects of the Farmington District's fire program, including wildland-urban interface (WUI); rural fire assistance; prescribed fire, fuels management, and wildland fire prevention and suppression; forest and range restoration and wildlife habitat improvement. It is a strategic plan that defines program roles to manage wildland and prescribed fires based on the approved land management plan.

The District FMP provides for firefighter and public safety and is consistent with resource management objectives, activities in the area, and environmental laws and regulations.

In addition, the District FMP is needed because it addresses a full range of fire management activities, consisting of fire planning; fire management strategies, tactics and alternatives and fire prevention, as well as fire preparedness and education. The District FMP also addresses the role of mitigation, post-fire rehabilitation, and restoration activities in fire resource management.

Implementation of this District 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.

General Description and Location

The Farmington District is comprised of two field offices, the Farmington Field Office and the Taos Field Office, with the district office being located in Farmington, New Mexico. The Farmington District management area is located in the northwest and north central parts of New Mexico. The District borders the Colorado state line to the north and the Arizona state line to the west. It varies from 50-100 miles in width to 120-250 miles in length (see Figure 1.1). Table 1.1 gives a summary of land ownership and acreages.

Land Ownership

The distribution of public lands has an important influence on fire management options. There are a number of surface owners within the Farmington District, including the BLM, the US Forest Service (USFS), the Bureau of Reclamation (USBR), the Bureau of Indian Affairs (BIA), Native American tribes, the State of New Mexico, and private landowners.

The amount of land administered by each field office, relative acreage, and land ownership within the Farmington District area are presented in Tables 1.1 and 1.2.

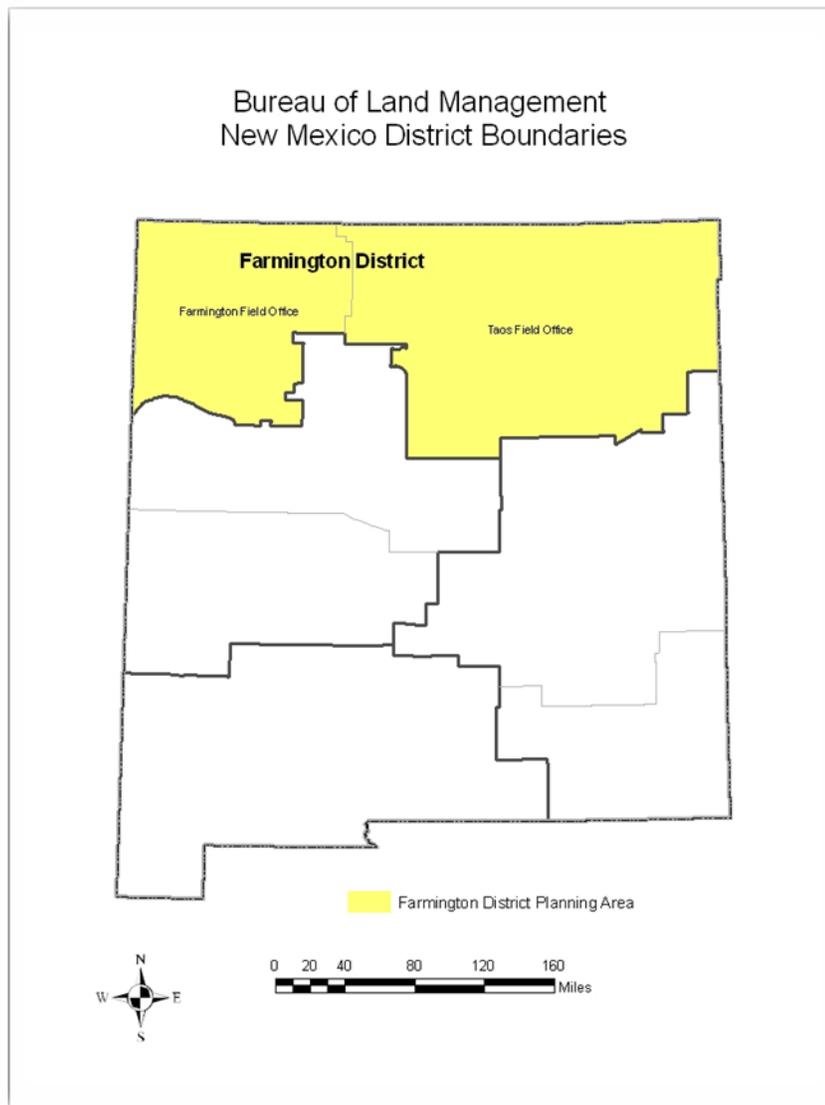


Figure 1.1: Location of the Bureau of Land Management Farmington District

Table 1.1: Surface Ownership in the Fire Management Planning Area (by acre)

Federal Agencies	Taos Field Office	Farmington Field Office	Total: Surface Acres by Owner
Bureau of Land Management	584,000	1,415,286	1,999,286
US Forest Service	2,503,000	256,872	2,759,872
US Bureau of Reclamation	0	31,035	31,035
National Parks Service	0	34,205	34,205
Subtotal Surface Acres	3,087,000	1,703,193	4,790,193
Other Land Ownership			
Tribal Lands	35,000	4,774,422	4,809,422
State	35,000	334,675	369,675
Private	1,129,000	1,050,200	2,179,200
Total Surface Acres	4,286,000	7,896,695	12,182,695

Source: GIS data derived from BLM FFO, TAFO and SO coverage.

Table 1.2: Surface Ownership in the Fire Management Planning Area (by percent of total surface area)

Federal Agencies	Taos Field Office	Farmington Field Office	Total: Surface Acres by Owner
Bureau of Land Management	4.7%	11.6%	16.3%
US Forest Service	20.5%	2.1%	22.6%
US Bureau of Reclamation	0	.25%	.25%
National Parks Service	0	.28%	.28%
Other Land Ownership			
Tribal Lands	.28%	39.2%	39.4%
State	.28%	2.7%	3.0%
Private	9.2%	8.6%	9.2%

Source: GIS data derived from BLM FFO, TAFO and SO coverage.

Chapter 2 Policies, Land Management Plans, and Partnerships

Farmington District Fire Management Plan

Chapter 2. Policy, Land Management Planning and Partnerships

The Farmington District Fire Management Plan has been tiered to decisions contained within the Farmington Field Office Resource Management Plan, the Taos Field Office Resource Management Plan, and the Federal Wildland Fire Policy, Departmental Handbooks and Manuals. These plans provide the basis for the development of fire management goals and objectives.

2.1 Fire Policy

The District FMP derives overall program guidance from the following legislation:

- New Mexico Wildland Fire Management Joint Powers Master Agreement, ENMRD No. 08-521-2300-0288 (March 2008)
- Disaster Mitigation Act (October 2000)
- Review and Update of the 1995 Federal Wildland Fire Management Policy (January 2001)
- Public Rangelands Improvement Act (August 1978)
- The Federal Land Policy and Management Act of 1995, as amended (October 2001)
- Endangered Species Act of 1973, as amended (January 2002)
- The Federal Noxious Weed Act of 1974, as amended by Sec.15-Management of Undesirable Plants on Federal Lands (November 1990)
- National Environmental Policy Act of 1969, as amended (September 1982)
- The National Historic Preservation Act of 1966 (October 1966)
- The Wilderness Act (September 1964)
- The Healthy Forests Restoration Act (December 2003)
- The Taylor Grazing Act (June 1934)
- The Reciprocal Fire Protection Act (May 1955)

2.2 Land/Resource Management Planning (LMP), Handbooks and Manuals

The District FMP derives overall program direction from the following BLM Land and Resource Management plans, including:

- Farmington Field Office Resource Management Plan (December 2003)
- Taos Field Office Resource Management Plan (October 1988)
- BLM Handbook H-9214-1, Prescribed Fire Management (January 1998) Interagency Standards for Fire and Fire Aviation Operations (January 2009)
- Interagency Prescribed Fire Planning and Implementation Procedures Guide (July 2008)
- Fire and Fuels Management Plan Amendment and Environmental Assessment for Public Land in New Mexico and Texas (April 2004)
- Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (June 2007)
- The Rio Grande Corridor Final Plan (January 2000)
- San Antonio/Pot Mountain Habitat Management Plan (May 1992)
- The Department of Interior, Departmental Manual 620 Chapter 1, Wildland Fire Management General Policy and Procedures (April 1998)
- The BLM 43 CFR 6300, and 8560, Wilderness Management; Final Rule (December 2000)

- Interagency Prescribed Fire Planning and Implementation Procedures Guide (July 2008)
- Farmington District Woodland Standard Operating Plan (November 2009)

These plans, manuals, and handbooks provide a basic framework for the development of fire management goals and objectives.

2.3 Partnerships

The Farmington District fire program has collaborated with a number of internal and external partners in developing fire management strategies and goals. Collaborative partnerships are an integral part of the Farmington District fire program and provide the means for accomplishing a variety of program-wide objectives.

The Farmington District fire program is an interagency partner with the Taos Interagency Zone. Other partners within the Taos Interagency Zone include the USDA Forest Service, the US Fish and Wildlife Service, the National Park Service, the Bureau of Indian Affairs, and the New Mexico Department of Forestry. A variety of agreements are currently utilized to coordinate fire management activities with the different agencies and partners. The District follows standard fire management procedures in such matters as planning, initial attack, and response with the Taos Zone partners. The Farmington District fire program also participates on the Taos Zone board committee. In addition, the Farmington District fire program works with the National Weather Service on fire behavior, monitoring, and live fuel moisture sampling

The Farmington District fire program follows the New Mexico Wildland Fire Management Joint Powers Master Agreement with the State of New Mexico (March 2008) on fire operations. Under the Joint Powers Master Agreement, New Mexico is divided into initial attack areas. In each of these areas, one agency has agreed to take the lead in providing initial attack protection for 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 as well as the management area.

In the Farmington Field Office, close coordination occurs with the San Juan County Fire Department, the cities of Bloomfield, Farmington, Aztec and the Jicarilla Apache Tribe. Close fire coordination also occurs with Carson National Forest, the San Juan Public Lands Office in Durango, Colorado (which includes the San Juan National Forest and the Durango Field Office of the BLM), the Southern Ute Tribe and the Ute Mountain Ute Tribe. The Farmington Field Office has strong cooperative ties with the New Mexico State Forestry office in Chama, New Mexico and is an active partner with the New Mexico Oil and Gas Association. The Farmington Field Office shares information, resources, and training to meet the overall goals of fire programs for each agency.

In the Taos Field Office, regular collaboration occurs with more than fifteen public agencies and private organizations within the state including: the Carson and Santa Fe National Forests, Taos Pueblo, Santa Clara Pueblo, the Eight Northern Pueblos, New Mexico State Forestry, New Mexico Game and Fish, the New Mexico Environment Department, the Rocky Mountain Elk Foundation, the Chimayó Youth Conservation Corps, the Rocky Mountain Youth Corps, the National Youth Corps, Hawks Aloft and the

Boys Scouts of America Great Southwest Council. The Taos Field Office has also collaborated with many out-of-state agencies including the Lower Colorado River Interagency Group; the Sabine, Angelina, Davy Crocket, and Sam Houston National Forests; and the BIA in Lamedeer, Montana.

The District FMP is tiered to decisions that make up land and resource management plans, federal policies, departmental manuals and handbooks which have been defined in this chapter. The Fire Management Plan that follows integrates the guidance and direction from policies, plans and handbooks, and many partnerships.

Chapter 3 Fire Management Unit Characteristics

Farmington District Fire Management Plan

Chapter 3. Fire Management Unit Characteristics

The primary purpose of developing Fire Management Units (FMUs) in fire management planning is to assist in organizing information about complex landscapes. The process of establishing FMUs divides the landscape into smaller geographic areas that more easily describe physical, biological, and social characteristics, and guide and depict associated planning based on these characteristics. The District FMP has been tiered to decisions contained within the Farmington Field Office Resource Management Plan, the Taos Field Office Resource Management Plan, and the Federal Wildland Fire Policy.

The long-term goal of the District FMP is to allow managers to restore the natural role of fire in the evolution of healthy landscapes, which will ultimately result in better management practices and assist in counteracting the impact of decades of policies of complete fire suppression. This plan lays the foundation for managers to strategically use prescribed fire and wildland fires that meet prescription criteria (or other fuels management treatments, where needed) to reduce hazardous fuel loads and improve resource conditions throughout the planning area. Over time, these fuels management treatments should restore the landscape to its pre-management condition, which will reduce the need for an aggressive approach to fuels treatments.

The District FMP is also intended to integrate fire management practices with all other aspects of resource management within the Farmington District.

3.1 Area-wide Management Considerations

Area-wide management considerations for the Farmington District include characteristics common to all of the FMUs. A full range of fire management activities will be used to help achieve ecosystem sustainability, including addressing the interrelated ecological, economic and social components of these ecosystems. The District fire program staff will conduct fuels treatment, community assistance, education and mitigation programs as well as rehabilitation and restoration actions to implement management plan goals.

Fire Management Related Goals, Standards, and Intentions

The protection of human life is the single, overriding management priority. All unplanned ignitions will require a fire management response that will have an emphasis on firefighter and public safety, minimizing suppression costs, and protecting resources.

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 whenever possible. Response to wildland fires will be based on the ecological, social, and legal consequences of the individual fires.

The circumstances under which ignition occurs, and the resulting consequences, will dictate the appropriate response to each fire. Normally, specific actions or combinations of actions will be determined on site by the Incident Commander and will include the following considerations: the risk to

firefighters and public health and safety, land and resource management objectives, weather, fuel conditions, areas of value to be protected, and the cost of fire management actions.

There is an extensive range of topography within the District, ranging from 1,000 foot-deep gorges to 11,000 foot-high mountains, resulting in a wide variety of fuel types including grasslands, sagebrush, mixed sagebrush and grass, pinyon-juniper woodland, oak woodland, and ponderosa pine and ponderosa pine/mixed conifer forests. The heavy encroachment of urban development near public lands presents urban interface concerns in areas featuring all fuel types.

Oil and gas development activities on lands administered by the Farmington Field Office are extensive. There are approximately 18,000 natural gas wells on Farmington Field Office lands. San Juan County is the largest natural gas-producing county in the state of New Mexico. With the extensive production of natural gas and oil, the landscape is dotted with numerous oil and gas wells, storage tanks, equipment, and pipelines. These structures pose a threat for firefighters, when fire is encroaches upon these developments. Special considerations must be made when fire management operations are being conducted near these sites.

The following standards are used to classify each Fire Management Unit: Fire Management Categories, fire regimes, and the Fire Regime Condition Class concept.

Fire Management Categories

Each of these standards is used to provide criteria for fire suppression, prescribed fire and fire use. They are based on wildland-urban interface concerns, the values at risk, the topography of the unit and land ownership within and around the unit.

The four fire management categories are defined as follows:

Category A: Areas where fire is completely undesirable.

General Description: This category includes areas where mitigation and suppression are required to prevent threats to life and property. It includes areas where fire has never played a large role historically in the development and maintenance of the ecosystem, or where because of human development, fire can no longer be tolerated without significant loss. It also includes areas where, historically, fire return intervals are long.

Fire Mitigation Considerations: Emphasis should be focused on prevention, detection, and rapid suppression response, and on techniques that will reduce unwanted ignitions and threats to life, property, and natural and cultural resources.

Fire Suppression Considerations: Virtually all wildland fires would be actively suppressed and no fires would be prescribed except as required to combat an immediate threat to firefighter or public health and safety.

Fuel Treatment Considerations: Non-fire treatments would be employed. Unit costs for prescribed fire in these areas would be too prohibitive to implement efficiently. Pile burning of mechanically removed vegetation would be acceptable.

Category B: Areas where unplanned wildland fire is not desired because of current conditions.

General Description: Fire plays a natural role in the function of the ecosystem; however, these are areas where an unplanned ignition could have negative effects unless some form of mitigation takes place.

Fire Mitigation Considerations: Emphasis would be placed on prevention and mitigation programs that would reduce unplanned ignitions and thereby reduce threats to life, property, and natural and cultural resources.

Fire Suppression Considerations: Fire suppression is usually the objective in cases of unplanned wildfire.

Fuel Treatment Considerations: Fire and non-fire treatments are utilized to reduce the hazardous potential of unplanned wildfires. Treatments to restore the area to a more natural state may consist of multiple non-fire treatments before the use of fire will be considered.

Category C: Areas where wildland fire is desirable, but there are significant constraints that must be considered in its use.

General Description: Fire is a desirable component of the ecosystem, however, ecological, social or political constraints must be considered. These constraints could include air quality standards, threatened and endangered species, identified cultural, archeological, or historic resources or wildlife habitat considerations.

Fire Mitigation Considerations: Fire programs should reduce potential threats to Wild Urban Interface areas, threatened and endangered (T&E) species and archeological sites before ignitions occur and reduce unwanted human-caused ignitions.

Fire Suppression Considerations: Areas in this category would generally receive lower suppression priority in multiple wildland fire situations than would areas in "A" or "B" FMUs.

Fuel Treatment Considerations: Non-fire treatments and prescribed fire may be utilized to ensure constraints are met or to reduce the negative impact of unplanned wildfire. Treatments may consist of multiple non-fire treatments before the use of fire is considered.

Category D: Areas where wildland fire is desirable, and there are few or no constraints for its use.

General Description: Areas where wildfire or planned ignitions may be used to achieve desired objectives, such as improving vegetation, wildlife habitat or watershed conditions.

Fire Mitigation Considerations: Implement programs that reduce unwanted human-caused ignitions, as needed.

Fire Suppression/Use Considerations: These areas offer the greatest opportunity to take advantage of the full range of options available for managing wildland fire. Health and Safety constraints will apply. Fire use considerations similar to those described for Category C may be utilized if needed to achieve resources objectives. Fires in this category would be the lowest suppression priority in a multiple fire situation.

Fuel Treatment Considerations: There is generally less need for hazardous fuel treatment in this category. Prescribed fire for hazardous fuel reduction is not a priority except where there is an immediate threat to health and safety. If treatment is necessary, both fire and non-fire treatments may be utilized. The use of prescribed fire to obtain desired resource/ecological condition would be appropriate.

Fire Regime

A natural fire regime is a general characterization of the role fire would have played, across a landscape in the absence of modern human mechanical intervention, but which includes the possible influence of aboriginal use.

Five natural fire regimes have been identified and are classified based on the average number of years between fires, combined with characteristic fire severity. Fire severity reflects the percent destruction, and subsequent replacement of dominant overstory vegetation. The five natural fire regimes are presented in Table 3.1 below.

Table 3.1. Fire regime classes and descriptions.

Group	Fire Frequency	Severity	Description
I	0 – 35 years	Low/Mixed	Generally low-severity fires replacing less than 25% of the dominant overstory vegetation; can include mixed-severity fires that replace up to 75% of the overstory.
II	0 – 35 years	Replacement	High-severity fires replacing greater than 75% of the dominant overstory vegetation.
III	35 – 200 years	Mixed/Low	Generally mixed-severity; can also include low-severity fires.
IV	35 – 200 years	Replacement	High-severity fires.
V	200+ years	Replacement/Any Severity	Generally replacement-severity; can include any severity type in this frequency range.

Fire Regime Condition Class (FRCC)

For a given vegetation type, the Fire Regime Condition Class (FRCC) concept describes the degree of departure from reference conditions, as defined by the historic fire regime classification above. Such a departure may both result from, and lead to, changes to key ecosystems components, such as vegetation structure, fuel composition, fire frequency/severity, and other disturbances, such as insect and disease mortality. For instance, historical total-suppression policies in some areas has resulted in increased stand density and fuel accumulation, which in turn has led to fire regimes of reduced frequency and increased severity. Reference condition should reflect characteristics that can be restored. The appropriate reference condition for a management unit should be determined by experts through synthesis of expert knowledge, published literature, and historical information. Each model should be reviewed and adjusted accordingly to incorporate any new information or knowledge.

It is recognized that no ecosystem is static through time and is instead quite variable. However, departure estimates are based on a *central tendency* (or mean). To help estimate departure and the resultant condition class described below, reference conditions have been identified and written descriptions for biophysical settings (BpS) have been developed and can be found on the FRCC website (www.frcc.gov).

The three Fire Regime Condition Classes are categorized using the following criteria:

FRCC 1 represents ecosystems with low (less than 33 percent) departure from reference conditions, and that are still within the estimated historical range of variability during a specifically defined reference period.

FRCC 2 indicates ecosystems with moderate (33 to 66 percent) departure.

FRCC 3 indicates ecosystems with high (greater than 66 percent) departure from reference conditions.

Fire Management Implementation Guidance

The Farmington District Fire Management Program conducts its programs and activities based on the 2009 Federal Wildland Fire Management Policy guiding principles, policies, and implementation recommendations. The *Guidance for Implementation of Federal Wildland Fire Management Policy (February 2009)* has been adopted and employed in the revision, as appropriate, all manuals, handbooks, guidebooks, plans, agreements and other pertinent documents related to the fire organization.

Fire Management Unit Common Characteristics

Certain characteristics and management considerations apply across all Fire Management Units within the district. These are addressed below and are considered essential to managing each unit. Some characteristics addressed below do apply to all FMUs (e.g. Oil and Gas Infrastructure and Fire) but do apply to enough FMUs to warrant their inclusion in the section.

Invasive Weed Management

The mission of Invasive Weed Management in the Farmington District is to detect new invasive weed species and populations, prevent their spread, manage existing populations, and, where possible, eradicate them. Prevention and management of the spread of invasive plants assists in improving the health of public lands.

The Farmington District fire program will adhere to the following program procedures:

1. During the planning process, include provisions for noxious weed management in all fire program-funded projects.

2. Determine the best methods for integrating weed management with fire management activities and implement them in on-the-ground operations.
3. Monitor and evaluate the results of these methods. This would include ensuring that sufficient data is available to evaluate management actions, and adjust fire management activities appropriately to ensure that they do not adversely affect the invasive weed management efforts in the District.
4. For all fire actions that involve surface disturbance or rehabilitation, reasonable steps will be required to prevent the introduction or spread of noxious weeds. These include re-seeding with approved, weed-free seed, the use of weed-free hay as mulch, requiring the washing of vehicles prior to rehabilitation efforts, and other recognized weed management precautions.

The Farmington District fire and fuels management recognizes that the introduction and spread of invasive weed species is a serious threat to ecosystem health, and that some invasive weeds, such as cheatgrass (*Bromus tectorum*) actually increase the threat of wildland fire by contributing to the buildup of highly flammable fuels. As such, invasive species prevention and management is a component of, and complementary to, the fire program's mandate to help ensure ecosystem health and restore altered ecosystems to a more natural state.

Oil and Gas Infrastructure and Fire

With an estimated 18,000 natural gas wells in the San Juan Basin, fire management on BLM lands within the Farmington Field Office has an added measure of complexity.

Factors which must be taken into consideration include:

1. Drilling operations with flaring pits can cause serious harm and injury to well workers and firefighters if wildfire occurs near these operations. Although standard precautions are taken by oilfield workers during flare-offs, these activities are also a potential source of ignition.
2. Venting of wells releases highly flammable gases into neighboring areas that could ignite if a wildfire or prescribed fire operation occurred in the vicinity.
3. Hydrogen sulfide (H₂S) gas escapes from older wells in many areas in the FFO. Hydrogen sulfide is a highly poisonous gas, and exposure at even relatively low levels can cause extreme bodily harm or even death. Substantial pockets of H₂S wells are located in Gobernador and Hart Canyons, and in the Pinyon Mesa/Twin Mounds area. Extreme caution should be taken in these areas.
4. Added traffic volume resulting from oil and gas activities increases the hazard to firefighters responding to fires. Fire crews must be cognizant of, and coordinate with, evacuation efforts by oilfield workers. The presence of significant numbers of widely-dispersed members of the public in what is otherwise effectively a rural landscape presents an additional challenge to the protection of human life during a wildfire. This is compounded by the fact that much of the

network of oilfield roads have only a single point of egress and exit, increasing the risk of both the public and fire crews who utilize these roads becoming trapped in the event of a large wildfire.

5. Many oilfield facilities located in the Farmington Field Office can be threatened by wildfire or prescribed fire. These facilities include pipelines, compressor stations, transfer stations, and doglegs. The high level of volatility of many of these installations creates additional fire management concerns in their protection.

Wildlife and Wildlife Habitat

Under the Bureau's multiple-use mandate, one major objective is to maintain, improve, and expand wildlife habitat. This includes judicious use of fire on public lands for both consumptive and non-consumptive uses. The protection and enhancement of wildlife habitat is accomplished through an aggressive program of habitat improvement projects that include prescribed fire as well as mechanical treatments.

Fire Intensity Levels

The fire intensity levels (FIL) is an expression of heat energy at the fireline represented by typical and/or calculated flame length. The purpose of calculating FIL is to forecast the intensity of a fire and its and subsequent potential impact to the surrounding landscape. Table 3.2 displays the different flame lengths associated with the different FILs.

Table 3.2. Fire Intensity levels.

FIL	Flame Length (ft.)
1	0-2
2	2.1- 4
3	4.1-6
4	6.1-8
5	8.1-12
6	12.1 and over

Fuels Treatment Practices

The following fuels treatment goals will be applied to site-specific projects on BLM lands occurring within all of the FMUs:

1. Ensuring the safety of fire crews and the public is the number one priority when carrying out fuels reduction projects.

2. Fuels treatments should reduce the accumulation of hazardous fuels and the threat of stand replacement fires.
3. Protect and enhance wildlife habitat using hazardous fuels reduction projects. These projects should be implemented in a manner that protects wildlife and threatened and endangered plant species.
4. Brush control projects will be designed to create a mosaic landscape to every extent possible. Islands of untreated sagebrush and trees will be incorporated into project designs as necessary to provide cover for wildlife.
5. Air quality concerns will be addressed and prescribed burns will conform to relevant direction for air quality management, including guidelines set by the EPA and the State of New Mexico. Prescribed burns would meet all of the State of New Mexico's smoke management guidelines. Burns will meet all guidelines for SMP II smoke permits. The Air Quality Bureau (AQB) would be notified of burns 24 hrs prior to first ignition.
6. Chemical agents will be utilized when possible to reduce sagebrush in project areas.
7. Maintain or enhance grazing, cultural and recreation resource values or conditions, and support resource management objectives when conducting hazardous fuels reduction projects.
8. Where possible, contract with local Native American Tribes to achieve fuels reduction projects on public lands.

Fire Management Unit Prioritization Tables

The FMUs within each field office have been categorized based on the necessity of suppression of fires resulting from natural ignitions, their priority for fuels reduction treatments, and the degree of community assistance that can be expected in the event of unplanned ignitions in these areas. This information is presented in Tables 3.3 and 3.4.

Table 3.3. Farmington Field Office Fire Management Unit priority list.

Priority Number	Category/ Number	Fire Management Unit	Suppression	Rx Fire/Non-Fire Treatments	Community Assistance
1	B-3	Crouch Mesa/Knickerbocker Peak-1	High	High	High
2	B-6	River Corridors	High	High	High
3	B-2	Glade Run Recreation Area	High	Medium	High
4	C-1	Twin Mounds	Low	Medium	Medium
5	A-3	Archeological ACEC	High	Medium	Low
6	A-2	Bald Eagle ACEC	High	Medium	Low
7	B-5	Mexican Spotted Owl ACEC	Medium	High	Low
8	B-4	Eul Canyon	Medium	High	Low
9	D-4	Rattlesnake/Middle/Rosa Mesa	Medium	High	Low
10	D-3	Lonetree Mountain	Medium	Medium	Low
11	C-3	Pump Canyon	Medium	High	Low
12	D-5	Largo/Carrizo/Blanco Canyon	Medium	Medium	Low
13	C-4	Simon Canyon	Medium	Medium	Low
14	C-6	Wildhorse Mesa	Medium	Medium	Low
15	C-2	Jones/Thomas	Medium	Medium	Low
16	D-1	Chaco	Low	High	Low
17	A-1	Head Canyon/Dunes Rec. Area	Low	Low	Low
18	B-1	Reese Canyon RNA	Low	Low	Low
19	C-5	Hogback	Low	Low	Low
20	D-2	Bisti/De-Na-Zin Wilderness	Low	Low	Low

Table 3.4. Taos Field Office Fire Management Unit priority list.

Priority Number	Category/Number	Fire Management Unit	Suppression	Prescribed Fire	Non-Fire Treatments	Community Assistance
1	B-16	Chimayo Scout Camp	High	High	High	High
2	B-6	Cerro del Aire	High	High	High	High
3	B-7	Wild Rivers	High	High	High	High
4	B-12	Cu Hill WUI	High	High	High	High
5	B-13	Thirty-One Mile	High	High	High	High
6	B-17	Buckman	High	Medium	Medium	High
7	C-1	TAFO-Rest of Field Office	High	Medium	Medium	Medium
8	C-8	Cebolla/Abiqui	Medium	Medium	Medium	Medium
9	C-20	Archuleta Mesa	Medium	Medium	Medium	Medium
10	A-10	RGC-Well Developed Riparian	High	Low	Medium	High
11	C-3	RGC- ACEC	Medium	Low	Low	Medium
12	D-18	Sabinoso Wilderness and SMA	Low	High	Low	Medium
13	C-11	Cu Hill ACEC	Medium	Medium	Low	Low
14	C-2	North Unit/Pot Mountain	Low	High	Medium	Low
15	C-5	San Antonio WSA	Low	Medium	Medium	Low
16	D-21	Ute Mountain	Low	High	Low	Low
17	B-9	Black Mesa/ Ojo Caliente	Low	Low	Medium	Low
18	B-19	La Cienega	Low	Low	Low	Medium
19	C-4	San Antonio Gorge ACEC	Low	Medium	Medium	Low
20	C-14	Fun Valley/Chimayo	Low	Low	Low	Low
21	B-15	Sombrillo SMA	Low	Low	Low	Low

3.2 Fire Management Units – Specific Descriptions

Fire Management Units are defined by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, and fire regime groups that set a land management area apart from adjacent areas. In this chapter, the specific FMU descriptions are divided in to two sections: Section 3.2.1 covers the Farmington Field Office and Section 3.2.2 covers the Taos Field Office.

Chapter 3.2.1 Fire Management Units – Specific Descriptions

Farmington Field Office Farmington District

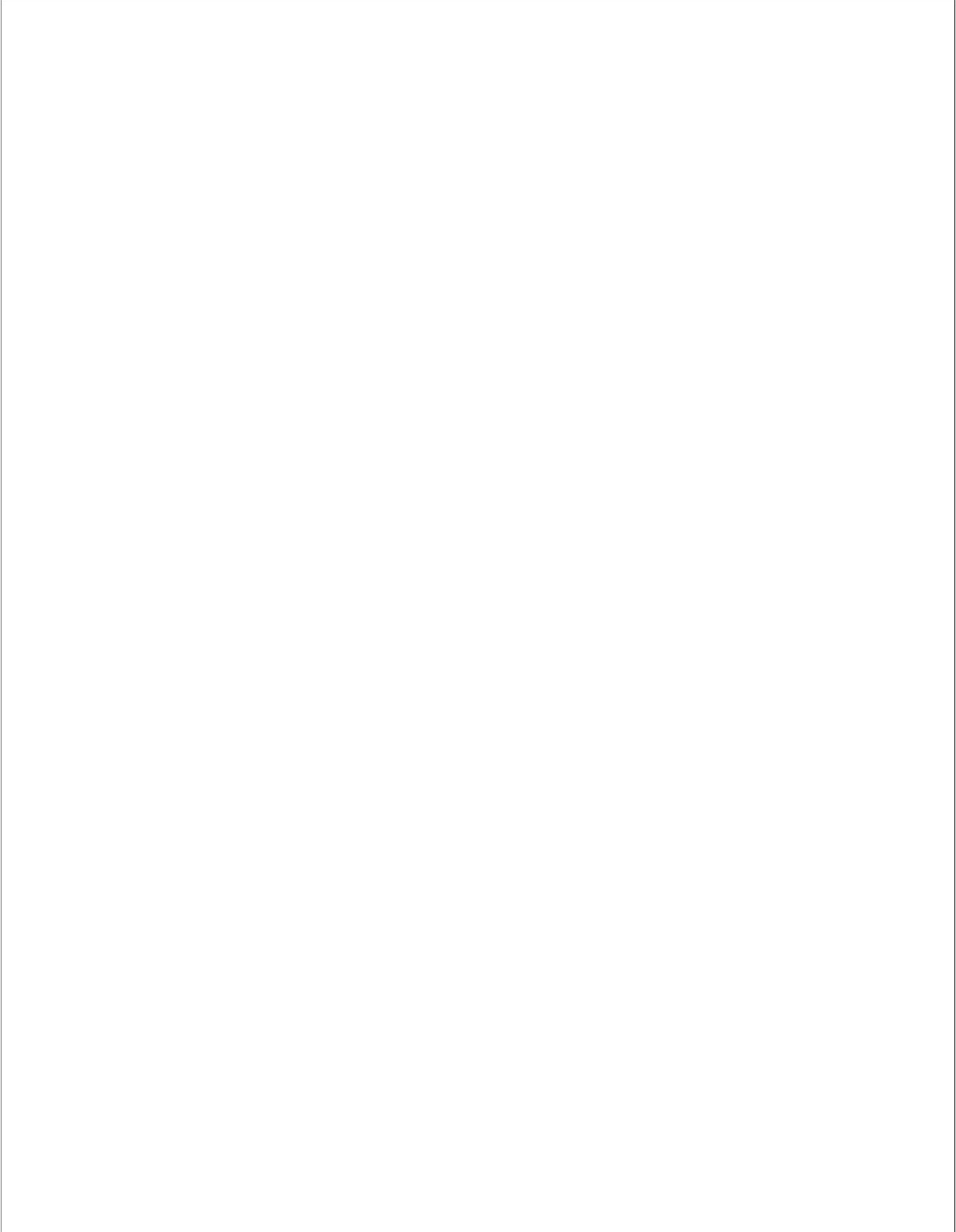


Figure 3.2.1: Map of Head Canyon/Dunes Recreation Area FMU

Fire Management Unit Name: **Head Canyon/Dunes Recreation Area**

Category/Number: **A/1**

1. Characteristics.

Total Unit Acreage: Total surface area= 6,082 acres. **Land Ownership:** BLM= 3,187 acres, BIA= 710 acres, Private= 2,185 acres.

Location and Access: The Head Canyon/Dunes Recreation Area FMU is located in San Juan County, immediately south of the city of Farmington, New Mexico. Access is off of New Mexico State Highway 371. The FMU is named for the two recreation areas which it contains—the Dunes Off-Highway Vehicle Recreation Area and the Head Canyon Motocross Recreation Area.

Terrain and Vegetation: Elevations in the area vary from 5200 feet to 5800 feet. Maximum temperatures for the FMU exceed 90 degrees during the fire season. Vegetation varies, with piñon (*Pinus edulis*), Utah juniper (*Juniperus osteosperma*), and big sagebrush (*Artimesia tridentata*) being the dominant types. The area is characterized with very light fuel loadings. Blue grama (*Bouteloua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species. Common ground cover species include mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), and buckwheat (*Eriogonum sp.*). Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there was one human caused fire (.30 of an acre in size) and one naturally-ignited fire (.10 of an acre in size).

Fire Regime: This FMU contains the plain mesa grassland/Great Basin desert scrub and the open conifer vegetation types. The fire regimes that correspond to these vegetation types are I and II.

Fire Regime Condition Class: Due to the ecological changes brought about by oil and gas production, OHV use, and livestock grazing, much of the management area has been negatively impacted and has been identified as Fire Regime Condition Class 2. This FMU is a highly disturbed landscape due to frequent and pervasive OHV use.

Wildlife: Wildlife use by large mammals such as mule deer is sporadic and mostly limited to transient, nocturnal use. Lesser mammals, along with birds and reptiles capable of surviving in a highly fragmented environment, also occur here on a limited basis. Overall, this area is poor wildlife habitat because of human caused disturbance.

Watersheds: The FMU is located in the watershed of the San Juan River.

Recreation: This management area is characterized by high levels of recreational use by off-road vehicles, with hundreds of OHV trails. Thousands of visitors use this area every year.

Special Areas: With the high level of OHV use in this area a wildfire of any significant size would be disruptive and hazardous to recreational users. This FMU includes the Head Canyon Motocross Track SMA and the Dunes Off-Road Vehicle Recreation Area.

Cultural Values: There are numerous cultural sites located in the FMU.

Values at Risk/Protection Constraints: Values at risk include historic and currently-occupied structures, watershed health, wildlife habitat, and cultural sites. Coordination with local law enforcement may be required in order to evacuate threatened civilians in the event of a wildfire.

Communities at Risk: There are no communities at risk in this management area. The city of Farmington is located two miles to the north, across the San Juan River, which would form an effective fire break. There are scattered rural residences in and around the FMU.

2. Management Guidance

Specific Objectives:

With the high levels of recreation use in the FMU, wildland fires will be suppressed at minimum acreage (less than 1 acre) if possible. Fires are infrequent and small in this FMU; however, all fires will be suppressed due to safety concerns for the public who use this area for recreation, as well as oil and gas infrastructure.

Long-term management goals for this FMU include:

1. Restore all areas of FRCC 2 to a FRCC 1. Vegetative manipulation should be limited to those actions that would improve wildlife habitat.
2. Cooperate with adjacent landowners, including private and Tribal, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.

Desired Conditions:

Wildland Fire Suppression - Retardants and heavy equipment may be used in this area to minimize the acreage of any wildfires which may pose a threat to public safety. Cultural sites exist, and will be protected from damage caused by suppression activities. Archeological consultation will occur prior to the use of bulldozers to construct fire lines. Wildfires will be suppressed at less than 1 acre in extent for FILs of 1-6, 100% of the time, due to public safety concerns.

Wildland Fire for Resource Benefit - No Wildland Fire for Resource Benefit will be implemented in this FMU.

Prescribed Fire - No fuels treatments are needed in this FMU.

Non-fire Fuels Treatments - No fuels treatments are currently planned in the FMU. No non-fire fuels treatments will be needed.

Post-Fire Rehabilitation / Restoration - Roads created by suppression operations will be obliterated and restored in order to avoid exacerbating the already significant amount of erosion that occurs due to the existence of numerous OHV trails. New roads will only be more detrimental to the overall ecosystem of

the area. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be taken to prevent further erosion.

3. Safety Considerations

The area has numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Power lines run through the FMU, and Highway 371 bisects the area. Numerous communication towers are also located in this unit. Venemous snakes and steep cliffs present a danger to firefighters.

4. Photos and Descriptions

Figure 3.2.2 was taken from the southern boundary of the FMU. The fuels arrangement is shown in Figures 3.2.3 and 3.2.4. There is a lack of continuous ground fuels and grasses in the open conifer woodland that are not conducive to the spread of fire.



Figure 3.2.2:

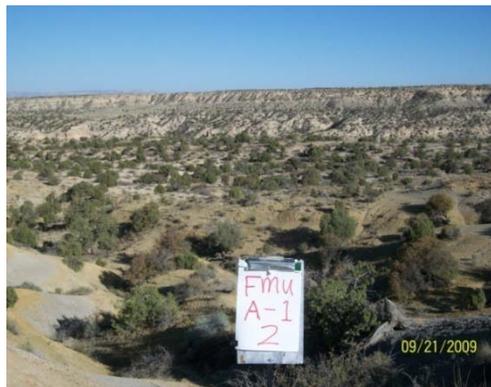


Figure 3.2.3



Figure 3.2.4

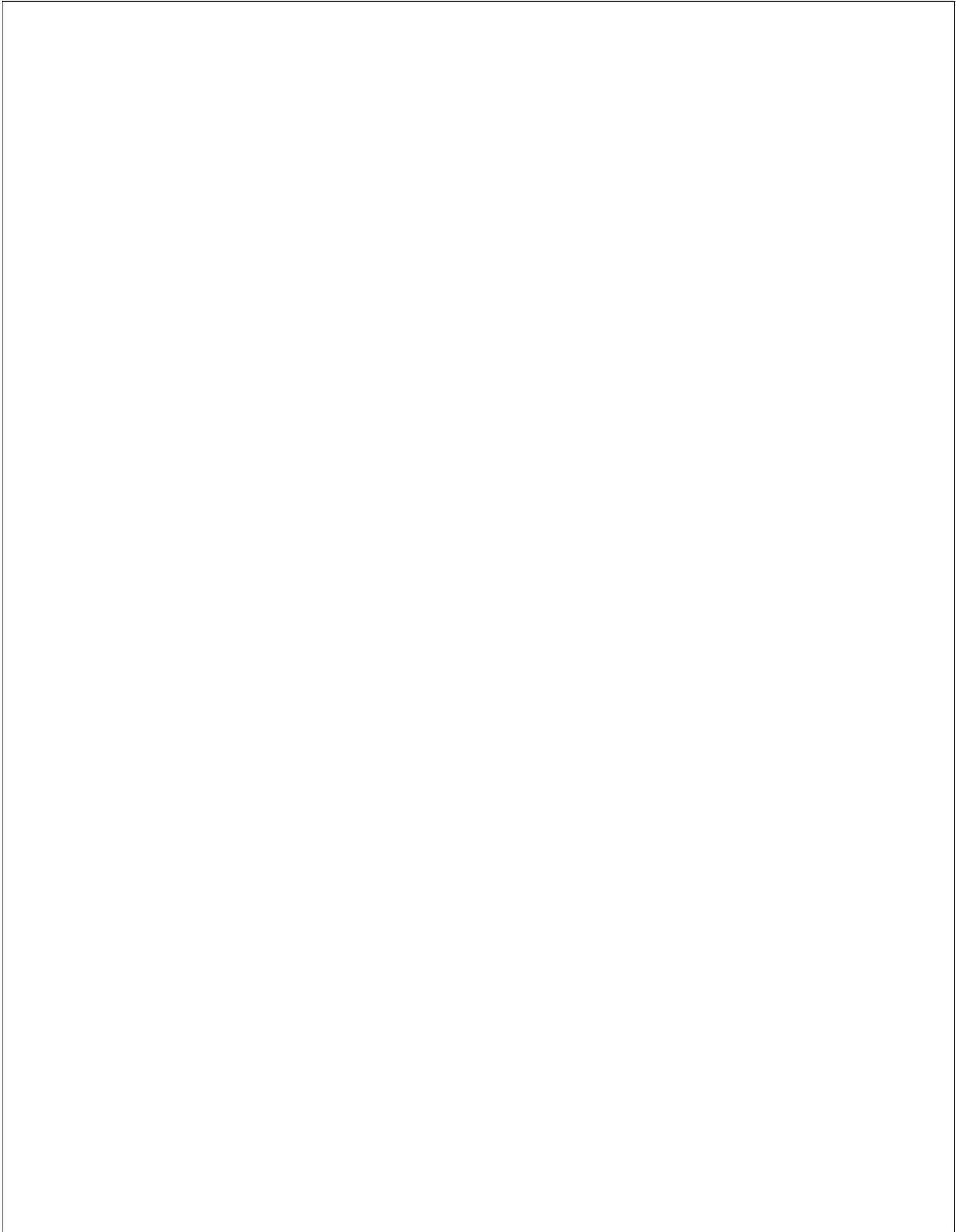


Figure 3.2.5 Map of the Bald Eagle Area of Critical Environmental Concern FMU

Fire Management Unit Name: Bald Eagle Area of Critical Environmental Concern (ACEC)Category/Number: **A/2****1. Characteristics.**

Total Unit Acreage: BLM= 1,814 acres, State Land= 624 acres, Forest Service= 1,307 acres, Private= 2,653 acres, and BOR = 16,995 acres. Total surface area= 23,393 acres.

Location and Access: This area encompasses most of the land adjacent to Navajo Lake, in the northeast portion of the Farmington Field Office. The Fire Management Unit is divided between San Juan County on the west and Rio Arriba County on the east. The FMU stretches north to the Colorado border.

Terrain and Vegetation: Elevations in the area range from 6,200 feet to 6,800 feet. Vegetation in the management area consists of mature ponderosa pine (*Pinus ponderosa*) stands with pinyon (*Pinus edulis*), oneseed Juniper (*Juniperus monosperma*) and Utah juniper (*Juniperus osteosperma*) encroachment adjacent to Navajo Lake. Soils in the area, which includes the San Juan Basin, consist primarily of Quaternary to Cretaceous-aged alluvium (unconsolidated silts, sands, clays, and gravels), sandstones, siltstones, shales, limestones, and conglomerates. Common ground cover species are mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), buckwheat (*Eriogonum spp.*), and penstemons (*Penstemon spp.*). Blue grama (*Boutelua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were 2 human caused fires totaling 0.2 of an acre in size and 22 naturally caused fires totaling 2.3 acres in size.

Fire Regime: This FMU is in the open conifer woodland vegetation type which is classified as Fire Regime II.

Fire Regime Condition Class: This unit has been identified as Fire Regime Condition Class 3. Parts of the FMU have heavy accumulations of dead and down fuels, and numerous ladder fuels to carry fires into the canopy.

Wildlife: Bald eagles are a federally listed threatened species. The bald eagles that frequent this area use mature ponderosa pine to build nests and to roost. The protection and enhancement of the small ponderosa pine stands in the FMU are extremely important to the health and well being of the bald eagles that utilize these areas.

Watersheds: This FMU surrounds the southern area of the Navajo Reservoir which feeds the San Juan River via the Navajo Dam.

Recreation: All marinas, docks, boats, and all other associated lake infrastructure will be protected. Several thousand visitors a year use this area for outdoor recreation. The area is used for many different recreation activities including fishing, boating, jet-skiing, and wildlife viewing.

Special Areas: The FMU includes several bald eagle core sites and the Bald Eagle ACEC. The FMU also includes the Negro Canyon Specially Designated Area.

Cultural Values: Significant cultural resources are known to exist within the FMU. Cultural clearances will be required prior to any managed surface-disturbing activities.

Values at Risk/Protection Constraints: The protection and enhancement of the small ponderosa pine stands in the FMU are extremely important to the health and well-being of the bald eagles that utilize these areas. In the event of a fire escaping initial attack efforts, a resource advisor will be assigned. Every effort will be made to suppress wildland fires that threaten oil and gas infrastructure adjacent to these areas.

Communities at Risk: There are no communities at risk in this FMU.

2. Management Guidance

Specific Objectives:

Specific objectives include to protect the habitat of the bald eagle by keeping wildland fires to a minimum acreage of 1 acre and less and to utilize fuels projects to enhance the ecosystem in the area. With the heavy accumulations of dead and down fuels in this area, actions must be taken to reduce the fuel loading and prevent stand-replacement fires from occurring.

Long-term management considerations and guidance for this FMU include:

1. Restore all areas of FRCC 3 to a FRCC 2 and eventually to a FRCC 1. Vegetative manipulation should be limited to those actions that would improve wildlife habitat.
2. Cooperate with adjacent landowners, including private and state, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
4. No surface disturbance shall be permitted in bald eagle core areas.

Desired Conditions:

Wildland Fire Suppression - Wildfires will be suppressed at less than 10 acres 100% of the time at FILs of 1-6. Retardants and heavy equipment may be used to protect mature ponderosa pine trees. The Bald Eagle ACEC Activity Plan of 1992 outlines limited/conditional fire suppression. The Activity Plan explains that every effort will be made to control wildfires in these units so as to protect and enhance the large standing ponderosa pine and Douglas fir trees. Protection of the ponderosa pine ecosystem from a stand-replacement wildfire, and reduction of the pinyon and juniper encroachment in the FMU will be the top priority.

Wildland Fire for Resource Benefit - No Wildland Fire for Resource Benefit will be implemented in this FMU.

Prescribed Fire – All Prescribed Fire projects that benefit wildlife habitat will be evaluated. Site-specific projects can be implemented following proper analysis and NEPA clearance.

Non-fire Fuels Treatments - Small thinning projects of pinyon and juniper may occur, ranging from 10 to 25 acres in extent. These thinning projects will reduce the risk of a stand-replacement wildfire within the bald eagle habitat and reduce the encroachment of pinyon and juniper into these small stands of ponderosa pine.

Post-Fire Rehabilitation / Restoration - Roads and fire lines created by suppression operations will be eradicated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be taken to prevent erosion.

3. Safety Considerations

The area contains numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Power lines may run through the FMU. Other safety concerns within this FMU may include poisonous snakes, poisonous plants and steep slopes.

4. Photos and Descriptions

Figure 3.2.6 shows the overall area of the Bald Eagle FMU from the southern side of the Navajo Lake. In Figures 3.2.7 the open conifer vegetation community can be seen almost continuously to the lake shore with grasses and forbs making up the understory which would help carry a fire uphill from the shore. The high amount of recreational use can be seen in Figure 3.2.8, This photo shows the marina at the Navajo Lake State Park. The large number of visitors in the area makes this FMU very susceptible to human caused fires.



Figure 3.2.6



Figure 3.2.7



Figure 3.2.8

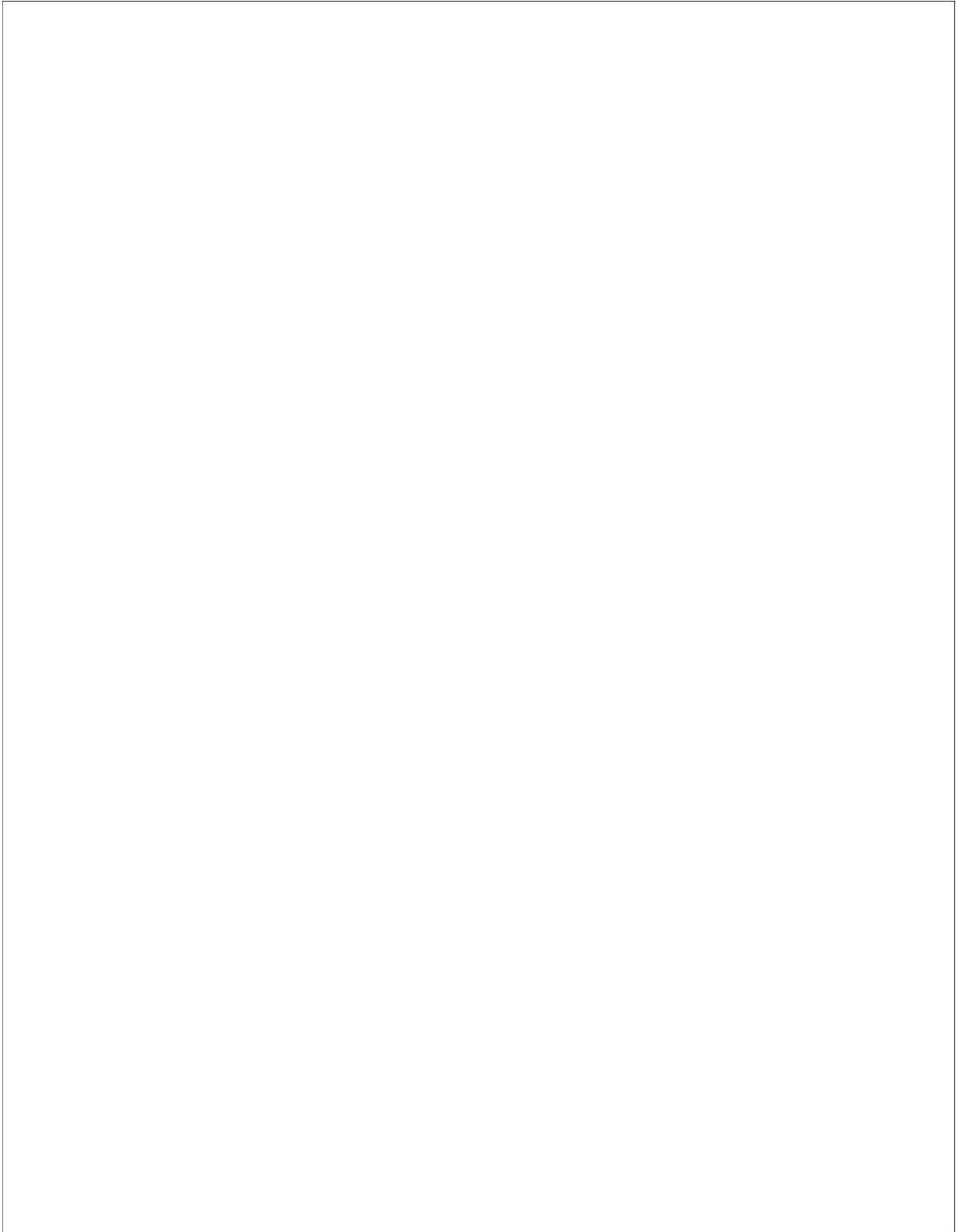


Figure 3.2.9: Map of the Archaeological Areas of Critical Environmental Concern FMU

Fire Management Unit Name: Archeological Area of Critical Environmental Concern (ACEC)

Category/Number: **A/3**

1. Characteristics.

Total Unit Acreage: BLM= 53,624 acres, State Land= 7,600 acres, Forest Service= 1,307 acres, Private= 2,199 acres, and BIA = 11,659 acres. Total surface area= 76,389 acres.

Location and Access: The Archeological ACEC FMU areas are scattered throughout the Farmington Field Office. The fragmented FMU falls in San Juan County and Rio Arriba County. Access varies by site.

Terrain and Vegetation: Elevations in the area range from 6,200 feet to 6,800 feet. The majority of the ACECs are dominated by pinyon (*Pinus edulis*), oneseed Juniper (*Juniperus monosperma*), and Utah juniper (*Juniperus osteosperma*) intermixed with big sagebrush (*Artemisia tridentata*). Side-oats grama (*Bouteloua curtipendulata*) and galleta (*Hilaria jamesii*) are the principal grass species. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were 2 human caused fires totaling 12.8 acres in size and 18 naturally-ignited fires totaling 3.5 acres in size.

Fire Regime: This FMU includes lands throughout the district that encompass Fire Regimes I through IV.

Fire Regime Condition Class: This FMU has been identified as Fire Regime Condition Class 2.

Wildlife: Collectively this FMU lies within a high desert setting as part of the Colorado Plateau eco-region. As a consequence, the wildlife inhabiting this FMU is best characterized as those species typically found in a predominately pinyon/juniper/ sagebrush habitat type.

Watersheds: These parcels of land fall into several different watersheds.

Recreation: Due to the fact that this FMU is so dispersed, recreation use cannot be summarized. However, parcels of this FMU are surrounded by existing recreation areas which include the Head Canyon and Dunes Recreation Area and the Thomas Canyon Recreation Area.

Special Areas: The following archaeological ACECs are included in this management area: three Chacoan Roads ACECs, numerous Chacoan outliers, Frances Canyon Ruin, Hummingbird Canyon, Frances Mesa, Rock Ranch, Dogie Canyon School, the Margarita Martinez homestead, the Martin Apodaca homestead, Gonzales Canyon, Haynes Trading Post, Moss Trail, Santos Peak, Albert Mesa, Rock Ranch, many early Navajo defensive sites and communities, Crow Canyon and Cibola Canyon.

Cultural Values: Many very significant and unique cultural resources occur in this management area. There are many archaeological sites, which include Chacoan outliers and other Ancestral Puebloan sites, Navajo pueblitos, homestead sites, lithic and ceramic scatters and mines. Many of these sites are

included on the National Register of Historic Places. Class III pedestrian cultural resource inventories will be required prior to any non-emergency surface disturbing activities.

Values at Risk/Protection Constraints: The ACECs within the FMU are of high cultural value and are subject to damage by both suppression efforts as well as by wildfire. The primary concern for these sites are the early Navajo sites and historic homesteads that include wooden structures. Chacoan road systems are also at risk from the passage of heavy equipment and significant vehicular traffic used during suppression efforts. With the presence of these important sites, every effort must be made to suppress fires immediately in this management area. Oil and gas infrastructure exists in the management area, and should also be protected from wildfire.

Communities at Risk: There are no communities at risk near this FMU.

2. Management Guidance

Specific Objectives:

With the high densities of archeological sites in these ACECs, the main objective of the FMU is to minimize acreage burned by wildfire to protect these sites, as well as to limit the degree of surface disturbance resulting from suppression efforts. Management of the area will allow for a priority response to every extent possible, to protect the values at risk. Identification of areas in the FMU that contain high fuel loads and institution of projects--both prescribed fire and mechanical treatments--to reduce the potential for wildfires are a priority

Long-term management goals for this FMU include:

1. Restore all areas of FRCC 2 to a FRCC 1.
2. Cooperate with adjacent landowners, including private and state, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
4. Protection of significant archaeological resources from threats by wildfires.

Desired Conditions:

Wildland Fire Suppression - Minimize acres burned by wildfire to less than 1 acre 100% of the time at FILs 1 to 6, in order to protect archeological resources. Minimize damage by suppression operations by utilizing minimum impact suppression techniques (MIST). Retardants should not be used within the Chaco Outlier ACEC parcels, the Moss Trail ACEC, Crow Canyon, Cibola Canyon, or Hummingbird Canyon to protect painted rock art, or within 650 feet of Frances Ruin. Also, retardants and heavy equipment should be prohibited within the immediate vicinity (ca. 650 feet) of structural historic site ACECs (Rock Ranch, Dogie Canyon School, Margarita Martinez homestead, Martin Apodaca homestead, Gonzales Canyon, and Haynes Trading Post). The use of heavy equipment is prohibited within all of these ACECs. Natural or other existing man-made boundaries must be used as fire breaks. Heavy equipment should be prohibited within the immediate vicinity (ca. 650 feet) of Frances Ruin within the Frances Mesa.

Wildland Fire for Resource Benefit - No Wildland Fire for Resource Benefit will be implemented in this FMU.

Prescribed Fire – No prescribed fire will be implemented in this FMU.

Non-fire Fuels Treatments - Small thinning projects of pinyon and juniper may occur, ranging in size between 10 and 50 acres. These thinning projects will reduce the threat of a wildfire to cultural resources in the ACECs.

Post-Fire Rehabilitation / Restoration - Burned Area ESR plans will be developed by an inter-disciplinary team for each incident affecting an area greater than 5 acres. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be taken to prevent erosion. A post fire inventory and assessment of site conditions will be accomplished immediately after a fire has occurred on an archeological site. Development of a site-specific stabilization plan to deal with potential erosion will be undertaken.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Power lines may run through the FMU. Venemous snakes and steep cliffs also pose a threat to firefighters.

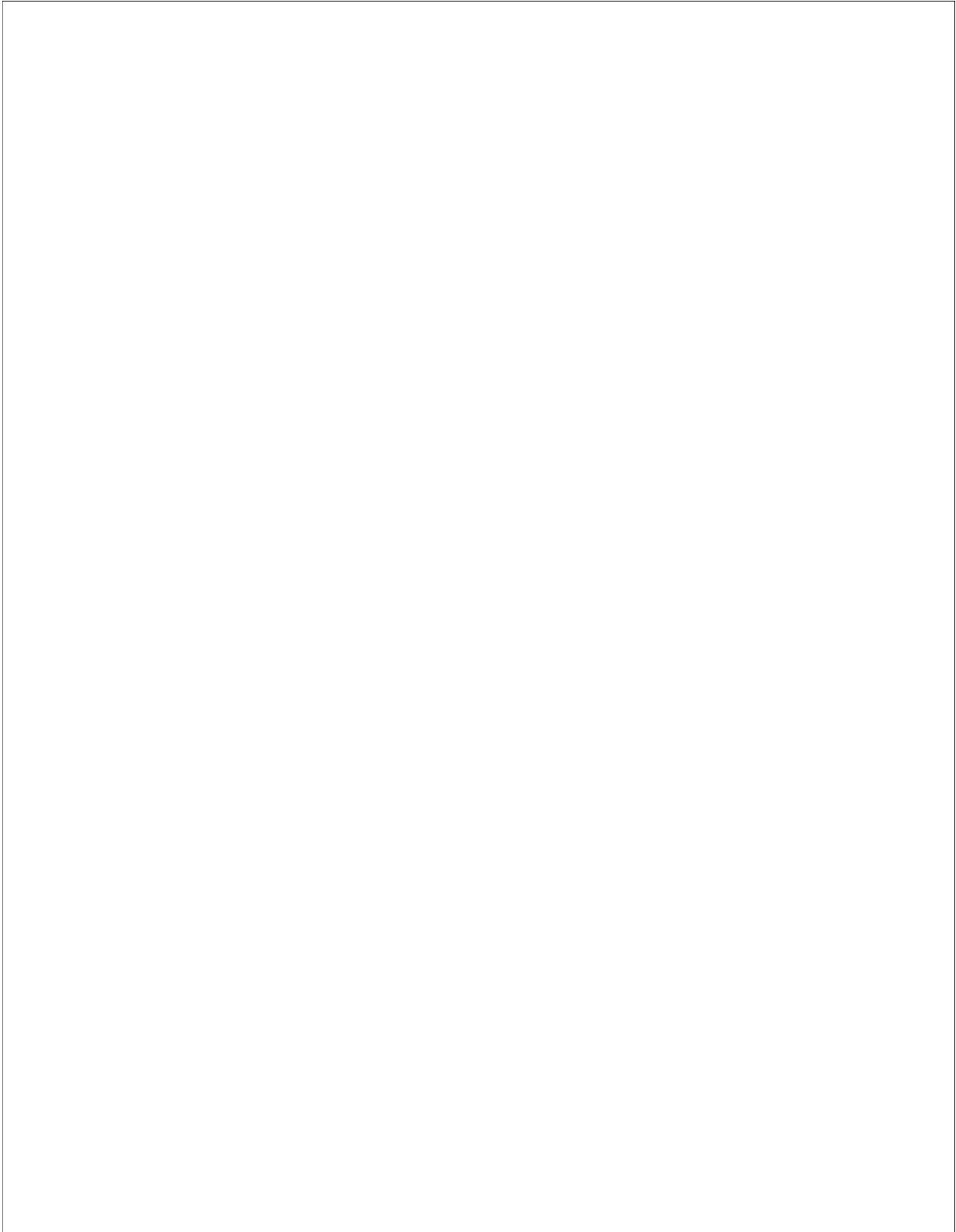


Figure 3.2.10: Map of the Reese Canyon Research Natural Area FMU

Fire Management Unit Name: Reese Canyon Research Natural Area (RNA) and Adjacent Associated HabitatCategory/Number: **B/1****1. Characteristics.**

Total Unit Acreage: BLM= 3,197 acres, State Land= 455 acres, Forest Service= 1,307 acres, Private= 1,020 acres, and BOR = 565 acres. Total surface area= 6,544 acres.

Location and Access: This FMU is located in San Juan County, New Mexico and flanks the Los Pinos River in the northeast portion of the Farmington Field Office (see Figure 3.2.10). The FMU is located in Reese Canyon, and extends from the Colorado border approximately 5 miles south along the Los Pinos River. The FMU continues beyond the southern border of the Resource Natural Area approximately an additional two miles along the river. New Mexico State Highway 511 passes through the FMU in the northwestern corner.

Terrain and Vegetation: Elevations in the area vary from 6090 feet to 6500 feet. The majority of the site is dominated by pinyon (*Pinus edulis*), Utah juniper (*Juniperus osteosperma*), and oneseed Juniper (*Juniperus monosperma*), intermixed with big sagebrush (*Artemisia tridentata*). Some large stands of black sagebrush (*Artemisia arbuscula*) occur within the open woodlands of the FMU.

Wildland Fire History: Between fiscal years 1999 and 2009 there was one human caused fire totaling .10 of an acre in size and 16 naturally caused fires totaling 63.6 acres in size.

Fire Regime: This FMU contains two vegetation communities. These are the plain-mesa grassland/Great Basin desert scrub community and the open conifer woodland community. The two communities represent Fire Regimes I and II.

Fire Regime Condition Class: This FMU has been identified as Fire Regime Condition Class 3. Under current conditions, which reflect a combination of historically heavy livestock use coupled with fire suppression, many areas in the FMU formerly dominated by grass and shrubs are being invaded by young pinyon and juniper trees. This condition is increasing the fuel loads in the FMU and increasing the risk of catastrophic wildfires, thereby increasing the risk to the endangered Knowlton's cactus (*Pediocactus knowltonii*).

Wildlife: Bald eagles are known to migrate through and winter in the FMU. This FMU falls within the Rattlesnake Canyon Wildlife Area which has been established by the Farmington Field Office to be managed to support increases in potential wildlife. Wintering deer utilize the Rattlesnake Canyon Wildlife area for browse species such as mountain mahogany and big sagebrush. Wild turkeys utilize the area to feed on mast species such as Gambel's oak (*Quercus gambelii*) in the winter and fall.

Watersheds: This FMU brackets the San Juan River, the Los Pinos River and the northwestern portion of Navajo Lake

Recreation: OHV use is found within this FMU but is required to be limited to maintained roads, designated routes and trails.

Special Areas: Reese Canyon RNA contains a federally endangered species, Knowlton's cactus and habitat. Knowlton's cactus habitat is among pinyon and juniper woodlands and sagebrush-covered Tertiary alluvial deposits. The single known population of the Knowlton's cactus should be fenced to be protected from disturbance. The FMU is also incorporates portions of the Bald Eagle ACEC. The Pine #1 core site for bald eagles, which is a federally threatened species, is part of the FMU.

Cultural Values: Fires outside the FMU area need consultation with a cultural resource advisor prior to surface-disturbing activities such as the use of bulldozers for fire lines. There are no cultural ACECs in this area; however archaeological sites exist in the area.

Values at Risk/Protection Constraints: The Knowlton's cactus is extremely susceptible to fire, and to damage from suppression operations. With the overall small size of the plant any suppression operations inside the RNA could be potentially damaging to the plant population. Every effort must be made to enhance the overall survival of the plant species.

Communities at Risk: There are no communities at risk near this management area. However, there are several ranch houses in and surrounding the FMU.

2. Management Guidance

Specific Objectives:

Prevent any wildfire from entering the cactus area. Wildfires that occur within the RNA will be allowed to burn until they cross the boundary of the management area and will subsequently be suppressed outside the area. No fuels treatments of any kind will be undertaken in this management area. Overall, the fire program will make every effort possible to protect and enhance the ecosystem which the cactus occupies.

Additional long-term management goals for the FMU include:

1. Restore all areas of FRCC 3 to an FRCC 2 or FRCC 1.
2. Cooperate with adjacent landowners, including private and state, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement in areas outside of the RNA and the ACEC.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
4. Enhance the habitat of and provide protection for the Knowlton's cactus.
5. No surface disturbance shall be permitted in bald eagle core areas.

Desired Conditions:

Wildland Fire Suppression - If a wildfire should start in the FMU, a "modified suppression tactic" policy would be implemented in all occupied and potential cactus habitat. This is due to the fact that fire suppression measures, such as cutting fire lines, and extensive pedestrian, and vehicular traffic would be more of a threat to the cactus than the fire. Existing roads near the area will be utilized as control lines, in order to reduce impacts to the area. If a wildfire should occur in the area outside the cactus habitat, a full suppression strategy will be utilized to reduce the risk of spread to cactus habitat as well as to

private inholdings. Wildfires outside the habitat will be suppressed at less than 1 acre 100 % of the time at all Fire Intensity Levels.

Wildland Fire for Resource Benefit - No Wildland Fire for Resource Benefit will be implemented in this FMU.

Prescribed Fire - Prescribed Fire projects will be evaluated by a case by case basis. None are planned for the FMU.

Non-fire Fuels Treatments - No mechanical and chemical treatments are currently planned for this FMU.

Post-Fire Rehabilitation / Restoration - Burned Area ESR plans will be developed by an inter-disciplinary team for each incident affecting an area greater than 5 acres. If a wildfire does occur in the FMU, the Field Office biologist will consult with the Fish and Wildlife Service regarding appropriate fire rehabilitation techniques.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Power lines may run through the FMU. Venemous snakes and steep cliffs may pose a hazard.

4. Photos and Descriptions

The open conifer woodland, as seen in Figure 3.2.11, is typical of the canyon and mesa areas of the Reese Canyon FMU. Many grass species are found on the mesa tops where oil and gas pads are found. The grasses and forbs are continuous enough to carry a fire, as seen in Figures 3.2.12 and 3.2.13.



Figure 3.2.11



Figure 3.2.12



Figure 3.2.13

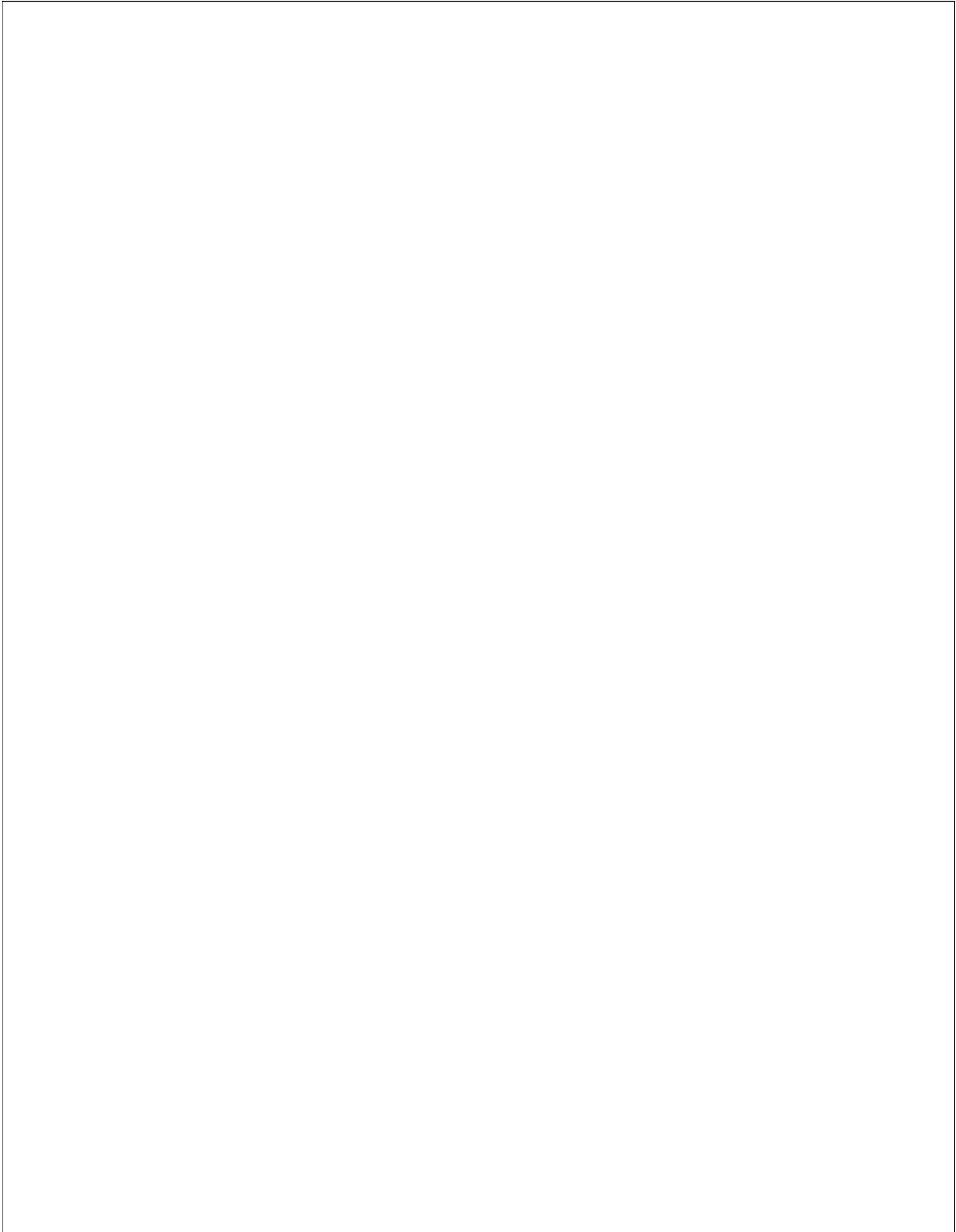


Figure 3.2.14: Map of the Glade Run Recreation Area FMU

Fire Management Unit Name: **Glade Run Recreation Area**

Category/Number: **B/2**

1. Characteristics.

Total Unit Acreage: BLM= 31,360 acres, State Land= 4,289 acres, Private= 22,687 acres. Total surface area= 6,544 acres.

Location and Access: This FMU is located in San Juan County, New Mexico in the northwest portion of the Farmington Field Office. The FMU is adjacent to the cities of Farmington and Aztec, and falls between the La Plata and Animas River valleys. The FMU boundaries are New Mexico State Highways 170 on the west, 516 to the east and 574 to the north.

Terrain and Vegetation: Elevations in the area vary from 5450 feet to 6500 feet. Scattered pinyon and juniper occupy the tops of mesas, with sage dominating the canyon bottoms. The dominant tree species are pinyon (*Pinus edulis*) and oneseed juniper (*Juniperus monosperma*). More open stands are located on drier sites below 6,600 feet elevation where pinyon, juniper, big sagebrush (*Artemisia tridentata*) and antelope bitterbrush (*Purshia tridentata*) are common. Blue grama (*Bouteloua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were 16 human caused fires totaling 2.6 acres in size and 27 naturally-ignited fires totaling 3.1 acres in size.

Fire Regime: The FMU is comprised of the open conifer woodland vegetation type which is in Fire Regime II.

Fire Regime Condition Class: This FMU has been identified as a Fire Regime Condition Class 2. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production, OHV use, and livestock grazing, have greatly altered conditions in much of the management area and have negatively affected many plant species.

Wildlife: Wildlife species found in this area are fairly diverse due to the variety of vegetative species. The number of large mammals like mule deer is very low due to the extremely fragmented habitat associated with recreational use and oil and gas development. From the standpoint of abundance, avian species probably contend best with the fragmented habitat found in this unit. The number of species found here is extensive but common examples would be juniper titmice (*Baeolophus ridgwayi*), gray vireos (*Vireo vicinior*), sage sparrows (*Amphispiza belli*), spotted towhees (*Pipilo maculatus*), western bluebirds (*Sialia mexicana*), chipping sparrows (*Spizella passerina*), common ravens (*Corvus corax*), scrub jays (*Aphelocoma californica*), and red-tailed hawks (*Buteo jamaicensis*).

Watersheds: This FMU is bordered by the La Plata River on the west and by the Animas River on the east. Both of these rivers flow into the San Juan River south of the FMU.

Recreation: This Fire Management Unit is characterized by high levels of recreation use by off road vehicles, with numerous OHV trails. The area is characterized by an extensive trail and road

system. Visitor use, in the form of mountain bikes, horseback riders, joggers, hikers, and off-highway-vehicles is heavy. Several thousand visitors a year frequent the recreation area. The Glade Run Recreation Area is also the site of a nationally famous annual mountain bike race and an annual triathlon.

Special Areas: This FMU is named for the Glade Run Recreation Area, which constitutes a significant portion of the unit. It also includes the McDermott Wash special riparian 100 year flood plain and active flood plain.

Cultural Values: Archaeological sites exist in the area, and therefore consultation with a cultural resource specialist prior to surface disturbing activities such as the use of heavy equipment is required. Clearance by a cultural resource specialist will also be required prior to any fuels treatment in the management area.

Values at Risk/Protection Constraints: Petroleum development is extensive in the FMU, and facilities dot the area. The road network and trail system could be damaged by suppression efforts or by erosion after a major fire.

Communities at Risk: Wildland-urban interface issues are a major concern in this FMU, which abuts portions of the cities of Farmington and Aztec, as well as smaller communities such as Flora Vista and Spencerville. Much of the Fire Management Unit also has private land inholdings.

2. Management Guidance

Specific Objectives:

Wildfires in this FMU could be disruptive to recreational activities and pose a hazard to the well-being of people present in the management area, and therefore fires should be kept to minimum acreage. Fire size should be limited to less than 10 acres due to the recreational value of the area, threats to oil and gas development and private property, as well as wildland-urban interface concerns.

Long-term management goals for this FMU include:

1. Restore all areas of FRCC 2 to an FRCC 1.
2. Cooperate with adjacent landowners, including cities, private individuals and the state, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
4. Mitigate impacts to recreational resource values within the FMU area.
5. Prevent spread of wildfire into the adjacent urban areas.

Desired Conditions:

Wildland Fire Suppression - Public and firefighter safety is paramount for all fire operations occurring in this FMU. With the amount of public use in the area, firefighters must be aware of the possibility of civilians near or at the scene of wildfires. With this in mind, wildfires in this unit will be suppressed at less than 10 acres 90% of the time at all fire intensity levels. Firefighters must coordinate with local law

enforcement entities and take necessary action to notify and evacuate civilians from the scene of an incident. Retardant and bulldozer operations are allowed in the management area. Engines are allowed off road in this area.

Wildland Fire for Resource Benefit - No Wildland Fire for Resource Benefit will be implemented in this Fire Management Unit.

Prescribed Fire - An average of 1,000 acres per year will be treated to increase forage for wildlife and improve rangeland health.

Non-fire Fuels Treatments - Approximately 1,000 acres per year will need to be treated to improve rangeland health in the FMU. These treatments can be accomplished through mechanical treatments and thinning projects. Fuelwood harvesting by the public is prohibited within the Glade Run Recreation Area proper.

Post-Fire Rehabilitation / Restoration - A specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident which affects an area greater than 20 acres. In burned areas greater than 20 acres, temporary fences may need to be erected to prevent OHV traffic and grazing from damaging rehabilitation work. All surface disturbing activities will be rehabilitated and reseeded. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be taken to prevent erosion.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Power lines run through the FMU. The presence of recreational users and residents on private inholdings present threats to the safety of the public, as does the very real potential of wildland fire spreading into heavily-occupied areas.

4. Photos and Descriptions

The sparse ground cover, as seen in Figure 3.2.15, surrounding the Farmington Glade is not conducive to the spread of fire in this FMU. The open conifer woodland that makes up the majority of this FMU is seen in Figure 3.2.16. The city of Farmington, seen in the background of Figure 3.2.17 poses a WUI concern because it backs up to the FMU.



Figure 3.2.15



Figure 3.2.16



Figure 3.2.17

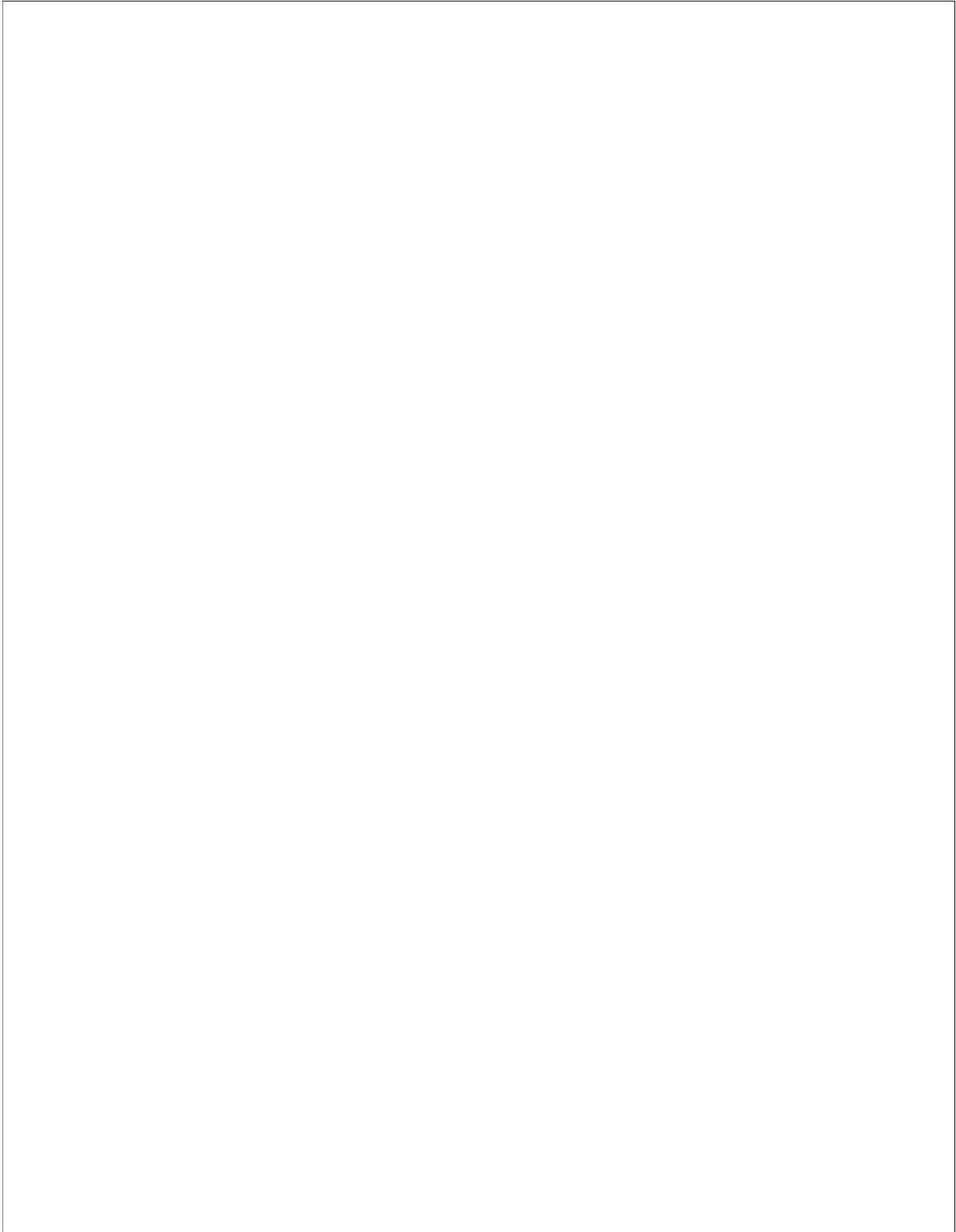


Figure 3.2.18: Map of the Crouch Mesa/Knickerbocker Peak FMU

Fire Management Unit Name: **Crouch Mesa/Knickerbocker Peak**

Category/Number: **B/3**

1. Characteristics.

Total Unit Acreage: BLM= 21,525 acres, State Land= 2,946 acres, Private= 16,433 acres. Total surface area= 40,904 acres.

Location and Access: This Fire Management Unit is located in San Juan County, adjacent to the towns of Bloomfield, Farmington, and Aztec and the community of Flora Vista. It lies between the Animas and San Juan River valleys. State Highway 64 borders the FMU to the south, and US Highway 550 dissects the area north to south. State Highway 516 runs through the northeast part of the FMU.

Terrain and Vegetation: Elevations in the area vary from 5550 feet to 6350 feet. The area ranges across sage, pinyon, juniper, and mountain shrub. The dominant tree species are pinyon (*Pinus edulis*), oneseed juniper (*Juniperus monosperma*), Utah juniper (*Juniperus osteosperma*). Common ground cover species are mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), buckwheat (*Eriogonum spp.*), and penstemon (*Penstemon spp.*). Topography in the area ranges from flat sage meadows to slopes greater than 30 percent. There are also areas. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were 7 human caused fires totaling 12.5 acres in size and 15 naturally-ignited fires totaling 2.6 acres in size.

Fire Regime: The FMU is predominantly made up of the plain-mesa grassland/Great Basin desert scrub vegetation type which is classified as Fire Regime I. There are also pockets of open conifer woodland that is classified as Fire Regime II.

Fire Regime Condition Class: This FMU has been identified as Fire Regime Condition Class 2. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production and livestock grazing have greatly altered conditions in much of the plant community. As a result, in many areas these changes in vegetation have created ideal conditions for large uncontrolled wildfires. Some areas have heavy accumulations of dead and down fuels, and numerous ladder fuels to carry fires into the canopy.

Wildlife: The most significant wildlife use is by the avian community and those small mammals and reptiles capable of surviving within relatively small home ranges.

Watersheds: The FMU is in the watersheds for the Animas River and the San Juan River.

Recreation: This area is comprised of a wildland-urban interface with significant illegal OHV use. The FMU is extremely fragmented from these activities and from the infrastructure associated with the nearby urban areas and oil and natural gas development.

Special Areas: There are no special areas or ACECs in this FMU.

Cultural Values: There are numerous archaeological sites in this area. Notably, the privately-managed Chacoan outlier known as Salmon Ruins, as well as Aztec Ruins National Monument, lie within the FMU, though not on BLM-managed lands. Therefore consultation with a cultural resource advisor prior to surface disturbing activities such as a bulldozed fire line is required.

Values at Risk/Protection Constraints: Oil and gas is extensive in the area, as well as private structures and telecommunications sites, notably the array of towers located at Knickerbocker Peaks. This FMU has many residences, and private land inholdings.

Communities at Risk: Communities at risk include the cities of Farmington, Bloomfield, and Aztec and the community of Flora Vista.

2. Management Guidance

Specific Objectives:

Reduce hazard of wildfire to adjacent homes and property through fuel reduction projects. Reestablish a high proportion of grasses and low shrub vegetation types in this area. Trees and mature shrubs in patches, along with older stands of pinyon and juniper will be thinned. Large areas having savannah appearances are desired.

Long-term management objectives for this area include:

1. Restore all areas of FRCC 2 to an FRCC 1.
2. Protect human life and safety, as well as infrastructure, from threats arising from the spread of wildland fires into urban areas.
3. Cooperate with adjacent landowners, including private, city, and state, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
4. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.

Desired Conditions:

Wildland Fire Suppression - Public and firefighter safety will be paramount for all fire operations occurring in this FMU. Wildfires occurring in this management area will be suppressed at less than 5 acres 100% of the time at all fire intensity levels, in order to protect private lands and oil and gas facilities.

Wildland Fire for Resource Benefit - No Wildland Fire for Resource Benefit will be implemented in this Fire Management Unit.

Prescribed Fire - An average of no more than 500 acres per year will be treated to increase forage for wildlife and improve rangeland health.

Non-fire Fuels Treatments - Approximately 500 acres per year will need to be treated to improve rangeland health in the management area. These treatments could be accomplished through mechanical treatments and fuel wood sales.

Post-Fire Rehabilitation / Restoration - A specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be undertaken to prevent erosion.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Power lines run through the FMU, as do several major highways. The wildland-urban interface creates additional public safety concerns, and coordination with local law enforcement will be required in order to ensure evacuation and other necessary measures proceed smoothly and rapidly.

4. Photos and Descriptions

Many roads, like the one seen in Figure 3.2.19 that support oil and gas infrastructure are found throughout the FMU. These roads divide the FMU into segments and create fire breaks. Figure 3.2.20 shows an open grassland meadow in the southwest portion of the FMU which has been used as a grazing allotment. Figure 3.2.21 shows the transition zone between sagebrush flats and the open conifer woodlands that make up the majority of this FMU.



Figure 3.2.19



Figure 3.2.20



Figure 3.2.21

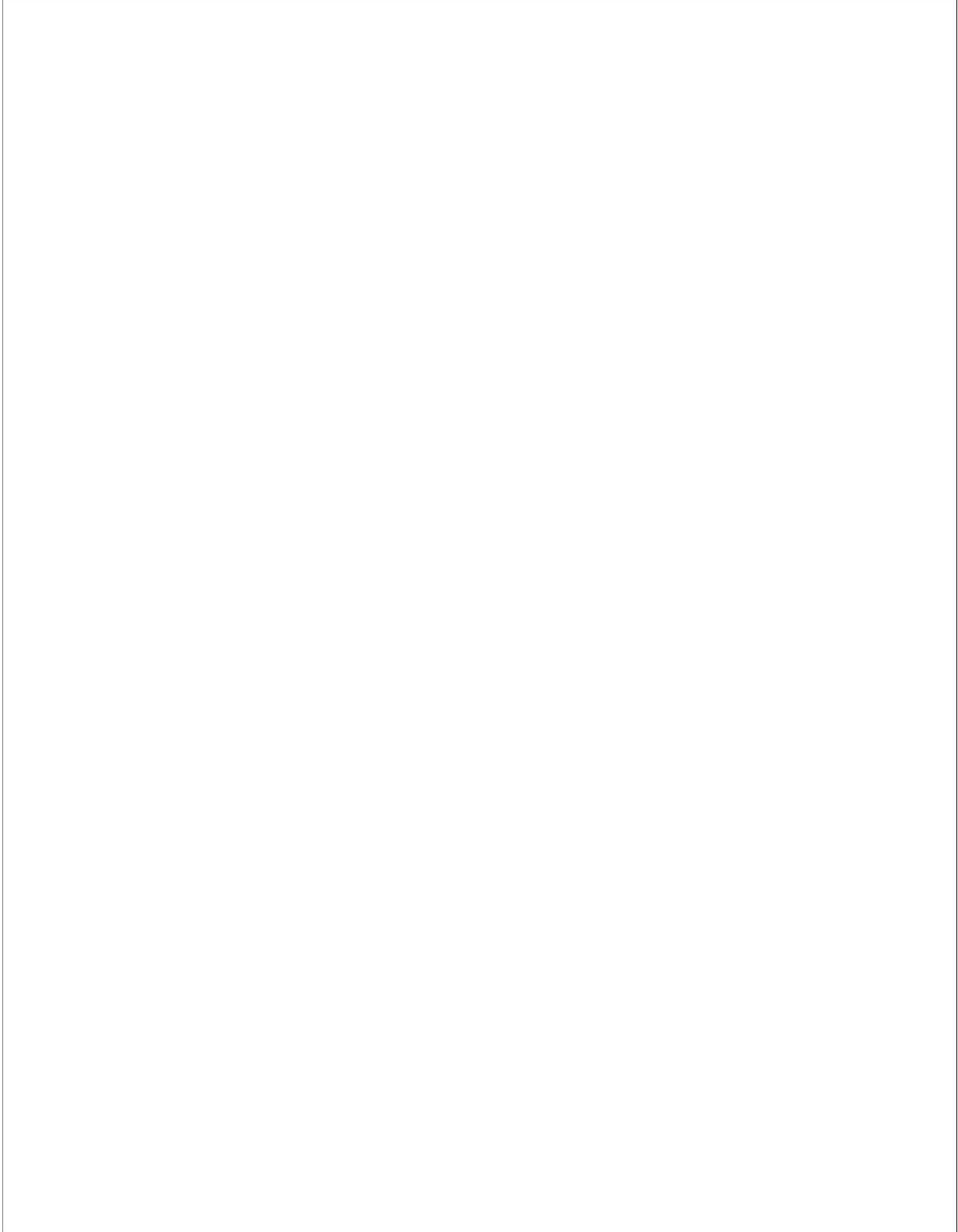


Figure 3.2.22: Map of the Eul Canyon FMU

Fire Management Unit Name: **Eul Canyon**

Category/Number: **B/4**

1. Characteristics.

Total Unit Acreage: BLM= 1,650 acres, BOR= 174 acres, Private= 327 acres. Total surface area= 2,151 acres.

Location and Access: This Fire Management Unit is located in Rio Arriba County, New Mexico in the northeast portion of the Farmington Field Office. Navajo Reservoir borders the FMU to the west, and the Carson National Forest borders the FMU to the east.

Terrain and Vegetation: Elevations in the area vary from 6080 feet to 7770 feet. In Eul Canyon itself, the browse is in fairly good condition. The area is dominated with sagebrush with patches of intermixed grasses intermixed, and pinyon and juniper. The pinyon- juniper woodland plant community type primarily covers the majority of the FMU. Dense stands generally occur above 6,600 feet in elevation and the dominant tree species are pinyon (*Pinus edulis*), oneseed juniper (*Juniperus monosperma*), Utah juniper (*Juniperus osteosperma*), Gambel's oak (*Quercus gambelii*), and mountain mahogany (*Cercocarpus montanus*), with occasional stringers of ponderosa pine (*Pinus ponderosa*). Common groundcover species are mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), buckwheat (*Eriogonum spp.*), and penstemon (*Penstemon spp.*). Blue grama (*Boutelua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there was only one fire, totaling 105 acres, which resulted from natural causes.

Fire Regime: The majority of the FMU is in the open conifer woodland and plain mesa grassland vegetation type communities and falls into Fire Regimes II and I.

Fire Regime Condition Class: This FMU has been identified as a Fire Regime Condition Class 3.

Wildlife: The area is an important deer winter range and forage habitat. This FMU is part of the Carracas Mesa wildlife area elk calving habitat.

Watersheds: The FMU borders the Navajo Reservoir which is in the watershed of the San Juan River.

Recreation: This Fire Management Unit overlaps on the southern side of the Carracas Mesa Recreation Area/Wildlife Area. Although designated as a recreation unit in the Farmington Field Office RMP, no formal development of recreation facilities has yet taken place.

Special Areas: The Eul Canyon FMU is included in the Carracas Mesa Recreation Area, and winter range area for deer.

Cultural Values: There are numerous archaeological sites in the area. As with all federal undertakings involving surface disturbance, consultation with a cultural resource specialist prior to activities such as the use of fire line construction will be required.

Values at Risk/Protection Constraints: Oil and gas facilities are in the area as well as important deer winter range habitat.

Communities at Risk: There are no communities at risk within the FMU.

2. Management Guidance

Specific Objectives:

Create a mosaic of grass and shrubs intermixed with the sagebrush and pinyon/juniper component. Patches between 50 and 500 acres in extent are desired to create diversity in the area. Prescribed fire and mechanical treatments will be used in the management area to achieve the desired vegetative condition. Manage all natural wildfires in a manner to AMR, to restore fire as a natural disturbance that results in resource benefits.

Long-term objectives for this FMU include:

1. Restore all areas of FRCC 3 to an FRCC of 2.
2. Cooperate with adjacent private landowners and the Carson National Forest, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Mitigate impacts of wildfire to wildlife and recreational resource values within the FMU.

Desired Conditions:

Wildland Fire Suppression - Retardants and heavy equipment may be used in this FMU. An appropriate management response will be determined for all fires in the area. Wildfires at FILs of 1 to 3 will be suppressed at less than 20 acres 90% of the time. Wildfires with FILs of 4 to 6 will be suppressed at 50 acres 90% of the time to protect critical winter wildlife range. An intense wildfire in this area could prove detrimental to wildlife but a prescribed fire or a wildfire with lower temperatures and at higher humidity could help the rejuvenation of the browse species in the area.

Wildland Fire for Resource Benefit –No Wildland Fire Resource Benefit will be implemented in this Fire Management Unit.

Prescribed Fire - An average of no more than 400 acres per year will be treated to increase forage for wildlife and improve rangeland health.

Non-fire Fuels Treatments - Approximately 400 acres per year will need to be treated to improve rangeland health in the FMU. These treatments could be accomplished through mechanical treatments and fuel wood sales.

Post-Fire Rehabilitation / Restoration - A specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in extent. Roads or fire lines created by

suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation will be done and appropriate actions will be taken to prevent erosion. The proper seed mixture for rehab will be coordinated with the field office biologist, to ensure appropriate forage is restored to the deer winter range.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Power lines may run through the FMU.

4. Photos and Descriptions

Figures 3.2.23 through 3.2.25 show the area of the FMU that was affected by the Energen Fire in 2006. This fire was a natural fire that started in the Bald Eagle ACEC FMU and spread into the EUL canyon FMU. The fire fragmented the open conifer woodland vegetation community. The area where the fire burned is now dominated by grass species such as mutton grass, western wheatgrass, buckwheat, blue grama and galleta.



Figure 3.2.23



Figure 3.2.24



Figure 3.2.25

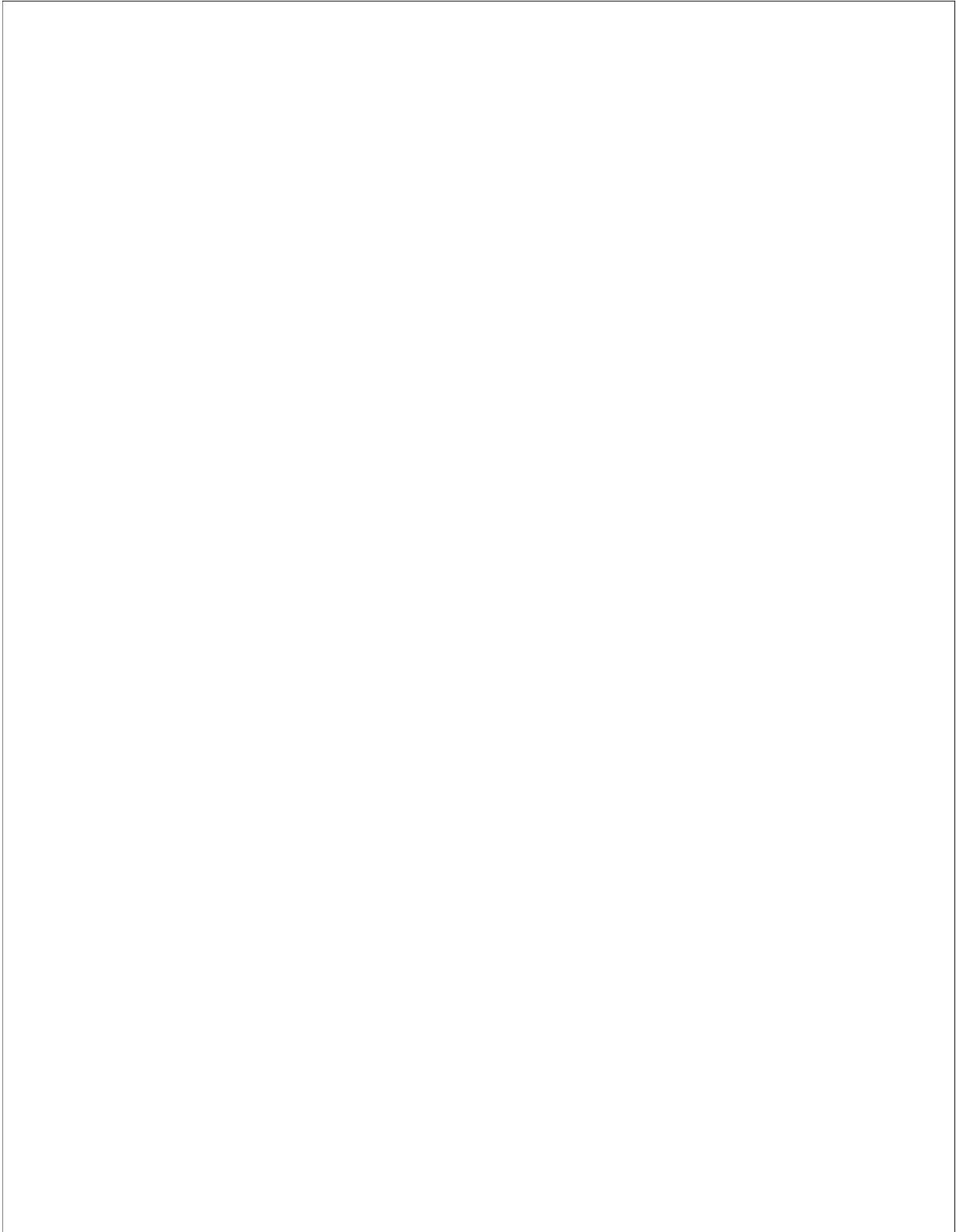


Figure 3.2.26: Map of the Mexican Spotted Owl Area of Critical Environmental Concern FMU

Fire Management Unit Name: **Mexican Spotted Owl Area of Critical Concern (ACEC)**

Category/Number: **B/5**

1. Characteristics.

Total Unit Acreage: BLM= 2,630 acres, Private= 105 acres. Total surface area= 2,735 acres.

Location and Access: This Fire Management Unit is located in Rio Arriba County, New Mexico on the eastern side of the Farmington Field Office. The FMU is bordered to the east by the Carson National Forest (see Figure 3.2.26). Access is via Forest Road 314 off of State Highway 64.

Terrain and Vegetation: Of the 2,630 acres, seven small stands of mixed conifer forest totaling 85.7 acres were identified. The mixed conifer stands consist mostly of Douglas fir (*Psuedotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*). The designated Mexican Spotted Owl (MSO) critical habitat includes 2,182 acres classified as pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*) woodlands. The FMU area also contains six stands of ponderosa pine totaling 349.5 acres. The area contains steep drainages dissecting the surrounding mesas. Elevations in the area vary from 6700 feet to 7600 feet. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were no human caused fires and three naturally caused fires totaling three tenths of an acre in size.

Fire Regime: This FMU is made up of open and closed conifer woodland vegetation types and mixed conifer stands. These vegetation types fall into Fire Regimes II and III.

Fire Regime Condition Class: This FMU has been identified as a Fire Regime Condition Class 3. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production and livestock grazing, have greatly altered conditions in many of the plant communities. As a consequence, the FMU has high fuel loads, leaving the area susceptible to catastrophic fire.

Wildlife: This area has been identified as critical habitat for the Mexican spotted owl (*Strix occidentalis lucida*). This area also contains deer, elk, Merriam's turkey (*Meleagris gallopavo merriami*), black bears (*Ursus americanus*), mountain lion (*Felis concolor*), Abert's squirrels (*Sciurus aberti*), and a wide variety of songbirds and raptors.

Watersheds: The FMU is in the watershed for the San Juan River.

Recreation: OHV use is known to occur within this FMU, but is legally required to remain on maintained roads and trails.

Special Areas: This FMU includes the Mexican Spotted Owl ACEC.

Cultural Values: Numerous cultural sites exist in the area. Consultation with a cultural resource advisor prior to surface disturbing activity such as the use of bulldozers will be required.

Values at Risk/Protection Constraints: This FMU contains critical habitat for the Mexican spotted owl, a raptor species federally listed as “threatened.” Oil and gas facilities are also present in the area.

Communities at Risk: There are no communities at risk within the FMU.

2. Management Guidance

Specific Objectives:

The objective of the management area is protect the existing stands of ponderosa pine and mixed conifer stands. The Field Office will develop a program that will maintain and improve the health of the ponderosa pine forest ecosystem. In the event of a naturally- ignited wildfire, an appropriate management response will be developed for each incident

Long-term management goals for this area include the following:

1. Restore all areas of FRCC 3 to an FRCC 2. Vegetative manipulation should be limited to those actions that would improve wildlife habitat.
2. Cooperate with private landowners and the Carson National Forest when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement in areas outside of the ACEC itself.
3. Improve habitat for the Mexican spotted owl and its associated prey species.
4. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.

Desired Conditions:

Wildland Fire Suppression - If a wildfire should start within the ACEC, an appropriate management response will be developed. Wildfires will be limited to less than 5 acres 90% of the time at all intensities. Although the ACEC has been set aside as Mexican spotted owl habitat, no members of this species have been confirmed as occupying the habitat. In the event that Mexican spotted owls are confirmed to occupy the ACEC, the Fire Management Officer (FMO) will be notified, and in the event of a wildfire, the FMO will notify field office biologists and appropriate suppression tactics will be developed. No fire retardants will be used on occupied habitat without prior coordination with the USFWS. All surface disturbances will require reseeding and other appropriate rehabilitation measures.

Wildland Fire for Resource Benefit –No Wildland Fire for Resource Benefit will be implemented in this Fire Management Unit.

Prescribed Fire - Prescribed fire will be allowed within the Mexican spotted owl ACEC as an adaptive management tool to produce or maintain favorable forest habitat components for the owls. Consultation with the USFWS will be required prior to any burning. Fuels reduction projects including prescribed fire will be encouraged in this area, with the goal to reduce the litter layer by 60% to a

maximum tolerable level of 45%. These projects will rejuvenate grass and forbs in the area, reduce the fuel load and favor prey species.

Non-fire Fuels Treatments - Approximately 200 acres per year will need to be treated to improve rangeland health and wildlife habitat in the FMU. These treatments could be accomplished through mechanical treatments and fuelwood sales. The 90 acres of designated mixed conifer habitat is excluded from fuelwood collection.

Post-Fire Rehabilitation / Restoration - A specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Power lines may run through the FMU. Venemous snakes and steep slopes may cause a threat to firefighter safety.

4. Photos and Descriptions

The steep drainages in this FMU, as seen in Figure 3.2.27, are dominated by mixed conifer stands that consist of Douglas fir and ponderosa pine. Figure 3.2.28 shows the transition on the rolling hills of the FMU from grassland communities to the mixed conifer stands surrounding the drainages.



Figure 3.2.27



Figure 3.2.28

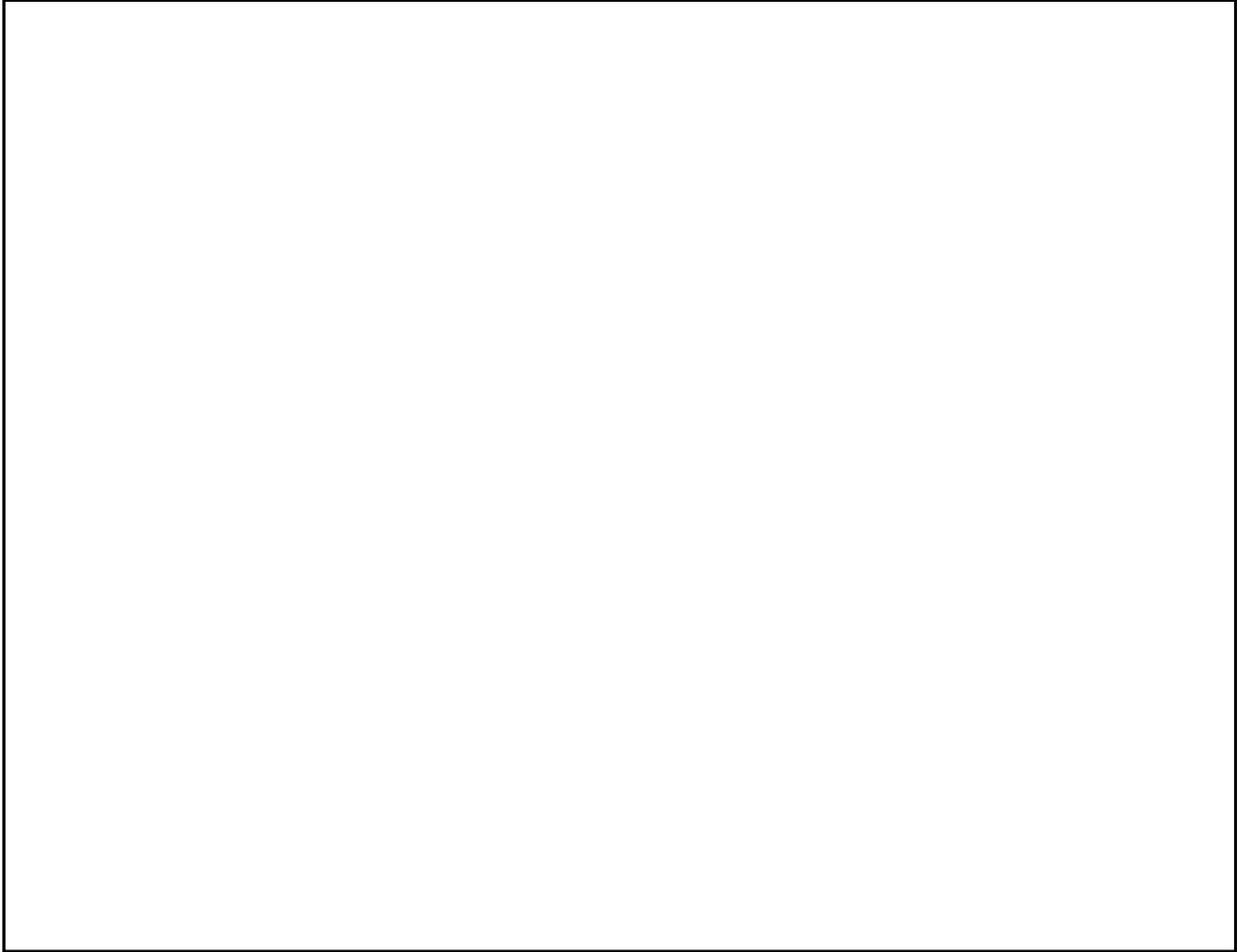


Figure 3.2.29: Map of the River Corridors FMU

Fire Management Unit Name: River Corridors (La Plata, San Juan, Animas)**Category/Number: B/6****1. Characteristics.**

Total Unit Acreage: BLM= 6,031 acres, BOR = 1,551, State land = 1,720 acres, BIA = 8,829 acres, and Private= 50,651 acres. Total surface area= 68,782 acres

Location and Access: This FMU consists of the La Plata, San Juan, and Animas River banks and immediate surroundings (see Figure 3.2.29). The three drainages flow through the cities of Farmington, Bloomfield and Aztec, New Mexico. Along the La Plata River, the FMU extends from the community of La Plata to the river's junction with the San Juan. Along the Animas, the FMU starts at the Colorado border and extends to where the Animas discharges into the San Juan. The FMU follows the San Juan River from the base of Navajo Dam to where it enters the Navajo Reservation.

Terrain and Vegetation: Elevations in the FMU vary from 5,000 feet in elevation to 5,900 feet. There are mature cottonwood galleries and willows adjacent to the San Juan, La Plata, and Animas Rivers. These areas support extensive riparian vegetation that includes several invasive species including tamarisk (*Tamarix chinensis*), Russian olive (*Elaeagnus angustifolia*), and Siberian elm (*Ulmus pulima*). Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were 13 human caused fires totaling 112.2 acres in size and 6 naturally caused fires totaling one acre in size.

Fire Regime: This FMU includes the Southwest and plains forested /shrub wetland vegetation type and is classified as Fire Regime IV.

Fire Regime Condition Class: This FMU has been identified as a Fire Regime Condition Class 3, in part due to areas of heavy salt cedar, and Russian olive infestations. Under current conditions, which reflect a combination of historically heavy livestock use coupled with fire suppression, many portions of the FMU formerly dominated by grass and native shrubs are being invaded by tamarisk and Russian olive. This condition increases the fuel load in the FMU and increases the risk of catastrophic wildfires.

Wildlife: Bald Eagles are known to migrate through and winter in the FMU. Bald Eagles are a federally listed threatened species. There are also several areas of the FMU that have been identified as critical habitat southwestern willow flycatcher, a federally listed endangered species.

Watersheds: This FMU encompasses portions of the watersheds of the San Juan, La Plata, and Animas Rivers.

Recreation: This Fire Management Unit has a variety of recreational uses including fishing, rafting, wildlife viewing, and hiking.

Special Areas: This FMU includes the Bald Eagle ACEC Animas core site #1. This area also includes several riparian ACEC's.

Cultural Values: Due to the importance of ephemeral and perennial water sources in the desert, numerous archaeological sites are located along this FMU. These include the Chacoan outliers Salmon Ruin, which is privately owned, and Aztec Ruin National Monument.

Values at Risk/Protection Constraints: Primary values to be protected from wildland fires spreading into these areas consist of bald eagle habitat and potential willow flycatcher habitat as well as numerous homes and communities adjacent to the river corridors. Numerous small farms and ranches are also located adjacent to the rivers, and these too would be threatened by wildfire.

Communities at Risk: In addition to the cities of Farmington, Aztec, and Bloomfield, which occupy portions of the FMU, a more-or-less continuous string of habitations are located along each of the river corridors. These also include the small communities of La Plata along the La Plata River; Riverside, Cedar Hill, Inca, Flora Vista, and Spencerville along the Animas; and the communities of Navajo Dam, Archuleta, Turley, Blanco, Kirtland, Upper Fruitland and Fruitland, as well as the Navajo chapter of Nenahnezad along the San Juan. As a consequence, WUI is a major concern in this FMU. In these areas the FFO is in the process of mechanically treating some portions of the river corridors adjacent to the communities. The purpose of these projects is to eliminate all the non-native species (e.g. tamarisk, Russian olive) on the BLM river tracts, subsequently reducing the fire hazard as well as improving wildlife habitat. The FFO has been active in providing community assistance grants for the communities of Farmington and Bloomfield. These assistance grants are intended to fund wildland fire mitigation plans for areas near the river corridor.

2. Management Guidance

Specific Objectives:

Suppress all wildfires with minimum cost, and minimize acreage burned from all wildfires to less than 1 acre if possible. Reduce the risk of wildfires by undertaking mechanical and chemical treatments, where applicable, in river tracts adjacent to private lands.

Long-term management goals for this FMU include:

1. Restore all areas of FRCC 3 to an FRCC 2.
2. Cooperate with adjacent landowners (private, municipal, state, Tribal, and other federal agencies), when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement in areas surrounding the river corridors.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
4. No surface disturbance shall be permitted in the bald eagle core site.
5. Protect and enhance potential habitat for the southwest willow flycatcher.

Desired Conditions:

Wildland Fire Suppression - 100% of wildfires will be suppressed to less than 1 acre at all fire intensity levels, to protect the native riparian vegetation, such as cottonwood galleries. Bulldozer line operations are prohibited within the management area. In the event that potential Southwest Willow Flycatcher (SWWF) habitat becomes occupied by this endangered species, the FMO or Taos Dispatch will be

notified, and in the event of a wildfire, the FMO will notify FFO biologists and appropriate suppression tactics will be developed. No fire retardants will be air-dropped on occupied habitat without prior coordination with USFWS. Minimum Impact Suppression Tactics will be applied in this management area to reduce impacts caused by suppression operations.

Wildland Fire for Resource Benefit –No Wildland Fire for Resource Benefit will be implemented in this Fire Management Unit.

Prescribed Fire – Any proposed prescribed fire operations will be evaluated on a case-by-case basis.

Non-fire Fuels Treatments - Approximately 200 acres per year will need to be treated to improve rangeland health and wildlife habitat in the management area. These treatments could be accomplished via mechanical means.

Post-Fire Rehabilitation/Restoration - Planning for rehabilitation efforts will be developed by an interdisciplinary team for each incident or multiple incidents over 20 acres in size. Rehabilitation after a wildfire will be undertaken to facilitate the restoration of native species of plants in the management area. Temporary roads created by suppression operations will be obliterated and restored to a natural condition.

3. Safety Considerations

Aviation and power line hazards will be addressed after an assessment has been conducted byreferencing the aviation hazards map. Due to the extent of the wildland-urban interface in this FMU, coordination with local law enforcement agencies will be required in order to ensure public safety and arrange for any necessary evacuations.

4. Photos and Descriptions

Many parts of the rivers FMU are overgrown with invasive species such as Russian olive as seen in Figure 3.2.30. Figure 3.2.31 illustrates the riparian habitat that exists surrounding the San Juan River.



Figure 3.2.30



Figure 3.2.31

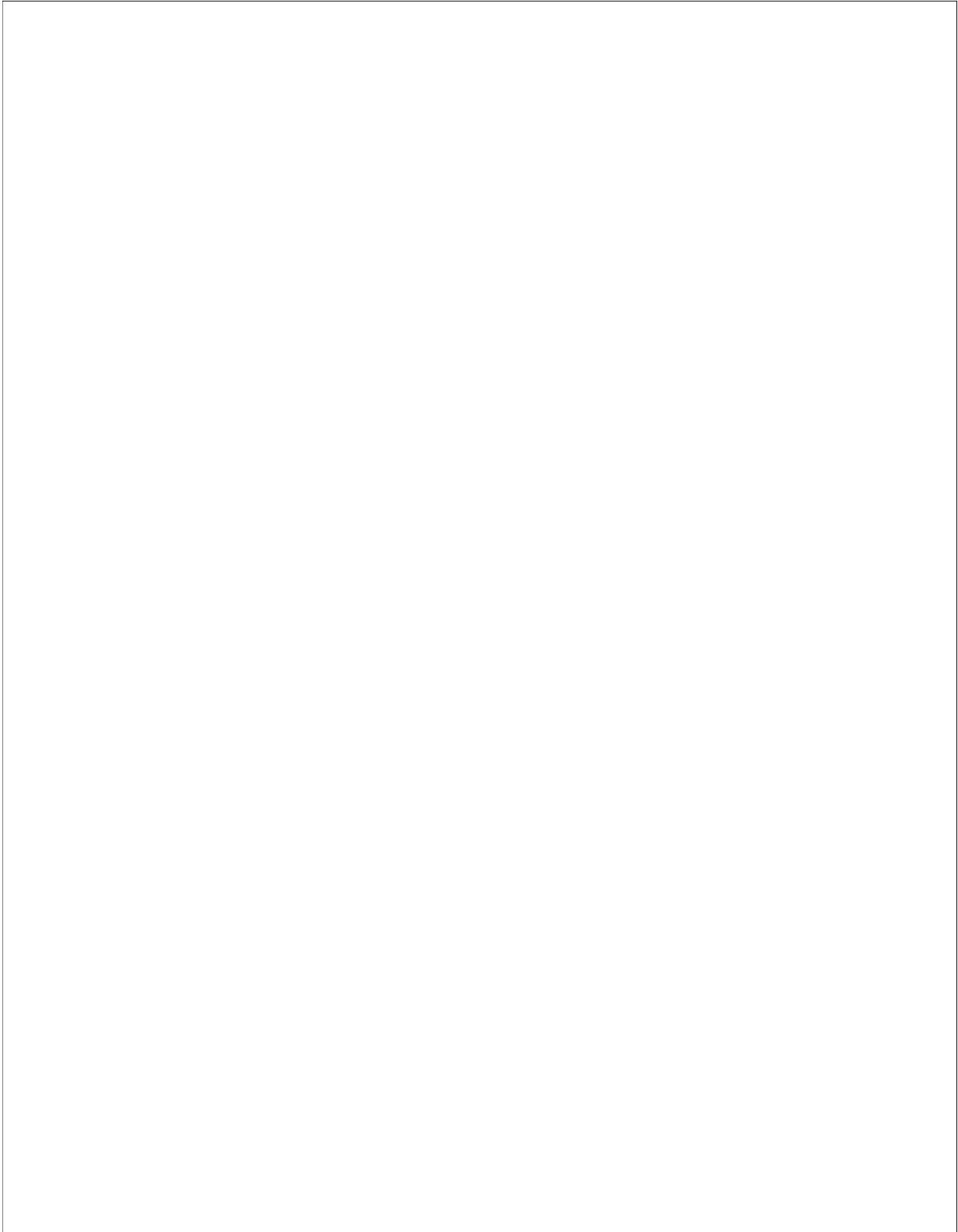


Figure 3.2.32: Map of Twin Mounds FMU

Fire Management Unit Name: **Twin Mounds**

Category/Number: **C/1**

1. Characteristics.

Total Unit Acreage: BLM= 33,696 acres, Private= 25,906 acres, State land= 5,846 acres Total Surface area=65,448 acres.

Location and Access: The FMU is located in San Juan County, New Mexico in the northwest portion of the Farmington Field Office. The unit incorporates the community of Fruitland, and abuts the town of Kirtland to the south and the city of Farmington at the FMU's southeastern corner (see Figure 3.2.32). State Highway 170 forms the eastern boundary of the FMU, and the Ute Mountain Indian Reservation forms the northern border. Access is via State highway 170 which borders the management area to the east. The unit is also bordered by the town of Kirtland to the south.

Terrain and Vegetation: The area is dominated by sagebrush (*Artemisia tridentata*), various grasses, four-wing saltbush (*Atriplex canescens*) and winterfat (*Krascheninnikovia lanata*) with scattered juniper and some pinyon. The dominant tree species are pinyon (*Pinus edulis*), Utah juniper (*Juniperus osteosperma*), oneseed Juniper (*Juniperus monosperma*) and mountain mahogany. Relatively large stands of big sagebrush occur within the open woodlands of the area. Elevations in the area vary from 5550 feet to 6060 feet. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 3 naturally-ignited fires totaling 0.4 acres and 3 human caused fires totaling 1.3 acres.

Fire Regime: This FMU has two vegetation types that fall into Fire Regimes I and II: Plain mesa grassland/Great Basin desert scrub (Fire Regime I) and open conifer savannah (Fire Regime II.)

Fire Regime Condition Class: This FMU is classified as Fire Regime Condition Class 2. Under current conditions, which reflect a combination of historically heavy livestock use coupled with fire suppression, many areas in the FMU formerly dominated by grass and shrubs are being invaded by young pinyon and juniper trees. This condition is increasing the fuel loads in the FMU and increasing the risk of higher-intensity, stand-replacement wildfires.

Wildlife: Habitat fragmentation and human activity are definite impediments to the well-being of wildlife in this area. The most significant wildlife considerations are a small population (n=37) of pronghorn antelope that utilize the area around Young's Lake and a few mule deer on Piñon Mesa. The antelope move back and forth to the Ute Mountain Reservation but are often found in this FMU.

Watersheds: The La Plata River lies adjacent to the FMU on its eastern flank. The San Juan River lies immediately south of the southern border of the FMU.

Recreation: Many trails and roads exist in this area with a large number of OHV recreation users utilizing the unit. Piñon Mesa Recreation Area, a recreation area consisting of both BLM and state-

managed lands, is also popular for hiking, mountain biking, and horseback riding, as well as with OHV enthusiasts.

Special Areas: This FMU includes the Pinon Mesa Recreation Area and the Piñon Mesa Fossil Area .

Cultural Values: Archaeological sites exist in the area, requiring consultation with a cultural resources specialist before undertaking any surface-disturbing activities.

Values at Risk/Protection Constraints: Values at risk include oil and gas facilities as well as private land inholdings within the management area. Due to the proximity of the city of Farmington, the town of Kirtland, and the community of Fruitland, wildland-urban interface issues are of concern. Preservation of the recreational value of the Piñon Mesa Recreation Area, and protection of its users is also a priority. A police training facility is also located in the FMU. A gravel pit has been proposed for the area.

Communities at Risk: The city of Farmington, the town of Kirtland, and the communities of Fruitland and Upper Fruitland are located in or adjacent to the FMU.

2. Management Guidance

Specific Objectives:

Utilize fire management techniques and practices to reduce the fire hazard in the area as well as restore natural resources. Allow fire to play a key role in the natural processes in the unit.

Long-term management objectives for the FMU include:

1. Restore all FRCC areas of 2 to 1.
2. Protect public safety and infrastructure by reducing hazardous fuels buildup in the WUI.
3. Cooperate with adjacent landowners to complete projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
4. Reduce overall fire management costs by reducing the potential for stand-replacing, high-intensity fires and their associated suppression response.

Desired Conditions:

Wildland Fire Suppression - An appropriate management response will be used for all fire in the management area. All human caused fires will be immediately suppressed at less than 10 acres at all fire intensity levels. Retardants may be used in this unit.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire use resource benefit to occur within this FMU. The timeline for completion of this analysis will be based on current funding and project priorities.

Prescribed Fire - Slash produced from thinning operations will be burned following mechanical treatment, addressing an average of 200 acres per year. Broadcast burning will be conducted in both

treated and untreated areas to reduce fuel loads and promote herbaceous groundcover at an average of 500 acres per year.

Non-fire Fuels Treatments - Approximately one to five non-fire fuels treatments totaling 500 acres will be scheduled annually. These projects may utilize mechanical means, chemical applications, and fuelwood sales. An average target for mechanical treatment will be 200 acres per annum, with the resulting biomass being sold to the public.

Post-Fire Rehabilitation / Restoration - Depending on the complexity of the wildfire, a specific Burned Area Emergency Stabilization and Rehabilitation plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. Consultation with FFO range specialists will be required for proper rehabilitation efforts in the FMU due to the degree of livestock grazing in the area. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation will be done and appropriate actions will be taken to prevent erosion.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities, as well as urban interface areas in the southern portion of the unit. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Underground coal mining has led to ground subsidence in some areas. Safety considerations include poisonous snakes and steep slopes. Hazards also include significant human activity in the area and accumulation of potentially hazardous waste due to illegal dumping.

4. Photos and Descriptions

Figure 3.2.33 shows the wide canopy spacing of the juniper trees that make up the open conifer savannah in the FMU. The limited ground cover made up of grasses and forbs can be seen in Figures 3.2.34 and 3.2.35.



Figure 3.2.33



Figure 3.2.34



Figure 3.2.35

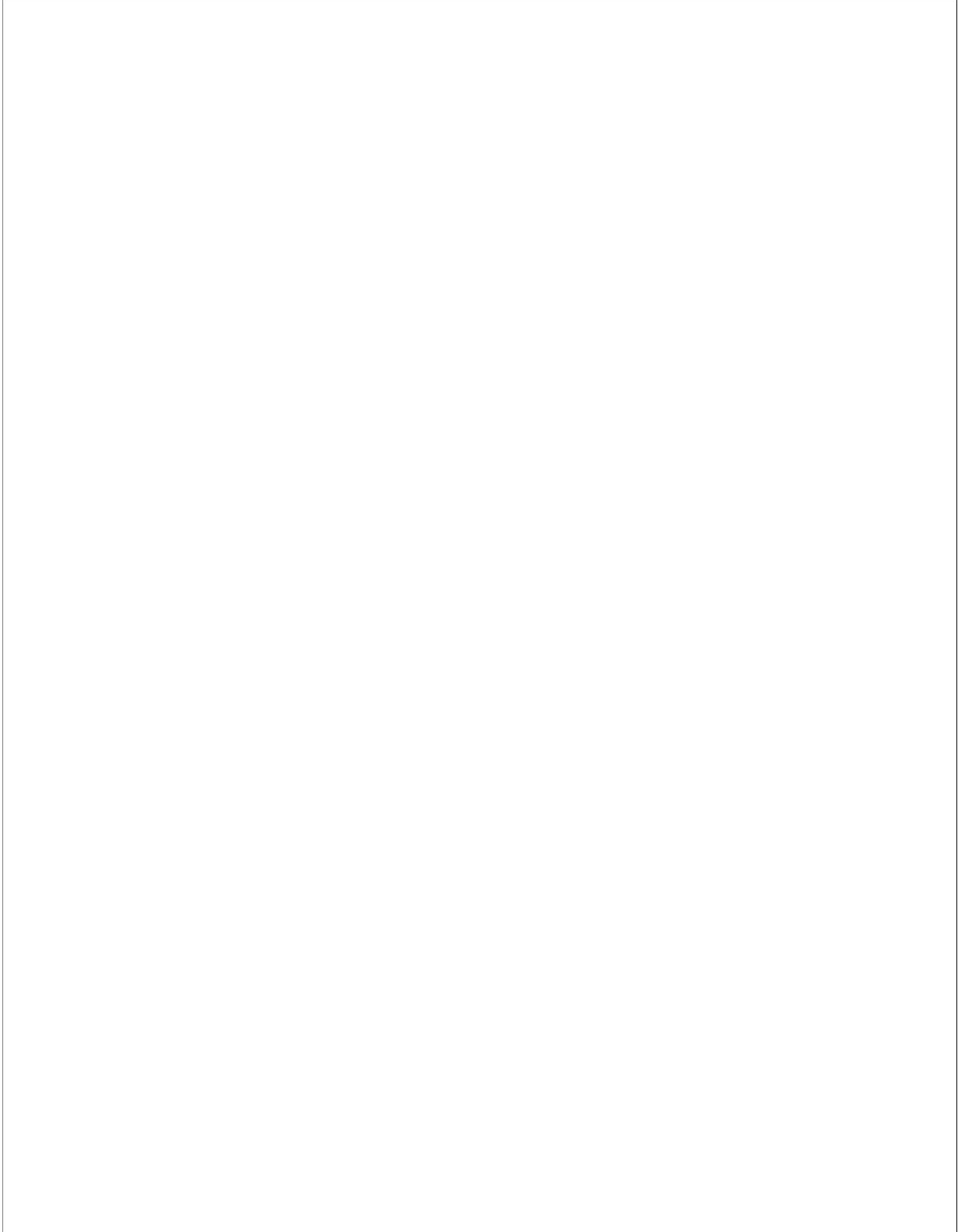


Figure 3.2.36: Map of the Jones/Thomas Canyon FMU

Fire Management Unit Name: **Jones/Thomas Canyon**

Category/Number: **C/2**

1. Characteristics.

Total Unit Acreage: BLM= 11,902 acres, Private= 12,643 acres, State land= 1,899 acres, and BOR=609 acres. Total Surface area=27,053 acres.

Location and Access: This FMU is located in San Juan County, New Mexico in the northwest portion of the Farmington Field Office. It is bordered by State Highway 170 to the east, and the Ute Mountain Reservation to the west. The state of Colorado borders the FMU to the north (see Figure 3.2.36).

Terrain and Vegetation: The area is composed of rolling hills in the lower elevations to steep ridges with deep canyons in the higher elevations. The dominant tree species are pinyon (*Pinus edulis*), oneseed juniper (*Juniperus monosperma*), Utah Juniper (*Juniperus osteosperma*), Gambel's oak (*Quercus gambellii*), and true mountain mahogany (*Cercocarpus montanus*), with occasional stringers of ponderosa pine (*Pinus ponderosa*). Common ground cover species are mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), buckwheat (*Eriogonum spp.*), and penstemons (*Penstemon spp.*). More open stands are located on drier sites below 6,600 feet elevation where pinyon, juniper, big sagebrush (*Artemisia tridentata*) and antelope bitterbrush (*Purshia tridentata*) are common. Blue grama (*Boutelua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species. Relatively large stands of big sagebrush occur within the open woodlands. Elevations in the area vary from 6050 feet to 6700 feet. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 9 fires, all resulting from natural ignition, totaling 2.1 acres.

Fire Regime: This FMU has two primary vegetation community types: closed conifer woodland and plain mesa grassland/Great Basin desert scrub. These are categorized as Fire Regimes III and I, respectively. There are also sections along the La Plata River that are categorized as Fire Regime IV. These areas comprise the southwest and plains forested/shrub wetland vegetation type community.

Fire Regime Condition Class: The FMU is categorized as FRCC 2. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production and livestock grazing, have greatly altered conditions in many of the plant communities and significantly affected many species in the management area.

Wildlife: Riparian habitat exists in this FMU along the La Plata River, and provide nesting habitat for avian species. Mule deer and Rocky Mountain elk also found in this FMU and utilize the sagebrush and conifer vegetation communities for forage.

Watersheds: The La Plata River roughly parallels the FMU on the southern portion of the east border of the unit, and bisects the northern portion of the unit. There are several canyons in the unit, including Jones canyon and Thomas Canyon, which feed the watershed of the La Plata River.

Recreation: Many roads exist in this area with a large number of OHV riders utilizing the unit. In the northwest portion of the FMU lies the Thomas Canyon Recreation/WildlifeArea, the only relatively undisturbed natural environment of its size within a 30-mile radius of Farmington.

Special Areas: The Thomas Canyon Recreation/WildlifeArea, the only relatively undisturbed natural environment of its size within a 30-mile radius of Farmington.

Cultural Values: Archaeological sites exist in the FMU, including the Morris 41 site, an important Ancestral Puebloan Basketmaker II period site excavated by pioneering southwestern archaeologist Earl Morris.

Values at Risk/Protection Constraints: Values at risk include oil and gas facilities as well as private land inholdings within and adjacent to the management area. The nature of the area as a largely undisturbed environment is also at risk from a wildfire of significant size.

Communities at Risk: The community of La Plata lies along State Highway 170 at the mid-point of the FMU, as well as scattered ranches and residences throughout a portion of the unit.

2. Management Guidance

Specific Objectives:

Long-term objectives for this fire management unit include:

1. Restore all FRCC areas of 2 to 1. Natural disturbance and management actions combined would total an average between 10 and 50 acres per year.
2. Reduce hazardous fuels in the WUI, thereby protecting human safety and infrastructure..
3. Reduce overall fire management costs by reducing the potential for stand-replacing, high-intensity fires and their associated suppression response.
4. Cooperate with adjacent landowners to complete projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.

Desired Conditions:

Wildland Fire Suppression - Wildfires at all flame intensity levels will be suppressed at less than 15 acres 90% of the time to protect private land, and oil and gas infrastructure. All surface disturbances will be rehabilitated and reseeded.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire use for resource benefit to occur within this FMU. The timeline for completion of this analysis will be based on current funding and project priorities.

Prescribed Fire - Several projects a year in the C Category totaling 1000 acres can be undertaken. Slash produced from thinning operations will be burned following mechanical treatment at an average of 200 acres per year. Broadcast burning will be conducted in both treated and untreated areas to reduce low fuel loads and promote herbaceous groundcover at an average of 800 acres per year.

Non-fire Fuels Treatments - Approximately one to five non-fire fuels treatments totaling 2000 acres will be scheduled annually. These projects could be accomplished through mechanical means, chemical applications, and fuelwood sales. An average target for mechanical treatment will be 200 acres, the biomass from which will be used to provide fuelwood for the public.

Post-Fire Rehabilitation / Restoration - Depending on the complexity of the wildfire, a specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be taken to prevent erosion. Sites where any surface disturbing fire fighting activities occur should be reseeded and rehabilitated to prevent the spread of noxious weeds.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities in the area. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells.

4. Photos and Descriptions

The FMU has limited capacity to carry fire due to the widely spread sage and grassland flats seen in Figure 3.2.37 and Figure 3.2.38. The transition zone from sagebrush flats to open conifer woodland is seen in Figure 3.2.39.



Figure 3.2.37



Figure 3.2.38



Figure 3.2.39

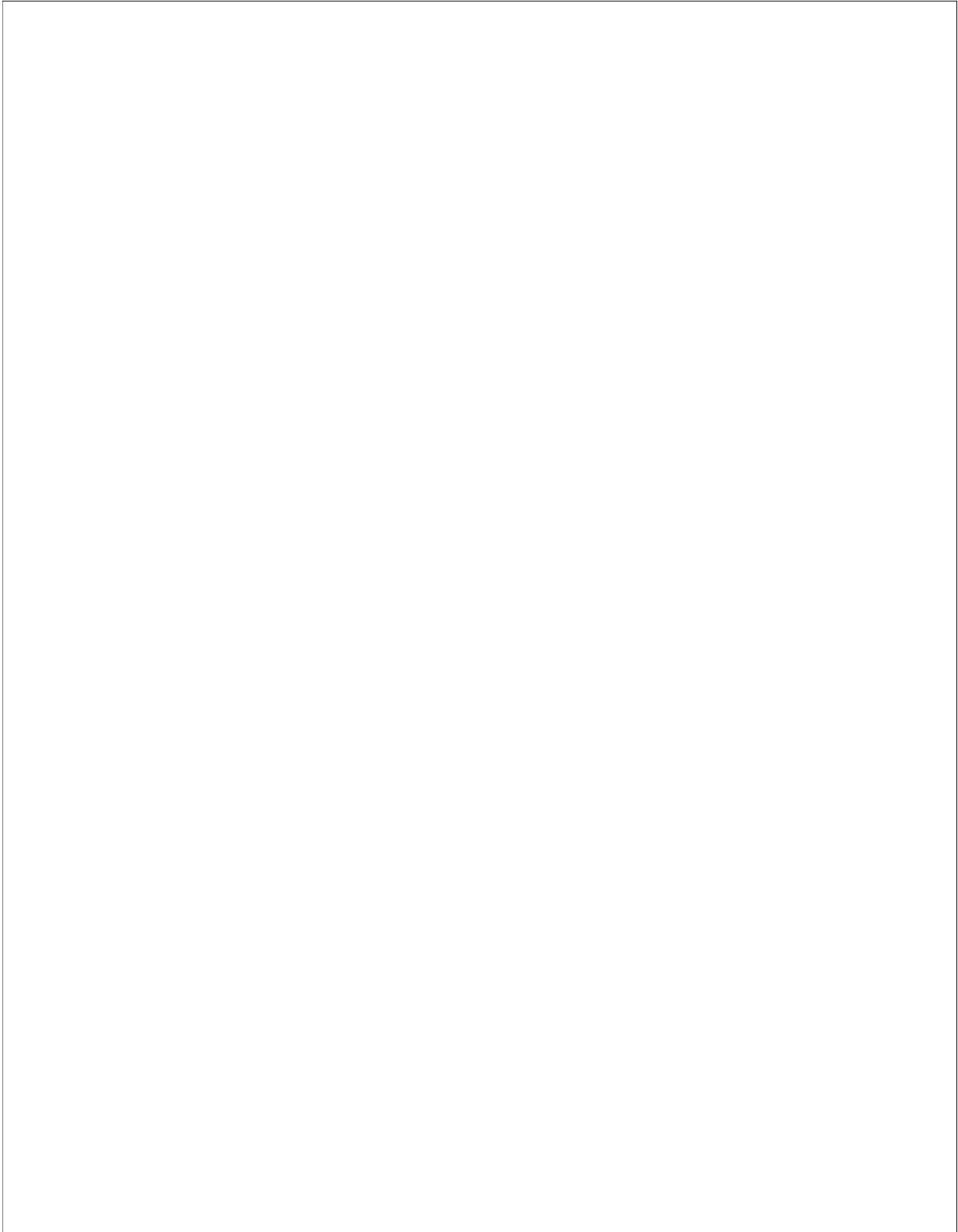


Figure 3.2.40: Map of the Pump Canyon FMU

Fire Management Unit Name: **Pump Canyon**

Category/Number: **C/3**

1. Characteristics.

Total Unit Acreage: BLM= 2,134 acres, Private= 183 acres, State land= 410 acres and Total Surface area=2,727 acres.

Location and Access: The FMU is located in San Juan County, New Mexico in the northern portion of the Farmington Field Office. The area is bordered on the south by State Highway 173, which runs between Navajo Lake State Park and Aztec, New Mexico (see Figure 3.2.40). Access is via County Road 4600 off of State Highway 173.

Terrain and Vegetation: This FMU ranges in elevation from approximately 5500 to 600 feet above sea level. The area is dominated by big sagebrush (*Artemisia tridentata*) with patches of grass intermixed. The Pinyon- Juniper Woodland plant community type covers most of the FMU. The dominant tree species are pinyon (*Pinus edulis*), oneseed juniper (*Juniperus monosperma*), Utah juniper (*Juniperus osteosperma*), Gambel's oak (*Quercus gambellii*), and mountain mahogany (*Cercocarpus montanus*), with occasional stringers of ponderosa pine (*Pinus ponderosa*). Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 3 fires totaling 0.3 acres, all of which resulted from natural causes.

Fire Regime: There are two vegetation communities with two different Fire Regimes; plain mesa grassland/Great Basin desert scrub (Fire Regime I), and open conifer woodland (Fire Regime II).

Fire Regime Condition Class: The FMU is categorized as FRCC 2. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production and livestock grazing, have greatly altered the condition of many of the plant communities and adversely affected many species in the management area.

Wildlife: This FMU is primarily riparian habitat with a small amount of adjacent uplands. Mule deer and sometimes elk can be found in the thick vegetation on a year-round basis. A wide variety of songbirds and raptors use this area. Songbirds are most abundant during the spring breeding and summer rearing periods. Typical songbirds utilizing this area include: western tanagers (*Piranga ludoviciana*), black-headed grosbeaks (*Pheucticus melanocephalus*), blue grosbeaks (*Guiraca caerulea*), Bullock's orioles (*Icterus bullockii*), lesser goldfinches (*Carduelis psaltria*), yellow-breasted chats (*Icteria virens*), American robins (*Turdus migratorius*), etc. Raptors typically observed include the golden eagle (*Aquila chrysaetos*), Cooper's hawks (*Accipiter cooperii*) and red-tailed hawks (*Buteo jamaicensis*). There are wetland areas with open water (primarily in sumps) that provide habitat for waterfowl and amphibians. Mallards (*Anas platyrhynchos*), widgeons (*Anas americana*), green-winged teal (*Anas carolinensis*) and coots (*Fulica americana*) are routinely observed. Prominent amphibians include bullfrogs (*Rana catesbeiana*) and northern leopard frogs (*Rana pipiens*).

Watersheds: This area contains a riparian demonstration enclosure as well as other significant riparian habitat. The San Juan River borders the FMU on the southern side.

Recreation: OHV use is legally limited to existing roads, but illicit OHV use does occur.

Special Areas: This FMU does not include any Special Management Areas.

Cultural Values: Archaeological sites are present in the area, and therefore consultation with a cultural resource advisor prior to heavy equipment use will be required.

Values at Risk/Protection Constraints: Values at risk include oil and gas facilities as well as private land inholdings within the management area.

Communities at Risk: There are no communities at risk in or near this unit.

2. Management Guidance

Specific Objectives:

Long-term management objectives in this area include:

1. Wildfire in the area should remain less than 20 acres in size in order to protect the watershed. Restore all FRCC areas of 2 to 1. Natural disturbance and management actions combined would total an average between 10 and 50 acres per year.
2. Cooperate with adjacent landholders when planning fire management and range/wildlife improvement strategies.
3. Create a mosaic of grass and shrubs intermixed with the sage component. These patches are desired to be between 20-50 acres creating diversity in the area.

Desired Conditions:

Wildland Fire Suppression - All fires will be required to have an appropriate management response. Wildfires at all intensity levels will be suppressed at less than 20 acres 90% of the time, in order to protect private land, oil and gas infrastructure, and cultural sites. Retardants and heavy equipment may be used in this unit.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire use for resource benefit to occur within this FMU. The timeline for completion of this analysis will be based on current funding and project priorities.

Prescribed Fire - Several projects a year in the C Category totaling 2000 acres can be undertaken. Slash produced from thinning operations will be burned following mechanical treatment. Broadcast burning will be conducted in both treated and untreated areas to reduce fuel loadings and promote herbaceous groundcover.

Non-fire Fuels Treatments - Approximately one to five non-fire fuels treatments totaling 1000 acres can be scheduled annually. These projects could be accomplished through mechanical means, and fuelwood

sales. An average target for mechanical treatment will be 200 acres, the biomass from which will be used to provide fuelwood for the public..

Post-Fire Rehabilitation / Restoration - Depending on the complexity of the wildfire, a specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be undertaken to prevent erosion. Sites where any surface disturbing fire fighting activities occur should be reseeded and rehabilitated to prevent the spread of noxious weeds.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Steep cliffs and venomous snakes also pose a potential threat to firefighters.

4. Photos and Descriptions

Figure 3.2.41 shows the southern portion of Pump Canyon, surrounded by steep canyon walls. Pump Canyon has substantial and continuous sage brush flats that make up the canyon bottom, as seen in Figure 3.2.42. The vegetation is also interspersed with pockets of grasses as seen in Figure 3.2.43.



Figure 3.2.41



Figure 3.2.42



Figure 3.2.43

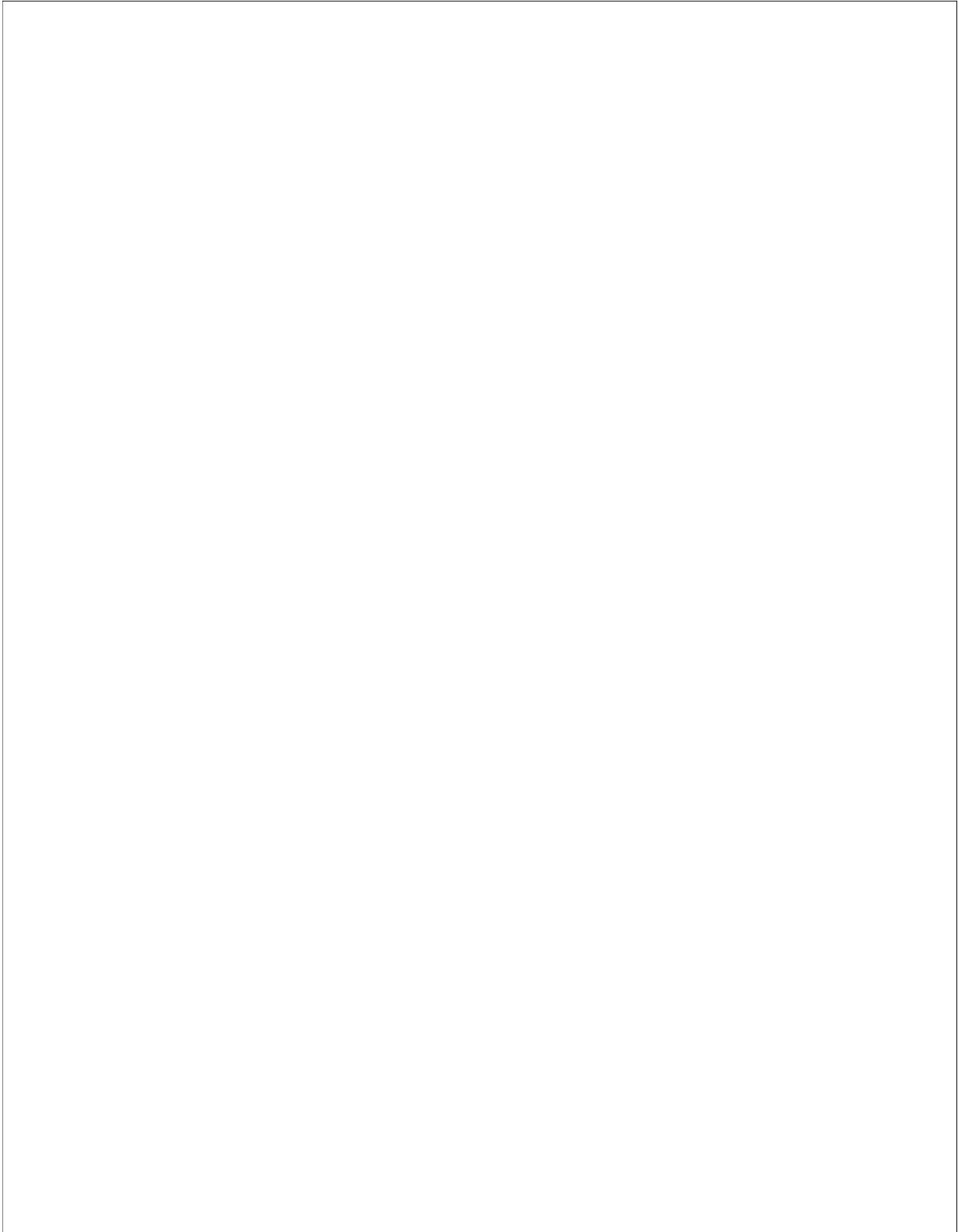


Figure 3.2.44: Map of the Simon Canyon FMU

Fire Management Unit Name: **Simon Canyon ACEC**

Category/Number: **C/4**

1. Characteristics.

Total Unit Acreage: BLM= 1,830 acres.

Location and Access: The FMU is located in San Juan County, New Mexico in the northern portion of the Farmington Field Office. The unit is located west of Navajo Lake, and north of the San Juan River (see Figure 3.2.44). Access is via a county road off of Highway 173.

Terrain and Vegetation: The area is dominated with big sagebrush (*Artemisia tridentata*) with patches of grass intermixed. The Pinyon-Juniper Woodland plant community type covers most of the FMU. Blue grama (*Bouteloua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species. Relatively large stands of big sagebrush occur within the FMU. Elevations in the area vary from 5200 feet to 5800 feet. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 11 fires totaling 11.4 acres, all of which resulted from natural causes.

Fire Regime: There are three vegetation communities featuring three different Fire Regimes: plain mesa grassland/Great Basin desert scrub (Fire Regime I), southwest and plains forested/shrub wetland (Fire Regime IV), and open conifer woodland (Fire Regime III).

Fire Regime Condition Class: The FMU is a Fire Regime Condition Class 3. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production and livestock grazing, have greatly altered conditions in the plant communities and affected many species in the management area. Fuels projects will be undertaken in the unit to reduce the fire hazard.

Wildlife: This area contains a riparian demonstration enclosure as well as other significant riparian habitat. The FMU provides habitat for a variety of bird and mammal species such as the golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), great horned owl (*Bubo virginianus*), porcupine (*Erethizon dorsatum*), beaver (*Castor canadensis*), and deer.

Watersheds: The FMU is in the watershed for the San Juan River which borders the FMU on the southern side. The the portion of the San Juan River just below Navajo dam in the area near Simon Canyon is designated as trout fishing Quality Waters.

Recreation: The FMU includes the Simon Canyon ACEC. It is utilized for day use recreation for hiking, fishing, backpacking and wildlife viewing.

Special Areas: One cultural ACEC exists within this zone (Simon Ruin). The FMU also includes the Simon Canyon recreational ACEC.

Cultural Values: Archaeological sites are present in the FMU, including Simon Canyon Ruin, an eighteenth-century Navajo pueblito and associated complex located in the Simon Ruin ACEC. Simon Canyon Ruin is listed on the National Register of Historic Places. Consultation with a cultural resource advisor prior to surface-disturbing activities will be required.

Values at Risk/Protection Constraints: Values at risk include oil and gas facilities within the FMU, Simon Canyon Ruin and other archaeological resources, and recreational developments (signage, etc.) in the area. This is a popular recreation area, and the quality of the recreation experience, as well as the safety of visitors, must be considered. Cottonwood Campground, part of Navajo Lake State Park, is located adjacent to the FMU, and the protection of recreational facilities and visitors to the campground must likewise be considered.

Communities at Risk: There are no communities at risk in this unit. The community of Navajo Dam brackets the San Juan River approximately two miles west of the southern tip of the FMU.

2. Management Guidance

Specific Objectives:

Long-term management objectives in this area include:

1. Wildfires in the area, at all intensity levels, should be kept between 20 to 50 acres in size in order to protect the watershed.
2. Restore all FRCC areas of 3 to 2. 2. Create a mosaic of grass and shrubs intermixed with the sagebrush component. These patches are desired to be between 20-50 acres, creating diversity in the area.
3. Cooperate with adjacent landowners to complete projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
4. Protect sensitive cultural resources, including Simon Canyon Ruin, from threats from wildfires.

Desired Conditions:

Wildland Fire Suppression - Retardants and heavy equipment may be used in this zone. Cultural sites are present in the area, and a cultural resource specialist must be consulted prior to undertaking any surface-disturbing activities, including the creation of hand-dug fire lines. One cultural ACEC exists within this zone (Simon Ruin). Any fire within $\frac{1}{4}$ mile of this will be immediately suppressed. Other cultural sites exist in the area outside of the ACEC.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire use for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Several projects a year in the C Category totaling 2000 acres can be undertaken. Slash produced from thinning operations will be burned following mechanical treatment. Broadcast burning

will be conducted in both treated and untreated areas to reduce fuel loads and promote herbaceous groundcover

Non-fire Fuels Treatments - Approximately one to five non-fire fuels treatments totaling 2000 acres can be scheduled annually. These projects could be accomplished through mechanical means and fuelwood sales. An average target for mechanical treatment will be 200 acres. Fuelwood gathering is prohibited in the Simon Canyon ACEC, which prevents thinned wood being opened up for private gathering. If the biomass from this area is to be utilized, alternative methods must be developed.

Post-Fire Rehabilitation / Restoration - Depending on the complexity of the wildfire, a specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be undertaken to prevent erosion. Sites where any surface disturbing fire fighting activities occur should be reseeded and rehabilitated to prevent the spread of noxious weeds.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. Steep canyon walls can pose a safety risk to fire crews.

4. Photos and Descriptions

The vegetation in the FMU includes sagebrush, grasses, and cottonwood trees as seen in Figure 3.2.45. Figure 3.2.46 shows the steep rocky walls that surround the canyon. This makes access limited to the southern side of the canyon where it flows into the San Juan River. The vegetation on the cliffs surrounding the canyon is sparse and is primarily made up of grasses, sagebrush and intermixed juniper trees, as seen in Figure 3.2.47.



Figure 3.2.45



Figure 3.2.46



Figure 3.2.47

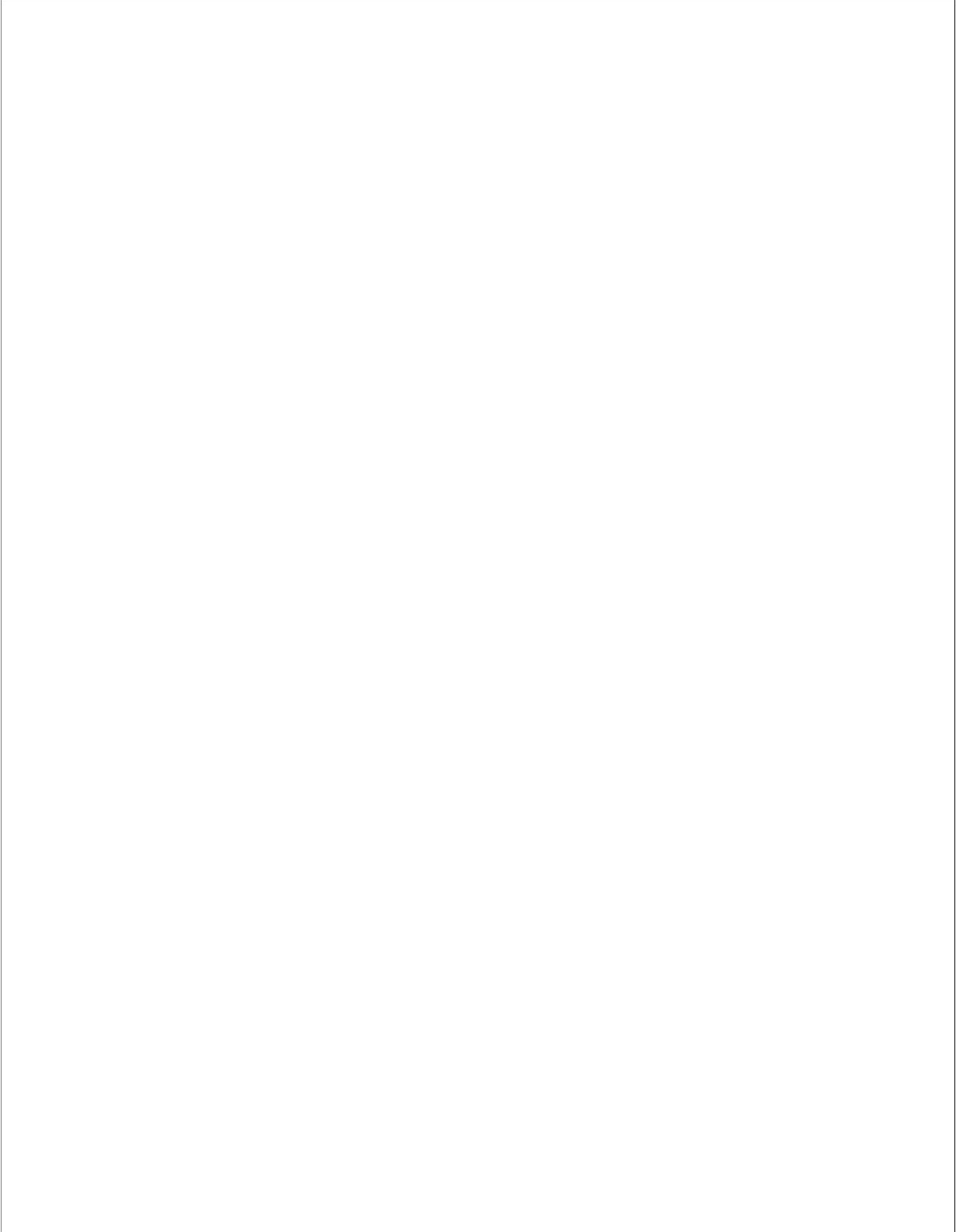


Figure 3.2.48: Map of the Hogback FMU

Fire Management Unit Name: **Hogback**

Category/Number: **C/5**

1. Characteristics.

Total Unit Acreage: BLM= 9,425 acres, and State land= 882 acres. Total Surface area=10,307 acres.

Location and Access: The FMU is located in San Juan County, New Mexico in the northwestern portion of the Farmington Field Office. The FMU borders both the Navajo Reservation to the west as well as the Ute Mountain Ute Reservation to the north. Access is off of State Highway 64 (see Figure 3.2.48).

Terrain and Vegetation: This area contains two federally listed plant species, the threatened Mesa Verde cactus (*Sclerocactus mesa-verdae*) and the endangered Mancos milkvetch (*Astragalus humillimus*) and associated habitats. The Hogback FMU is part of the Great Basin desert-scrub biotic community. This community is dominated by shrubs such as sagebrushes (*Artemisia spp.*), alkali heath (*Frankenia jamesii*), saltbrush (*Atriplex spp.*), and shadscale (*Atriplex confertifolia*). Species such as rabbitbrush (*Chrysothamnus spp.*) and horsebrush (*Tetradymia spp.*) are also prevalent in the FMU. The FMU is characterized by shallow xeric soils. The elevations in the FMU range from 5100 feet to 5400 feet. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009, there were no fires recored in this FMU.

Fire Regime: This FMU is predominantly a plain mesa grassland/Great Basin desert scrub vegetation type community and is categorized as a Fire Regime I.

Fire Regime Condition Class: The FMU falls into Fire Regime Condition Class 2. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production and livestock grazing, have greatly altered conditions in the plant communities and affected many species in the management area.

Wildlife: Wildlife use in this FMU is somewhat limited in scope relative to much of the rest of the Farmington Field Office area that is more heavily vegetated. The most significant mammals found in this area include: occasional pronghorn antelope (*Antilocapra americana*) and mule deer (*Odocoileus hemionus*), coyotes (*Canis latrans*), black-tailed jackrabbits (*Lepus californicus*) and antelope squirrels (*Ammospermophilus spp.*) Avian species that are representative of those commonly found in the area are the western meadowlark (*Sturnella neglecta*), vesper sparrow (*Pooecetes gramineus*), horned lark (*Eremophila alpestris*), common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*) and the western bluebird (*Sialia mexicana*). Common reptiles in the area include bull snakes (*Pituophis catenifer sayi*), western prairie rattlesnakes (*Crotalus viridis*), collared lizards (*Crotaphytus collaris*) and short-horned lizards (*Phrynosoma sp.*) Due to the lack of surface water amphibian species are uncommon.

Watersheds: The FMU is in the watershed for the San Juan River which roughly parallels the border of the FMU approximately a mile to the south.

Recreation: Recreation use is minimal in this FMU. OHV riders are required to remain existing roads, although illicit OHV use does occur.

Special Areas: The Hogback ACEC is included in this FMU. This ACEC was established to protect the Mesa Verde Cactus, which is a federally listed threatened species, and the Mancos milkvetch, which is a federally listed endangered species.

Cultural Values: Archaeological sites, including rock art sites, occur in this FMU.

Values at Risk/Protection Constraints: Values at risk include one federally-listed threatened and one federally-listed endangered plant species, as well as oil and gas facilities. Extensive power lines, particularly high-tension lines running from the nearby coal-fired power generating station, must be protected. Wildland-urban interface concerns arise due to the proximity of the nearby community of Waterflow to the south. Many scattered rural residences dot the FMU.

Communities at Risk: The communities of Waterflow and Fruitland could be at risk from wildfire spreading into densely inhabited areas.

2. Management Guidance

Specific Objectives:

Long-term management objectives for this FMU include:

1. Ensure that all fire activities will enhance and maintain the fragile ecosystem in the management area. Restore fire as a key part of the natural process in the ecosystem. Restore all FRCC areas of 2 to 1.
2. Create a mosaic of grass and shrubs intermixed with the sage component. These patches are desired to be between 20-50 acres in extent, creating diversity in the area.

Desired Conditions:

Wildland Fire Suppression - Fires exhibiting FILs of 4-6 will be suppressed at 1 acre 90% of the time if possible. At the time of a wildfire, the FMO would contact and coordinate with the FFO biologists to develop any site-specific fire suppression tactics that may be appropriate in the ACEC. Any use of retardant or heavy machinery such must be cleared with a FFO threatened and endangered species biologist.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Prescribed Fire projects will be evaluated by a case by case basis and must be developed through extensive coordination with FFO threatened and endangered species biologists.

Non-fire Fuels Treatments – Small-scale thinning of non native species may occur, between 10 to 100 acres, and should be limited to WUI areas of the FMU. These thinning projects will reduce the risk of a catastrophic wildfire in urban interface areas.

Post-Fire Rehabilitation / Restoration - Depending on the complexity of the wildfire, a specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluations and appropriate actions will be taken to prevent erosion. Sites where any surface disturbing fire fighting activities occur should be reseeded and rehabilitated to prevent the spread of noxious weeds.

3. Safety Considerations

There are oil and gas facilities in the FMU. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. There are also several high-tension power lines that run directly through the FMU. Other safety concerns include poisonous snakes and steep slopes.

4. Photos and Descriptions

Figures 3.2.49 through 3.2.51 show that widespread and sparse vegetation in the Hogback FMU. The dominant vegetation consists of sagebrush, rabbitbrush, and horsebrush.



Figure 3.2.49



Figure 3.2.50



Figure 3.2.51

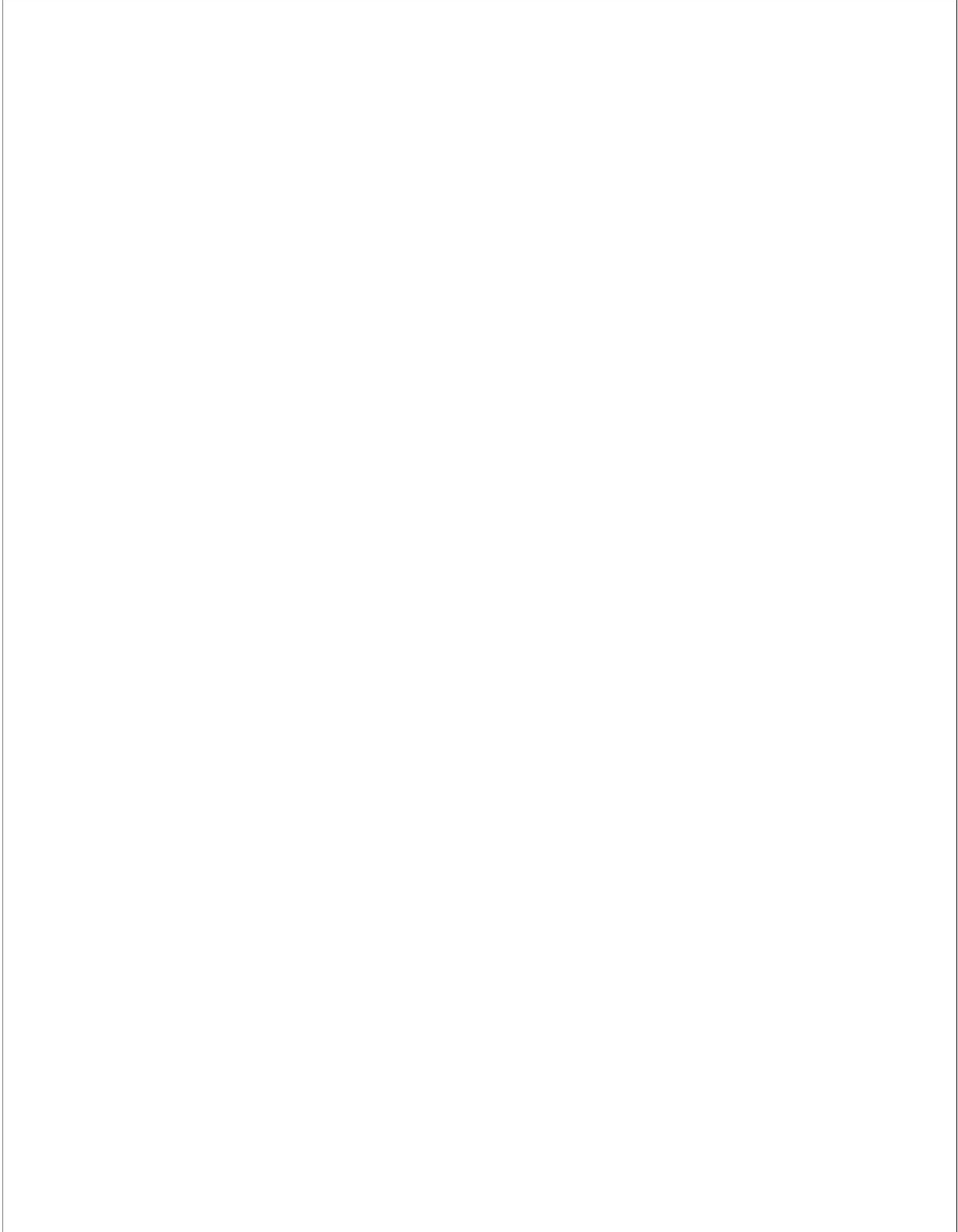


Figure 3.2.52: Map of the Wildhorse Mesa FMU

Fire Management Unit Name: **Wildhorse Mesa**

Category/Number: **C/6**

1. Characteristics.

Total Unit Acreage: BLM= 26,049 acres, Forest Service = 98,044 acres, Private = 148,719 acres and State land= 1,627 acres. Total Surface area=274,439 acres.

Location and Access: The majority of this FMU is located in Rio Arriba County with southern panhandle of the unit located in Sandoval County. The Jicarilla Apache borders the west and north edges of the FMU while the Carson National Forest Jicarilla District borders the east. The communities of Lindrith, Regina, La Jara, and Llaves lie within this FMU. Access is from State Highway 96 off of U.S. Highway 550.

Terrain and Vegetation: The area is dominated with big sagebrush (*Artemisia tridentata*) and patches of grass intermixed. The Pinyon-Juniper Woodland plant community type primarily covers most of the FMU, and there are also pockets of ponderosa pine (*Pinus ponderosa*). Blue grama (*Bouteloua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit. This area is bisected by the Continental Divide with much of the habitat being around 7,400 to 7,500 feet in elevation.

Wildland Fire History: Between fiscal years 1999 and 2009, there were no recorded fires.

Fire Regime: This FMU is made up of two vegetation type communities that constitute two different fire regimes; the Plain mesa grassland/Great Basin desert scrub (Fire Regime I) and Open Conifer Woodland (Fire Regime II).

Fire Regime Condition Class: The FMU is Fire Regime Condition Class 2. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production and livestock grazing, have greatly altered conditions in many of the plant communities and affected many species in the management area.

Wildlife: Mule deer and elk are common throughout the FMU. Large carnivores such as black bear and mountain lion also reside here in good numbers. Merriam's turkeys are also common in areas with adequate roost trees. Lower trophic levels within this ecosystem are well populated with a diverse assemblage of mid-level carnivores and prey species. Some of the more notable avian species in this area include those found typically in the ponderosa/pinyon habitat type, e.g. mountain chickadee, dark-eyed junco, pygmy nuthatch, white-breasted nuthatch, Stellar's jay, great horned owl and pinyon jay. Amphibians include bull frogs and northern leopard frogs as well as various salamanders wherever habitat conditions are suitable. Common reptiles in the area include the bull snake, western prairie rattlesnake, collared lizard and short-horned lizard.

Watersheds: The FMU is in the watershed for the Rio Gallina which feeds the Chama River.

Recreation: Recreation use in this FMU is limited due to the distance from any major community.

Special Areas: There are no special management areas in this FMU.

Cultural Values: Cultural sites are present in the area therefore consultation with a cultural resource advisor prior to heavy equipment use will be required.

Values at Risk/Protection Constraints: Oil and gas facilities are in the area as well as private land inholdings.

Communities at Risk: The communities of Lindrith, La Jara, Llaves and Gallina are located within this FMU.

2. Management Guidance

Specific Objectives:

Long-term management goals for this FMU include:

1. Restore and maintain the role of fire in the ecosystem of the management area by utilizing fuel treatments such as thinning and prescribed fire.
2. Restore fire as a key part of the natural process in the ecosystem.
3. Restore all FRCC areas of 2 to 1.

Desired Conditions:

Wildland Fire Suppression - Heavy equipment and retardants may be used. An appropriate management response will be assigned to each wildfire occurring in the management area. Ground disturbing activity will be rehabilitated and reseeded.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire use for resource benefit to occur within this FMU only in areas that are at least three miles from any private land inholdings. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Several prescribed fire projects a year in the C Category totaling 3000 acres can be undertaken.

Non-fire Fuels Treatments – From one to five non-fire fuels treatments a year in the C Category totaling 2000 acres can be scheduled. These projects could be accomplished through mechanical means, chemical applications, and greenwood sales.

Post-Fire Rehabilitation / Restoration - Depending on the complexity of the wildfire, a specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be undertaken to prevent erosion. Sites where any surface-

disturbing fire fighting activities occur should be reseeded and rehabilitated to prevent the spread of noxious weeds.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. There are also several power lines that run directly through the FMU. The safety of residents in the small communities in the FMU must take priority, and coordination with local law enforcement will be necessary in the event of evacuation. Other safety concerns include poisonous snakes, poisonous plants and steep slopes.

4. Photos and Descriptions

The areas surrounding the drainages, as seen in Figure 3.2.51, are made up of sagebrush flats with blue grama and galleta making up the other ground cover fuels. Figures 3.2.52 show the transition zone from sagebrush flats to the rolling hills that are dominated by an open conifer woodland vegetation community.



Figure 3.2.51



Figure 3.2.52



Figure 3.2.53

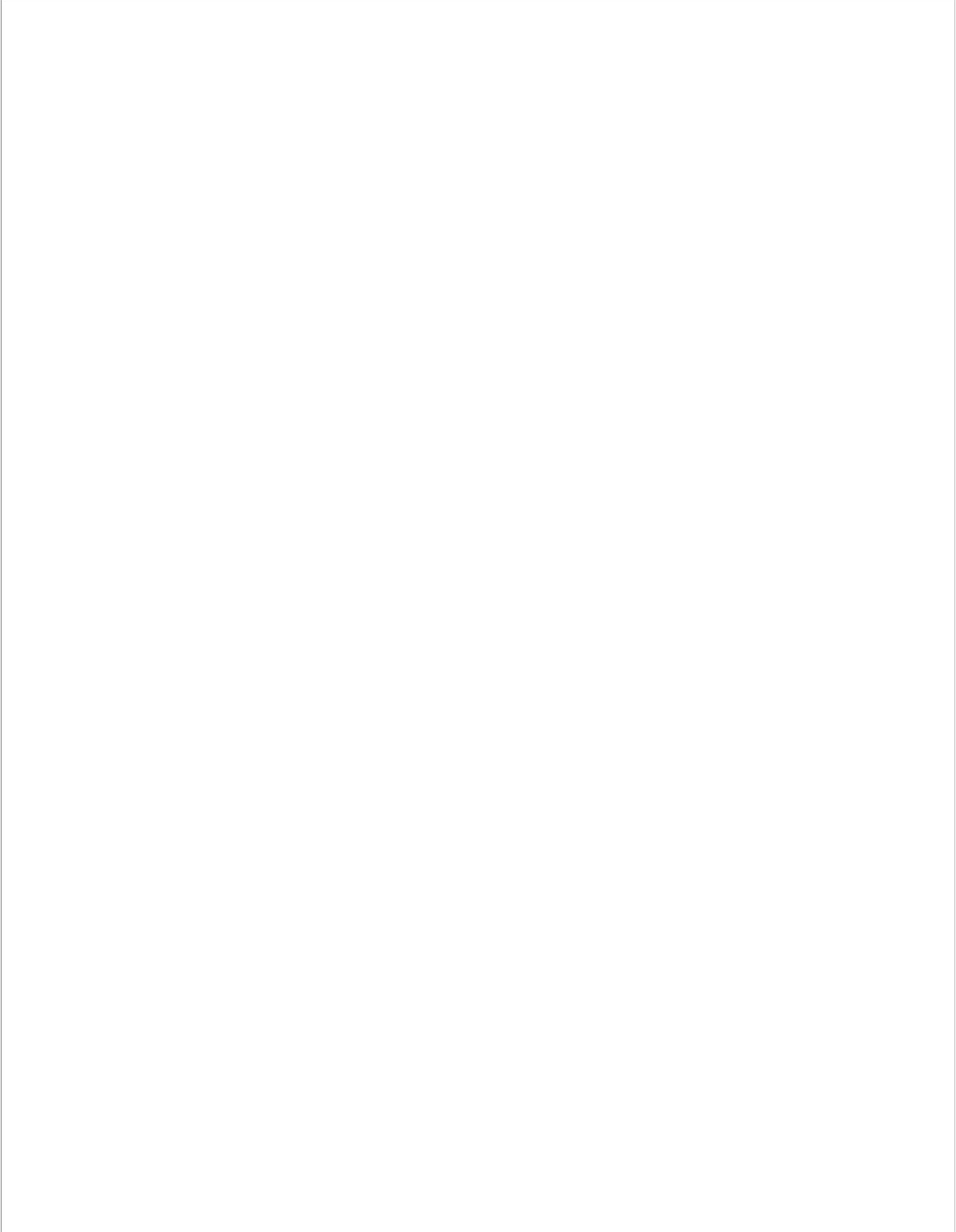


Figure 3.2.54: Map of the Chaco FMU

Fire Management Unit Name: **Chaco**

Category/Number: **D/1**

1. Characteristics.

Total Unit Acreage: BLM= 414,891 acres, BIA = 3,875,874 acres, Private = 580,436 acres, Forest Service = 89,744 and State land= 182,223 acres. Total Surface area=5,143,168 acres.

Location and Access: This FMU is primarily in San Juan and McKinley Counties, although it takes in a portion of Sandoval County and skirts the corner of Rio Arriba County, New Mexico (see Figure 3.2.54). It is located within portions of the Farmington Field Office. Arizona borders the FMU to the west, and the FMU encompasses much of the mixed-land management portion of northwestern New Mexico known as the “checkerboard.” A glance at the often section-by-section division of land management entities makes the reason for this nickname clear. Access varies depending on location, but U.S. Highway 491 runs north to south through the western portion of the FMU, and U.S. Highway 550 forms portions of its northern and eastern border. U.S. Highway 40 defines roughly half of the southern border of the FMU.

Terrain and Vegetation: Elevations in the area vary from 6100 feet to 7440 feet. The majority of the area is bare ground with pinyon/juniper stands along the ridges intermixed. Trees in these woodlands can form a dense canopy or be fairly open. Dense stands generally occur above 6,600 feet in elevation and the dominant tree species are pinyon (*Pinus edulis*), Utah Juniper (*Juniperus osteosperma*), oneseed juniper (*Juniperus monosperma*), Gambel’s oak (*Quercus gambellii*), and mountain mahogany (*Cercocarpus montanus*), with occasional stringers of ponderosa pine (*Pinus ponderosa*). Common ground cover species are mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), buckwheat (*Eriogonum spp.*), and penstemons (*Penstemon spp.*). More open stands are located on drier sites below 6,600 feet in elevation where pinyon/ juniper, big sagebrush (*Artemisia tridentata*) and antelope bitterbrush (*Purshia tridentata*) are common. Blue grama (*Boutelua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species. Relatively large stands of big sagebrush can occur within the open woodlands. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were 5 human caused fires totaling 12.3 acres in size and 3 naturally-caused fires totaling .50 acre in size.

Fire Regime: The majority of the FMU fall into Fire Regime I with pockets of Fire Regime II occurring in the open conifer woodland stands.

Fire Regime Condition Class: This FMU has been identified as Fire Regime Condition Class 3. The ecological changes brought about by traditional fire management practices, along with others resulting from oil and gas production, and livestock grazing, have greatly altered conditions in many of the plant communities and greatly affected many species in the management area.

Wildlife: The Chaco FMU contains 32 separate plots that are known to be mountain plover (*Charadrius montanus*) habitat. Mountain Plover is currently a species of concern. The majority of these plots are south of the Bisti De Na Zin Wilderness FMU.

Watersheds: The majority of this FMU lies within the watershed for the San Juan River, though some southern portions feed the Rio Puerco.

Recreation: Common public land use activities in this FMU include horseback riding, mountain biking, hiking, back packing, wildlife viewing, primitive camping, jogging, hunting, fishing, photography, and OHV use.

Special Areas: There are 17 cultural ACECs or portions of ACECs within this zone (6 are BLM-managed Chaco Outlier ACECs, 8 are sections of Chaco Roads ACEC, and three are Navajo Nation-managed Chaco Outliers). This FMU also surrounds the Bisti/De-Na-Zin Wilderness, although that forms a separate FMU.

Cultural Values: A large number of very significant cultural properties exist in this FMU. The Chacoan Road system, in particular, is at risk from fire suppression activities such as the use of heavy equipment. Any fire management activities undertaken in this FMU must bear in mind the proximity of, and special limitations associated with, the cultural ACECs in this zone, which fall into their own FMU. Proper cultural clearances will be required prior to any surface disturbing activities.

Values at Risk/Protection Constraints: Oil and gas facilities can be found throughout the FMU, as can numerous important archaeological sites. The FMU contains many small communities and widely-scattered residences whose inhabitants would be placed at risk in the event of a large wildfire. Much of the BLM land in this area has been leased to grazing permittees, and considerations of these leases must be given when planning any prescribed fires.

Communities at Risk: There are many small communities within this FMU, which include, but are not limited to Lybrook, Nageezi, White Rock, Torreon, and Lake Valley. In addition, there are many widely-scattered rural residences. Coordination with local law enforcement agencies would be necessary in the event of a large wildfire. Special consideration should be given when dealing with any fire management issues—including both planned ignitions and wildfires—that many of the residents of this area speak no or limited English, and that Navajo language skills will be necessary to convey information to many of the residents.

2. Management Guidance

Specific Objectives:

The desired effect would be to reduce the sage by 75% with a tolerable reduction to 50%. Prescribed Burns of 100-500 acres could be planned in the area. However, close coordination with permittees will

have to be accomplished to ensure proper rotation times for burning. As noted above, Navajo language interpretation skills will be required to explain and coordinate any prescribed burns.

Long-term management goals for this FMU include:

1. Restore all areas of FRCC 2 to an FRCC 1. Vegetative manipulation should be limited to those actions that would improve grazing conditions and wildlife.
2. Cooperate with adjacent landowners, including private, Tribal, and state, as well as with grazing permittees, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Create a mosaic of grass and shrubs intermixed with the sage component. Areas with grazing allotments should be monitored and coordinated with the permittees to ensure the proper hiatus in grazing on the allotment after the burn.

Desired Conditions:

Wildland Fire Suppression - Retardants and heavy equipment may be used in this zone. Wildfires at all fire intensity levels will be suppressed at less than 50 acres 90% of the time to protect private land, cultural sites, and oil and gas facilities. Heavy equipment is prohibited within all ACECs included in this FMU (use natural or other existing man-made boundaries).

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire for resource benefit to occur within this FMU only in areas that are at least 3 miles from any private land inholdings. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Several projects a year in totaling 1,000 acres can be undertaken.

Non-fire Fuels Treatments - Approximately 2,000 acres per year will need to be treated to improve rangeland health in the management area. These treatments could be accomplished through mechanical means, chemical applications and greenwood sales.

Post-Fire Rehabilitation / Restoration - A specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 40 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be undertaken to prevent erosion.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. There are also several power lines that run directly through the FMU.

4. Photos and Descriptions

The Chaco FMU is typical of the region and is made up of rolling hills, mesas, arroyos, sagebrush flats, grasslands, and woodlands. Figures 3.2.55 through 3.2.57 show some of the representative terrain and vegetation types in throughout the FMU.



Figure 3.2.55



Figure 3.2.56



Figure 3.2.57



Figure 3.2.58: Map of the Bist/De-Na-Zin Wilderness FMU

Fire Management Unit Name: **Bisti De Na Zin Wilderness**

Category/Number: **D/2**

1. Characteristics.

Total Unit Acreage: BLM= 38,385 acres, BIA = 3,640 acres, and State land= 2,814 acres. Total Surface area= 44,839 acres.

Location and Access: The FMU is located in San Juan County, New Mexico in the west-central portion of the Farmington Field Office. The unit is between State Highways 371 and U.S. Highway 550, approximately 36 miles south of the city of Farmington, NM (see Figure 3.2.58). Access to the western portion is off County Road 7297 from NM 371, and to the eastern portion off of US Highway 550 via County Road 7500. This FMU is completely surrounded by the Chaco FMU.

Terrain and Vegetation: Elevations in the area vary from 5550 feet to 6060 feet. Ground cover species when found, are mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), buckwheat (*Eriogonum spp.*), and penstemon (*Penstemon spp.*). Blue grama (*Boutelua gracilis*) and galleta (*Hilaria jamesii*) are the principal grass species.

Wildland Fire History: Between fiscal years 1999 and 2009 there were no recorded fires.

Fire Regime: The vegetation type community in this FMU is plain mesa grassland/Great Basin desert scrub which is in classified as Fire Regime I. Much of the surface area in this FMU consists of bare, exposed ground.

Fire Regime Condition Class: This FMU has been identified as a Fire Regime Condition Class 1. Under current conditions, the area is dominated by rock formations and open clay-silt badlands, and very little ground cover.

Wildlife: There are many areas that are known to be mountain plover (*Charadrius montanus*) habitat surrounding the wilderness area. The mountain plover was proposed as a federally listed threatened species, but has been down-listed and is currently a species of concern.

Watersheds: This FMU is located in the watershed for the San Juan River.

Recreation: Recreation use is limited by difficult access, but does include horseback riding and hiking. The wilderness is very popular with photographers, due to its unusual and colorful geologic formations, and tourists from around the world, particularly Europe, visit the area in significant numbers.

Special Areas: This FMU comprises the Congressionally-designated Bisti/De Na Zin wilderness.

Cultural Values: There are no cultural ACECs in this area. However, cultural sites are likely to exist in the area, therefore consultation with a cultural resource advisor prior to any management response.

Values at Risk/Protection Constraints: Values at risk include watershed health, wildlife habitat, and wilderness values.

Communities at Risk: There are no communities at risk in or near the FMU.

2. Management Guidance

Specific Objectives:

Under wilderness designation the primary management goal is to manage and protect the area in such a manner as to leave the wilderness unimpaired for future use and enjoyment as wilderness. Wilderness areas are devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use. Management prescriptions include limited suppression of wildfire. Fire will be allowed to play a natural role in the management area. Close coordination with the recreation and wilderness staff of the Field Office will be required prior to any fire management activities.

Long-term management goals for this area include:

1. Cooperate with adjacent landowners, including private and state, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement in areas outside of the wilderness area.
2. Allow wildfire to serve its natural role in the wilderness area.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
4. Mitigate impacts of fire to wilderness resource values within the FMU area.

Desired Conditions:

Wildland Fire Suppression - Natural fires will be allowed to burn in this FMU. All human caused fires will be immediately suppressed using MIST tactics.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire use for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire – No prescribed fire treatments will be conducted within this FMU due to its wilderness designation.

Non-fire Fuels Treatments – No non-fire fuels treatments will be conducted within this FMU due to its wilderness designation.

Post-Fire Rehabilitation / Restoration - Wildfires occurring here will be monitored. There will be no need for post-fire rehabilitation and restoration within this FMU.

3. Safety Considerations

Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells near the wilderness area. There are also several power lines that run near the FMU.

4. Photos and Descriptions

The FMU is predominantly composed of eroded formations and eroded clay-silt badlands, shown in Figures 3.2.59 and 3.2.60. The minimal vegetation found in the badlands and surrounding areas, shown in Figure 3.2.61, is made up of sagebrush and ground cover grass species that include mutton grass, western wheatgrass, buckwheat, penstemons, and blue grama.



Figure 3.2.59



Figure 3.2.60



Figure 3.2.61

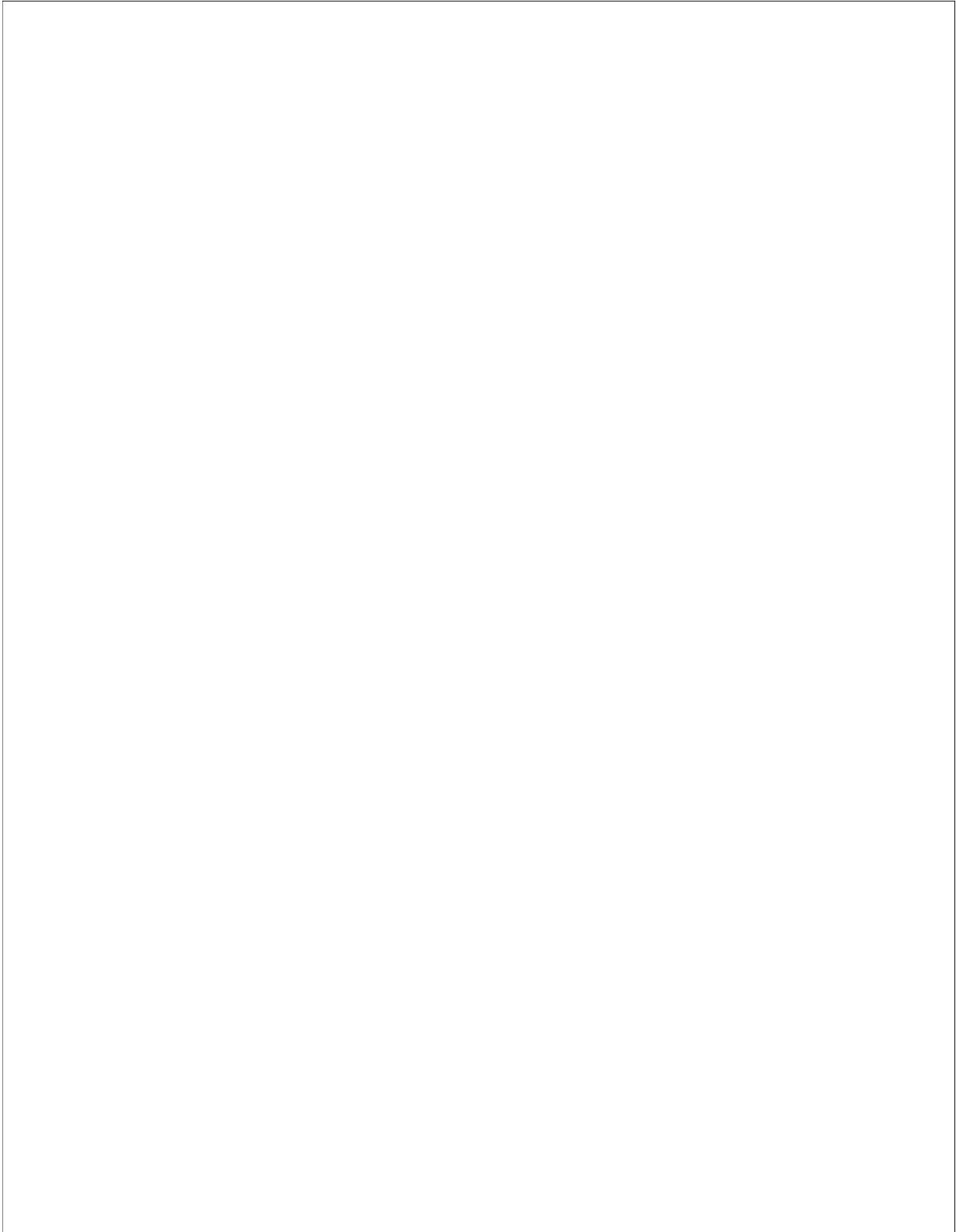


Figure 3.2.62: Map of the Lonetree Mountain FMU

Fire Management Unit Name: **Lonetree Mountain**

Category/Number: **D/3**

1. Characteristics.

Total Unit Acreage: BLM= 36,428 acres, Private land = 26,729 acres, and State land= 6,285 acres. Total Surface area= 69,442 acres.

Location and Access: This FMU is located in San Juan County, New Mexico in the northwest portion of the Farmington Field Office. This area lies between the community of La Plata to the west and the Animas River valley to the east (see Figure 3.2.62). State Highway 170 skirts the western edge of the FMU and U.S. Highway 550 parallels the eastern border. State Highway 574 defines the southern border the management area. The state of Colorado borders the FMU to the north.

Terrain and Vegetation: Elevations in the area vary from 5750 feet to 7080 feet. The area is dominated by big sagebrush (*Artemisia tridentata*), saltbush (*Atriplex spp.*), winterfat (*Ceratoides lanata*) with scattered Utah juniper (*Juniperus osteosperma*), oneseed juniper (*Juniperus monosperma*) and pinyon (*Pinus edulis*). The Pinyon-Juniper woodland plant community type covers the majority of the FMU. Common ground cover species are mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), buckwheat (*Eriogonum spp.*), and penstemon (*Penstemon spp.*). Relatively large stands of big sagebrush can occur within the open woodlands of the FMU. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were 8 human caused fires totaling 1 acre in size and 48 naturally-caused fires totaling 10.5 acres in size.

Fire Regime: This FMU includes two vegetation type communities which fall into Fire Regimes I and II. These are the Plain mesa grassland/Great Basin desert scrub (Fire Regime I) and open conifer woodland (Fire Regime II).

Fire Regime Condition Class: This FMU has been identified as Fire Regime Condition Class 3. Under current conditions, which reflect a combination of historically heavy livestock use coupled with fire suppression, many areas in the FMU formerly dominated by grass and shrubs are being invaded by young pinyon and juniper trees. This succession is occurring both in previously chained and naturally-occurring parks. This condition is increasing the fuel load in the FMU and increasing the risk of catastrophic wildfires.

Wildlife: Bald eagles, a federally-listed threatened species, are known to migrate through and winter in the FMU. There are also several areas of the FMU that have been identified as critical habitat for the federally-listed endangered southwestern willow flycatcher.

Watersheds: This FMU is in the watersheds for the Animas and the La Plata Rivers, both of which flow into the San Juan.

Recreation: Common public land use activities in this FMU include horseback riding, mountain biking, hiking, wildlife viewing, primitive camping, hunting, photography, and OHV use.

Special Areas: This FMU contains the Cedar Hill ACEC which is an Ancestral Puebloan archaeological site. The FMU also contains the Animas #4 and #6 Bald Eagle ACECs.

Cultural Values: One cultural ACEC exists in this zone (Cedar Hill). Many other archaeological sites exist in the area outside of the ACEC, and therefore consultation with a cultural resource advisor is required prior to any surface disturbing activity such as the construction of hand-dug or bulldozer fire lines.

Values at Risk/Protection Constraints: Values at risk include watershed health and wildlife habitat. There are also several oil and gas facilities in the area. Numerous scattered rural residences are also present in the FMU, and protection of human safety and property must be a priority.

Communities at Risk: Currently the communities of La Plata, Riverside and Cedar Hill, NM are at risk within the FMU. As aforementioned, rural residences dot the FMU.

2. Management Guidance

Specific Objectives:

All fire treatment will improve and help maintain the vegetative composition of the management area. Some natural fires will be allowed to burn to enhance and improve vegetation in the area. Scatterings of small (5-20 acre) open grassy areas within much larger (>25 acre) patches of sagebrush and grass intermix. Pockets of lush vegetation or water must be nearby. Fires should create a mosaic pattern with openings ideally limited to 20 to 200 acres, especially where broom snakeweed has invaded. The desired result would be to reduce the snakeweed in the area by 90% with a tolerable reduction of 55%.

Long-term fire management goals for this FMU include:

1. Restore all areas of FRCC 3 to an FRCC 2.
2. Cooperate with adjacent landowners, including private and state, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
4. Protection of critical Bald Eagle habitat.

Desired Conditions:

Wildland Fire Suppression - Wildfires that occur within the management area will be suppressed at less than 10 acres 90 % of the time at all fire intensity levels. Retardants as well as heavy equipment can be used in the management area.

Wildland Fire for Resource Benefit - A site specific-NEPA analysis is currently being conducted that, if approved, will allow fire use for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Several projects a year in totaling 1,000 acres can be undertaken.

Non-fire Fuels Treatments - Approximately 2,000 acres per year will need to be treated to improve rangeland health in the FMU. These treatments could be accomplished through mechanical means, chemical applications and fuelwood sales.

Post-Fire Rehabilitation / Restoration - A specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be undertaken to prevent erosion. Sites where any surface disturbing fire fighting activities occur should be reseeded and rehabilitated to prevent the spread of noxious weeds.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. There are also several power lines that run directly through the FMU. A few small communities and numerous rural residences create public safety and wildland-urban interface concerns.

4. Photos and Descriptions

Figure 3.2.63 shows the sagebrush and grassland flats that surround the arroyos and drainages in the FMU. Figure 3.2.64 shows the transitional zone from sagebrush flats to the open conifer woodlands in the canyons and rolling hills of the FMU. The vegetation in the FMU is fragmented by the many roads that support oil and gas wells spread throughout the area, as shown in Figure 3.2.65.



Figure 3.2.63



Figure 3.2.64



Figure 3.2.65



Figure 3.2.66: Map of the Rattlesnake/Middle Mesa/Rosa Mesa FMU

Fire Management Unit Name: **Rattlesnake Canyon/Middle Mesa/Rosa Mesa**

Category/Number: **D/4**

1. Characteristics.

Total Unit Acreage: BLM= 217,615 acres, Private land = 66,331 acres, and State land= 34,744 acres. Forest Service = 153,215 acres Total Surface area= 471,905 acres.

Location and Access: This FMU is located in both San Juan and Rio Arriba Counties, on the northeastern portion of the Farmington Field Office. It is bordered on the west by the Animas River valley and U.S. Highway 550. To the west it is bordered by the Jicarilla Apache Reservation (see Figure 3.2.66). The towns of Blanco, Cedar Hill and Navajo Dam are adjacent to the management unit. Access varies by location, but U.S. Highway 550 trends along the western edge of the FMU, and U.S. Highway 64 constitutes much of its southern boundary.

Terrain and Vegetation: Elevations in the area vary from 5600 feet to 7200 feet. The area mainly consists of mesas and canyon country containing pinyon (*Pinus edulis*), Utah juniper (*Juniperus osteosperma*), oneseed juniper (*Juniperus monosperma*), big sagebrush (*Artemisia tridentata*), and grasslands. The Pinyon-Juniper Woodland plant community type primarily covers the FMU. Common ground cover species are mutton grass (*Poa fendleriana*), western wheatgrass (*Agropyron smithii*), buckwheat (*Eriogonum spp.*), and penstemons (*Penstemon spp.*). Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009 there were 11 human caused fires totaling 36.4 acres in size and 373 naturally caused fires totaling 315.8 acres in size.

Fire Regime: This FMU is predominantly made up of the open conifer woodland vegetation type community which falls into Fire Regime II. The canyon bottoms include the plain mesa grassland/Great Basin desert scrub which are characterized by Fire Regime II.

Fire Regime Condition Class: This FMU has been identified as a Fire Regime Condition Class 3.

Wildlife: This area includes a critical elk calving area in the Carracas Mesa Recreation area. Bald Eagles are found in the area, and are a federally threatened species. The bald eagles that frequent this area use mature, ponderosa pine to build nests, and roost. The protection and enhancement of the small ponderosa pine stands in the FMU is extremely important to the health and well being of the bald eagles that utilize these areas.

Watersheds: This FMU lies in the watershed for the San Juan River.

Recreation: Common public land use activities in this FMU include horseback riding, mountain biking, hiking, back packing, wildlife viewing, primitive camping, hunting, photography, and OHV use. OHV use is required to be limited to existing roads and trails, but as with most of the field office lands, many illicit OHV trails are present.

Special Areas: This FMU includes several Bald Eagle ACEC core sites. The area also includes the Carracas Mesa Recreation area, and two cultural ACEC's.

Cultural Values: The FMU includes the La Jara Ancestral Puebloan community cultural ACEC. It also surrounds the Frances Mesa ACEC, which falls into the Archaeological ACECs FMU. Many other archaeological sites, including several significant petroglyph panels, also exist in this FMU. Cultural clearances and resource specialist consultation must be undertaken prior to fire management actions being taken.

Values at Risk/Protection Constraints: Oil and gas facilities are in the area. Sensitive wildlife areas, including bald eagle habitat and elk calving areas, are present. Several significant cultural properties exist in or adjacent to the FMU, and must be protected.

Communities at Risk: In the Middle Mesa Area there is a small subdivision at risk in this unit. Also, the towns of Cedar Hill and Navajo Dam are adjacent to the FMU.

2. Management Guidance

Specific Objectives:

Restore, and maintain the ecosystem of the management area by utilizing fire management techniques such thinning and prescribed fire. Ensure that each fire management decision is consistent with other resource objectives.

Long-term objectives for this fire management area include:

1. Restore all areas of FRCC 3 to an FRCC 2.
2. Cooperate with adjacent landowners, including private and state, when planning projects for hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
4. No surface disturbance shall be permitted in bald eagle core sites.

Desired Conditions:

Wildland Fire Suppression - Heavy equipment and retardants may be used, except in the vicinity of petroglyph panels, unless prior approval is received from cultural resources staff.. An appropriate management response will be assigned to each wildfire occurring in the management area. Ground disturbing activity will be rehabilitated and reseeded. Small wildfires at FILs of 1-3 at 5 to 50 acres can be used for resource benefits. These fires would be beneficial in many areas overpopulated by sagebrush and pinyon juniper. However, there are also many areas where Douglas fir, ponderosa pine, Gambel's oak and large pinyon pine occur. These areas should be monitored closely if a wildfire occurs so that the burned acreage in these areas does not exceed 50 acres.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire use for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Several projects a year in totaling 3,000 acres can be undertaken.

Non-fire Fuels Treatments - Approximately 2,000 acres per year in the “C” category will need to be treated to improve rangeland health in the FMU. These treatments could be accomplished through mechanical means, chemical applications and fuelwood sales.

Post-Fire Rehabilitation / Restoration - A specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be undertaken to prevent erosion. Sites where any surface disturbing fire fighting activities occur should be reseeded and rehabilitated to prevent the spread of noxious weeds.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. There are also several power lines that run directly through the FMU.

4. Photos and Descriptions

The FMU is characterized by vast sagebrush flats that transition into open conifer woodlands along mesa slopes and cliffs, as illustrated in Figures 3.2.67 through 3.2.69. The vegetation is also fragmented by numerous roads that support oil and gas wells throughout the FMU.



Figure 3.2.67



Figure 3.2.68



Figure 3.2.69

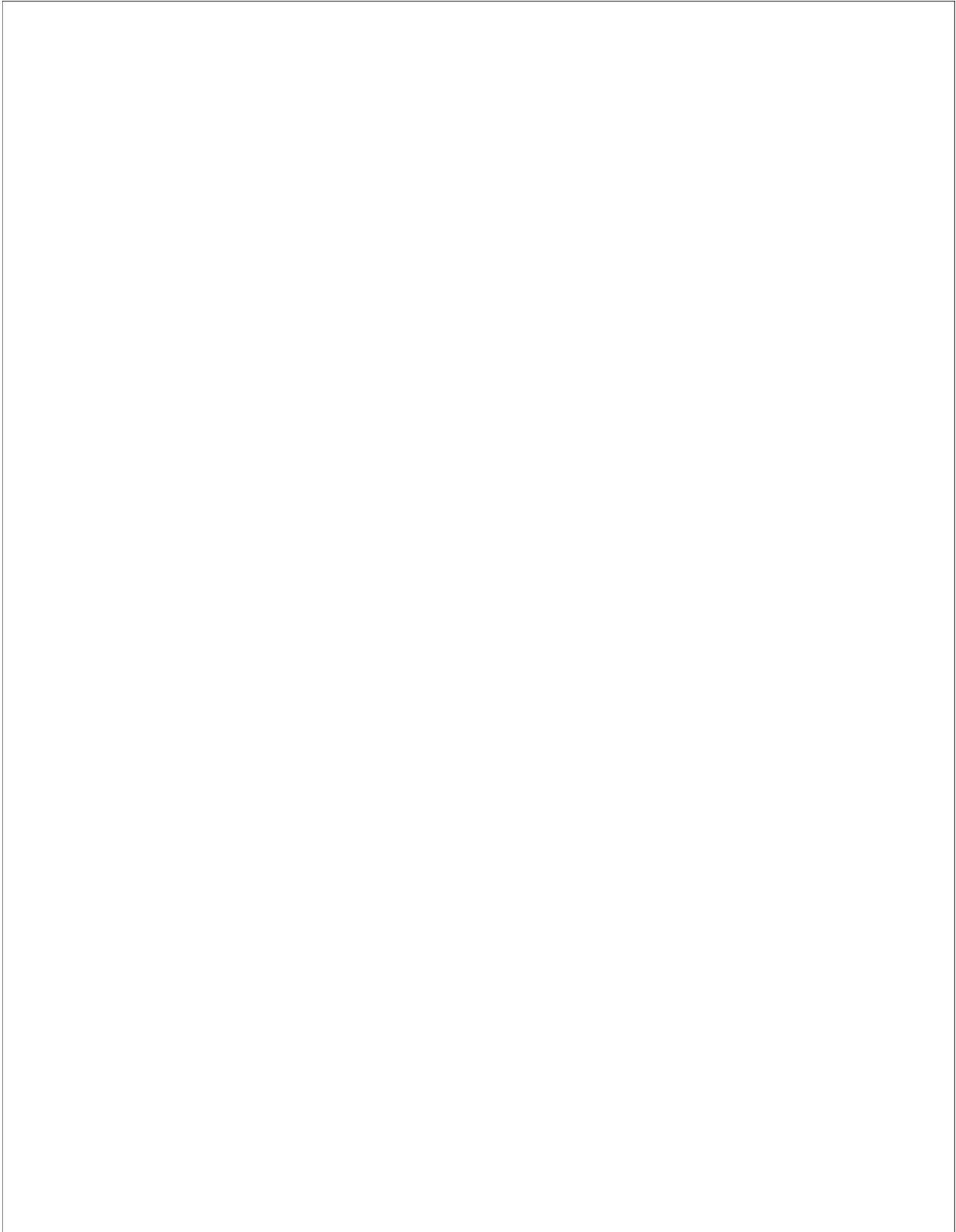


Figure 3.2.70: Map of Largo/Carrizo/Blanco Canyon FMU

Fire Management Unit Name: **Largo/Carrizo/Blanco Canyons**

Category/Number: **D/5**

1. Characteristics.

Total Unit Acreage: BLM= 505,165 acres, BOR = 800 acres, Forest Service = 108 acres, Private= 62, 158 acres, BIA 31,683, and State land= 56,391 acres. Total Surface area=656,305 acres.

Location and Access: This FMU is located in San Juan and Rio Arriba Counties, New Mexico, with a small southern corner impinging upon Sandoval County. It is located in the central portion of the Farmington Field Office (see Figure 3.2.70.) The communities of Bloomfield and Blanco border the FMU to the north. The San Juan River valley forms the border of the FMU to the north. The Carson National Forest and the Jicarilla Apache Reservation borders the unit to the east.

Terrain and Vegetation: The area is characterized by having numerous oil and gas wells and associated roads. There are also numerous inholdings of private land inside the FMU. This area is dominated by numerous mesas and canyons with equally large stands of big sagebrush (*Artemisia tridentata*), pinyon (*Pinus edulis*), oneseed juniper (*Juniperus monosperma*), and Utah juniper (*Juniperus osteosperma*). Some pockets of Douglas fir and ponderosa pine (*Pinus ponderosa*) also occur in deep canyons. There are also large areas of tebuthiuron-treated sagebrush, which are transitioning into grassland. The FMU also includes several invasive species, including tamarisk (*Tamarix chinensis*), Russian olive (*Elaeagnus angustifolia*), and Siberian Elm (*Ulmus pulima*). Elevations in the area vary from 5550 feet to 7400 feet. Cheatgrass (*Bromus tectorum*), a state listed invasive species, is found throughout the unit.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 125 naturally-caused fires totaling 128.4 acres and 21 fires resulting from human causes, totaling 75 acres.

Fire Regime: This FMU consists of three broad vegetation types: a.) plain mesa grassland/Great Basin desert scrub, b.) open conifer woodland, and c.) southwest and plains forested/shrub wetland which fall into Fire Regimes II, III, and III respectively.

Fire Regime Condition Class: The FMU is characterized as Fire Regime Condition Class 2. As a result of historic practices, extensive areas of sagebrush throughout the FMU are being invaded by young pinyon and juniper trees. In these areas, and many where tree invasion has not yet occurred, much of the sagebrush is mature or decadent, with little herbaceous material growing beneath. The succession in these areas has reduced their ability to carry fire.

Wildlife: There are large stands of sagebrush in this unit that are utilized by elk, cattle and deer. There are areas of sagebrush on Ensenada Mesa, Angel Peak, Manzanares Mesa and Jaramillo Canyon that are important habitat for antelope and deer.

Watersheds: The canyons that make up this FMU are in the watershed for the San Juan River.

Recreation: Recreation activities include hunting, hiking, and OHV use.

Special Areas: There are fifty-two cultural ACECs encompassed by this FMU, but which are actually parts of the Archaeological ACECs FMU. Other cultural sites exist in the area outside of the ACECs. Consultation with a cultural resource advisor prior to embarking on any surface disturbing activity such as the construction of fire lines with hand tools or heavy equipment is required.

Cultural Values: Many known cultural sites exist in the area outside of the ACECs. Consult with a cultural resource advisor prior to surface disturbing activity such as heavy equipment use or the construction of fire lines using hand tools.

Values at Risk/Protection Constraints: Values at risk include many oil and gas well facilities as well as several private land inholdings in the area. The cultural ACECs in the Archaeological ACECs FMU are also at risk from wildfire spreading from this FMU into these small archaeologically-sensitive parcels.

Communities at Risk: There are several small communities at risk in this unit including Gobernador, Lybrook, and Counselor. A large number of widely-scattered residences also occur within this FMU.

2. Management Guidance

Specific Objectives:

Areas in valley bottoms with pinyon/juniper encroachment will be thinned mechanically to restore the ecosystem.

Long-term management goals for this fire management area include:

1. Restore all FRCC areas of 2 to 1.
2. Reduce the existing sage brush cover in the area by 70% with a tolerable reduction of 45%.
3. Reduce hazardous fuels accumulations in the WUI.
4. Treatments will improve watershed function by reducing erosion and sedimentation through increasing herbaceous growth.
5. Reduce overall fire management costs by reducing the potential for stand-replacing, high-intensity fires and their associated suppression response.

Desired Conditions:

Wildland Fire Suppression - Retardants and heavy equipment may be used in this management area. Consultation with cultural resources staff must be undertaken prior to the use of retardants in the vicinity of ACECs with pictograph and petroglyph panels. Wildfires at FILs of 4 to 6 will be suppressed at less than 20 acres 90% of the time to protect cultural sites and oil and gas infrastructure. There remain many identified and as yet unidentified archaeological sites in the FMU. Consult with a cultural resource advisor before undertaking surface-disturbing activities, such as the construction of fire lines by hand or machine.

Wildland Fire for Resource Benefit - A site-specific NEPA analysis is currently being conducted that, if approved, will allow fire for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Prescribed fire that reduces the sagebrush by about 50% in sage stands of the Upper Largo, where wildfire is more desirable, has been applied with more being planned for the future.

Non-fire Fuels Treatments - Areas in valley bottoms with pinyon/juniper encroachment will be thinned mechanically to restore the ecosystem. Approximately one to five treatments totaling 2000 acres can be undertaken annually. These projects could be accomplished through mechanical means, chemical applications and fuelwood sales.

Post-Fire Rehabilitation / Restoration - Depending on the complexity of the wildfire, a specific Burned Area ESR plan will be developed by an interdisciplinary team for each incident greater than 20 acres in size. Roads or fire lines created by suppression operations will be obliterated and restored in order to reduce erosion. In the case of an area significantly burned on a slope of 15 percent or greater, evaluation and appropriate actions will be undertaken to prevent erosion. Sites where any surface disturbing fire fighting activities occur should be reseeded and rehabilitated to prevent the spread of noxious weeds.

3. Safety Considerations

The area is characterized by numerous oil and gas facilities. Hydrogen sulfide gas may be present in this unit as a danger associated with oil and gas wells. There are also several power lines that run directly through the FMU. Wildland-urban interface concerns are an issue around several small communities, and scattered rural residences dot the FMU.

4. Photos and Descriptions

Figure 3.2.71 shows the wide bed of Largo Canyon, this area has intermittent water and ponds depending on seasonal rainfalls. The area surrounding Largo Canyon is characterized by sagebrush flats that transition into open conifer woodlands along the canyon walls, as shown in Figure 3.2.72. The sagebrush flats are split by numerous roads and power lines that support oil and gas wells in the FMU, shown in Figure 3.2.73.



Figure 3.2.71



Figure 3.2.72



Figure 3.2.73

Chapter 3.2.2 Fire Management Units – Specific Descriptions

Taos Field Office Farmington District

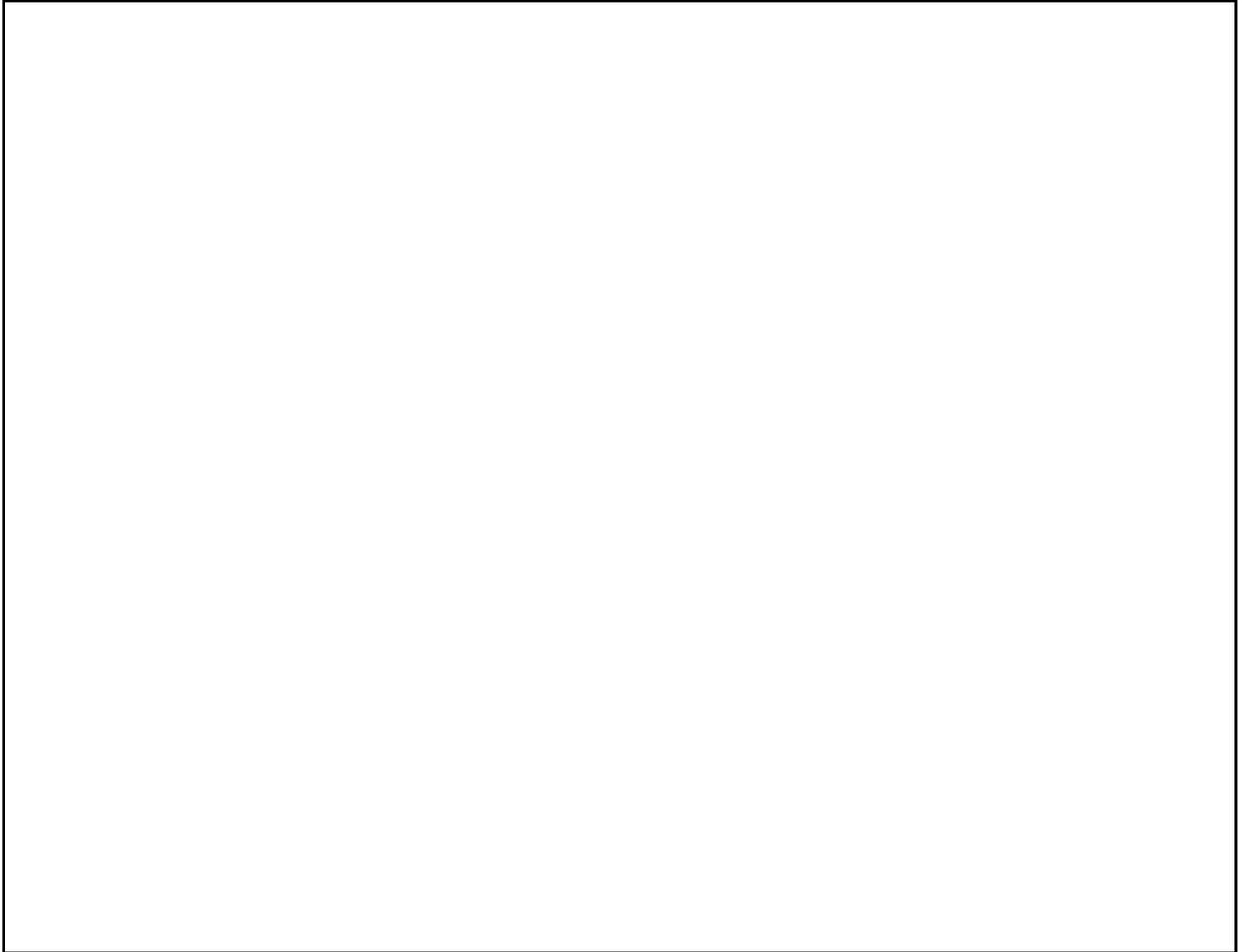


Figure 3.2.74: Map of TAFO, Rest of Field Office FMU

Fire Management Unit Name: **TAFO, Rest of Field Office**

Category/Number: **C/1**

1. Characteristics.

Total Unit Acreage: Total BLM acreage is 60,911 acres.

Location and Access: This “unit” includes small parcels of BLM lands throughout the TAFO management area that are not covered by any other FMU.

Terrain and Vegetation: Considering the breadth of area covered by these small pieces, it is prohibitive to describe each and every parcel. The terrain includes the variety of landscape expressed in other units such as rolling hills, steep mountains, flat rangeland, etc. Vegetation as well includes the entire spectrum seen in the field office such as pinyon-juniper woodland, mixed conifer/ponderosa pine forest, sagebrush flats, grasslands, etc.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 33 naturally-caused fires totaling 37.6 acres and 3 human-caused fires totaling 6.5 acres.

Fire Regime: These lands encompass a wide spectrum that includes Fire Regimes from I-IV.

Fire Regime Condition Class: These lands fall within a FRCC 2 and 3 because of the moderate to high degree of departure from historical conditions which might include a decrease in herbaceous understory and diversity as well as an increase in density of pinyon and juniper trees or sagebrush.

Wildlife: Riparian habitat exists throughout this FMU in the form of various rivers, streams, seeps and springs and provides valuable wildlife habitat in TAFO in the form of nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries.

Watersheds: These parcels of land may fall into many different watersheds.

Recreation: Recreation use within these areas may include hiking, biking, wildlife viewing, etc.

Special Areas: These lands include the San Lazaro and Sahiu Special Management Areas. Both SMAs’ objectives are protecting cultural resource values and state that “fires in this SMA will have limited suppression.”

Cultural Values: This unit includes some areas that contain extensive and important cultural resources including the Galisteo basin south of Santa Fe, Sahiu Pueblo along the Rio Grande river near Velarde, La Puebla area near Santa Cruz, scattered parcels along the Pecos river near Villanueva, and on the eastern plains of the field office. BLM sites within the Galisteo Basin include the Pueblos of San Lazaro (a National Historic Landmark) and Burnt Corn, and many prehistoric and historic sites primarily related to mining within the Cerillos Hills.

Values at Risk/Protection Constraints: Values at greatest risk include cultural and forest and range health. Cultural resources to be protected will be archaeological sites that are on the NRHP.

Communities at Risk: Many communities that could be considered at risk are adjacent to these small tracts of BLM land.

2. Management Guidance

Specific Objectives:

Fire management objectives include community protection, resource protection, range and forest restoration, watershed health, and wildlife habitat improvement. FRCC objectives will be dealt with on a per case basis. Because these small parcels are surrounded by lands with ownership other than BLM, emphasis should be placed on accomplishing management objectives identified by adjacent landowners and establishing partnerships and agreements for treatments across ownership boundaries. Special emphasis will be placed on mitigating impacts to cultural resources on these parcels in the FMU.

Desired Conditions:

Wildland Fire Suppression - Response time will be important for initial attack within this FMU. All fires occurring at a FIL 1-3 will be suppressed at less than 100 acres 90 percent of the time. All fires occurring at FIL 4-6 will be suppressed at less than 500 acres 70% of the time. Using natural or man-made barriers is also an option where aggressive suppression tactics would have a greater negative impact on the resource than the fire activity itself.

Wildland Fire for Resource Benefit - This is not an option in this unit because the parcels of land in this FMU are small and not continuous.

Prescribed Fire - The target for prescribed fire treatment will be an average of 200 acres for broadcast burns and 200 acres for pile burns per annum.

Non-fire Fuels Treatments - Mechanical, biological or chemical treatment targets will average 400 acres annually.

Post-Fire Rehabilitation / Restoration - Since this Unit includes such a variety of areas and parcels, general rehabilitation and restoration strategies will be considered. In sites with erodible soils, post-wildfire reseeding may be done, as well as fencing to exclude grazing. Slopes greater than 15% will be assessed for rehabilitation. The need for post-fire rehabilitation and restoration will be evaluated further by an interdisciplinary team of resource staff from TAFO to determine specific strategies.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.



Figure 3.2.71: Map of North Unit/Pot Mountain FMU

Fire Management Unit Name: **North Unit/ Pot Mountain**

Category/Number: **C/2**

1. Characteristics.

Total Unit Acreage: BLM= 156,233 acres, Private= 24,076 acres, State land= 33,484 acres and Total Surface area=213,793 acres.

Location and Access: This FMU is located between the Rio Grande Gorge and the Tusas Mountain range. The Colorado state line and the Cerro del Aire FMU form the northern and southern boundaries respectively. The FMU is adjacent to state, private, U.S. Forest Service and other BLM lands. **Access** is via US 285 on a two-track road.

Terrain and Vegetation: The majority of the land is relatively flat rangeland with three major topographical features; Pot Mountain, Cerro Chiflo and the north, east and southern slopes of San Antonio Mountain. Vegetation on this unit is primarily sagebrush and grassland. Common grass species include blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*), needleandthread (*Stipa comata*) and Indian ricegrass (*Achnatherum hymenoides*). Other species include broom snakeweed (*Gutierrezia sarothrae*), winterfat (*Krascheninnikovia lanata*), broomweed (*Amphiachyris dracunculoides*), kochia (*Kochia scoparia*), and chenopodium (*Chenopodium album*). Shrub species found at higher elevations include mountain mahogany (*Cercocarpus montanus*), serviceberry (*Amelanchier arborea*), gambel oak (*Quercus gambelii*), and chokecherry (*Prunus virginiana*). Pinyon (*Pinus edulis*), One seed Juniper (*Juniperus monosperma*), Utah juniper (*Juniperus osteosperma*), ponderosa pine (*Pinus ponderosa*), Engelmann spruce (*Picea engelmannii*), Douglas-fir (*Pseudotsuga menziesii*), and aspen (*Populus tremuloides*) are found at higher elevations on the slopes of the mountains.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 7 naturally-caused fires totaling 1027.9 acres and 0 human-caused fires.

Fire Regime: This FMU consists of three vegetation type communities: a. Plain mesa grassland/great basin desert scrub, b. Closed conifer woodlands, and

c. Upper montane conifer forests which comprise Fire Regimes II, III, and III respectively.

Fire Regime Condition Class: Each vegetation type as mentioned in Fire Regime has its own condition class which corresponds to: a. high 2, b. high 2 or low 3, and c. 2. These Fire Regime Condition Classes were based on the degree of departure from historic fire regimes. Shrublands/grasslands are a 2 due to the decline in and lack of vigor in native grasses and the increase in invasive shrubs such as snakeweed (as seen in Photos 4, 5, and 6). The pinyon-juniper woodland and mixed conifer stands are in class 3 due to the increase in density of trees, lack of herbaceous understory, and a general decrease in diversity as seen in Photo 7.

Wildlife: The North Unit FMU includes the Winter Range ACEC which contains the largest populations of deer, elk and antelope in TAFO and is considered the most important elk winter range on

public lands in the state. This FMU is considered both winter and summer range for big game species such as mule deer and elk, and contains a critical migration corridor for these species. The area also contains significant populations for several special status species, including mountain plover, Gunnison's prairie dog and western burrowing owl. The adjacent Rio Grande gorge has critical habitat for nesting raptors, such as golden eagle, peregrine falcon, prairie falcon, red-tailed hawk and great horned owl. This FMU represents an important area for the prey base of these raptor species. The only known nest site for ferruginous hawk, a BLM sensitive species, is also found in this FMU. Migratory birds of management concern found in this area include: bald eagle, golden eagle, ferruginous hawk, Swainson's hawk, peregrine falcon, prairie falcon, Western burrowing owl, Brewer's sparrow, mountain plover, band-tailed pigeon, mourning dove, white-throated swift, black-chinned hummingbird, Williamson's sapsucker, olive-sided flycatcher, Cordilleran flycatcher, Say's phoebe, Cassin's kingbird, loggerhead shrike, plumbeous vireo, warbling vireo, western scrub-jay, pinyon jay, juniper titmouse, pygmy nuthatch, mountain bluebird, sage thrasher, Virginia's warbler, yellow warbler, black-throated gray warbler, Grace's warbler, Brewer's sparrow, vesper sparrow, black-throated sparrow, sage sparrow and Bullock's oriole.

Watersheds: This FMU is immediately adjacent to the Upper Gorge Unit of the Rio Grande.

Recreation: Recreation activities include hunting, hiking and casual use.

Special Areas: The Winter Range ACEC places special emphasis on the management of winter range for Rocky Mountain elk and mule deer.

Cultural Values: Prehistoric and historic sites are known to exist throughout the FMU. Cultural sites may include lithic scatters, rock art, quarries, and structural sites. Archeologists must be consulted prior to any surface disturbing fire suppression actions.

History: Land survey records from 1881 and 1940 indicate that the landscape has changed considerably. The 1881 records stated that the flatland areas were rolling prairie land with abundant bunchgrass and grama, sparse pinyon and juniper and scattered lakes and ponds. The mountainous areas were described as being 'cedar timber' (juniper and mixed conifer), pinyon with aspen thickets and a good scrub oak undergrowth. In 1940, the surveyor reported considerable overgrazing of lands and an increased sagebrush component. Many of the lakes and ponds that were reported to be good water sources in the 1880's were either lake basins or nonexistent in the 1940's. The surveyor made the recommendation that the only future use for the land should be continued grazing.

Values at Risk/Protection Constraints: Values at greatest risk include winter range habitat for elk and other wildlife.

Communities at Risk: Tres Piedras and Cerro Del Aire community development are communities at risk as well as other private residences on the southeast slope of San Antonio Mountain and a private residence/ranch on the southern unit boundary between Pot Mountain and No Agua Peaks.

2. Management Guidance

Specific Objectives:

1. Restore all FRCC areas of high 2/low 3 to 1/low 2. Natural disturbance and management actions combined would total an average between 4,000 and 20,000 acres per year.
2. Reduce hazardous fuels in the WUI.
3. Improve winter range conditions throughout the Winter Range ACEC.
4. Reduce overall fire management costs by reducing the potential for stand-replacing, high-intensity fires and their associated suppression response.

Desired Conditions:

Wildland Fire Suppression - All fires occurring at FIL 1-3 will be suppressed at less than 500 acres 90 percent of the time. All fires occurring at FIL 4-6 will be suppressed at less than 2000 acres 75 percent of the time. Using natural or man-made barriers is also an option where aggressive suppression tactics would have a greater negative impact on the resource than the fire activity itself.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow fire for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Slash produced from thinning operations will be burned following mechanical treatment at an average of 200 acres per year. Broadcast burning will be conducted in both treated and untreated areas to maintain low fuel loadings and promote herbaceous groundcover at an average of 400 acres per year. Cooperate with adjacent landowners to complete projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.

Non-fire Fuels Treatments - An average target for mechanical treatment will be 200 acres that includes using all 200 acres for collecting wood for sale to the public (biomass utilization).

Post-Fire Rehabilitation / Restoration - Rehabilitation of lands might be necessary in areas with highly erodible soils that are adjacent to the Rio Grande, following fires of higher intensity levels (3-6). No rehabilitation will be necessary in most pinyon-juniper woodlands.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

The slopes of Pot Mountain (Figure 3.2.71) and Cerro Chiflo (Figure 3.2.72) are covered by pinyon pine and juniper. Ponderosa, fir and spruce trees are found on the upper slopes of Pot Mountain. Many trees are in the same age class of about 20-50 years. The area has been logged in the past and there are not very many large trees. Some of the largest living trees are approximately 20-50 inches in diameter. In general, on all slopes, the trees are dense and canopy closure is 75-100%.



Figure 3.2.71



Figure 3.2.72

Herbaceous ground cover is minimal between trees, there is some coniferous litter and some grass covering the ground, but it is not continuous. It is not likely that a surface fire would carry in these areas unless there were strong winds. Throughout the mountainsides, there is a mosaic of beetle-killed trees. Ground cover under these trees is greater than that under the live trees and in some areas a surface fire could carry. Downslope, the vegetation changes to pinyon-juniper mixed with sagebrush and then morphs into sagebrush flats. Pinyon-juniper is invading some of the downslope areas (as seen in Figure 3.2.73).



Figure 3.2.73



Figure 3.2.74: Map of Rio Grande Corridor Area of Critical Environmental Concern FMU

Fire Management Unit Name: **Rio Grande Corridor ACEC**

Category/Number: **C/3**

1. Characteristics.

Total Unit Acreage: BLM= 29,939 acres, State Land= 1,011 acres, Forest Service= 1,307 acres, and Private= 2,901 acres. Total surface area= 35,158 acres.

Location and Access: This FMU is bordered on the north by the New Mexico state line and extends 47 miles south along the Rio Grande to its confluence with the Rio Pueblo. **Access** points exist throughout the FMU along SR 68 and SR 570. The Upper gorge area is only accessible by road at a few points, while the lower gorge area is accessible by road throughout most of its length.

Terrain and Vegetation: As the Rio Grande enters New Mexico, the river cuts into the lava flows characteristic of the Taos Plateau. In the Wild Rivers area, the gorge is nearly ½ mile across and 800 feet deep. The Lower Gorge area is much wider and open than the Upper Gorge and provides a much richer riparian environment. The vegetation on the slopes includes scattered pinyon (*Pinus edulis*), oneseed juniper (*Juniperus monosperma*), Utah Juniper (*Juniperus osteosperma*) and ponderosa pine (*Pinus ponderosa*) trees and big sagebrush (*Artemisia tridentata*). These lead into flatter riparian areas with willow (*Salix scouleriana*), cottonwood (*Populus fremontii*), tamarisk (*Tamarix ramosissima*), and shrub and grass species.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 8 naturally-caused fires totaling 1.8 acres and 4 human-caused fires totaling 7.6 acres.

Fire Regime: This FMU has two vegetation type communities that are characteristic of Fire Regime groups I and II. The vegetation type communities include plain mesa grassland/great basin desert scrub and open conifer woodlands.

Fire Regime Condition Class: Both vegetation groups are a FRCC 2. The sagebrush vegetation lacks carrier fuels which would historically hold a fire. The second vegetation group has an increase in pinyon-juniper density as well as a decrease in understory diversity and increase in invasive species.

Wildlife: Riparian habitat exists throughout this FMU in the form of the Rio Grande and various streams, seeps and springs. Riparian areas provide valuable nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. Mule deer and Rocky Mountain elk are abundant in this Unit and utilize the sagebrush-steppe and mixed conifer habitat, as well as the riparian zones. The area is considered both winter and summer range for big game species such as mule deer and elk. The Southwestern willow flycatcher, a federally listed endangered species, migrates through this FMU, however, there is no potential nesting habitat for the species in this unit. A portion of the FMU has been designated critical habitat for the Southwestern willow flycatcher by the U.S. Fish and Wildlife Service (2005), from Pilar to the southern extent. The unique geology of the Upper Gorge represents critical habitat for cliff nesting raptors such as Peregrine Falcon, Golden Eagle, Prairie Falcon and Red-Tailed Hawk. Various bat species, all BLM sensitive species, would be found in the rocks and crevices of the Rio Grande Gorge. River otters have been reintroduced to New Mexico, and a small population is currently located in the Rio Grande

and could be found in tributaries that support sufficient fisheries. Bighorn sheep have also been relocated to the Upper Rio Grande Gorge, with a growing population currently at approximately 60 animals. Bighorn sheep would be found along the Cliffside of the Upper Rio Grande Gorge from Taos Junction Bridge as far north as Wild Rivers Recreation Area. Migratory birds use the corridor of the FMU to move from wintering grounds in the south to breeding habitat in the United States. Migratory birds of management concern considered riparian-obligates that would be found in this unit include: belted kingfisher, black-chinned hummingbird, Bullock's oriole, Cordilleran flycatcher, lazuli bunting, warbling vireo, yellow warbler. Many of the other migratory birds listed in the North Unit/Pot Mountain FMU would also be found in this FMU.

Watersheds: This FMU's primary watershed is the Rio Grande which encompasses numerous drainages and springs.

Recreation: There are developed recreation sites along the river at the Wild Rivers Recreation Area, the John Dunn Bridge, and the Orilla Verde Recreation Area. Recreation includes boating (Class II-IV whitewater), fishing, hiking and camping.

Special Areas: There are five designated special management areas in the Rio Grande Corridor: Rio Grande and Red Wild and Scenic Rivers, Wild Rivers Recreation Area, Orilla Verde Recreation Area, Lower Gorge ACEC, and Copper Hill ACEC. These sections were designated to provide special management for the significant natural, scenic and recreational values along this stretch of the Rio Grande. A large portion of the river is designated as wild and scenic.

Cultural Values: There are 67 archaeological sites recorded within the Wild Rivers Recreation Area which include quarries, campsites, rock art and lithic scatters.

History: Records from the late 1800's to the 1920's indicated that the land near the river was used for irrigation and farming purposes. Some of the area was mentioned as having good grass in the 1800's and was used for grazing.

Values at Risk/Protection Constraints: Values at greatest risk include watershed health along the Rio Grande River and Southwestern Willow Flycatcher habitat and developed recreation sites along the river. Archaeological sites on or eligible for the NRHP and areas likely to contain such sites will be protected as well.

Communities at Risk: The WUI concerns in this FMU are small communities along the unit including Pilar and the Embudo Valley.

2. Management Guidance

Specific Objectives:

1. Restore all areas to a FRCC 1, dependant on other resource interests. Natural disturbance and management actions combined would be 1,000 acres per year.
2. Cooperate with adjacent landowners to complete projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.
3. Consider management concerns of Southwestern Willow Flycatcher habitat for all actions in the FMU.
4. Mitigate impacts to recreation and Wild and Scenic River values, with special emphasis on areas adjacent to the Wild Rivers Recreation Area and the Orilla Verde Recreation Area.

Desired Conditions:

Wildland Fire Suppression - All fires occurring at FIL 1-3 will be suppressed at less than 20 acres 90% of the time. All fires occurring at FIL 4-6 will be suppressed at less than 50 acres less than 75 percent of the time. In areas where developed recreational and cultural sites are located dozers will not be used unless fire conditions require it. Special emphasis will be placed on protecting recreational and cultural values.

Wildland Fire for Resource Benefit - There is no approved burn plan or NEPA clearance that allows for Wildland Fire for Resource Benefit.

Prescribed Fire - Slash produced from thinning operations will be burned following mechanical treatment at a minimum rate of 10 acres per year. Broadcast burning will be conducted in both treated and untreated areas to maintain low fuel loadings and promote herbaceous groundcover growth also at an average rate of 10 acres per year.

Non-fire Fuels Treatments - This area is composed of a narrow canyon with many recreation areas and riparian areas. Treatments will include salt cedar removal and mechanical treatment around recreation structures at a minimum rate of 10 acres per year.

Post-Fire Rehabilitation / Restoration - There will be no need for rehabilitation or restoration projects.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Figure 3.2.75



Figure 3.2.76

Figure 3.2.75 shows the typical vegetation found within the Rio Grande Gorge. The upper slopes have scattered pinyon, juniper and sagebrush while the lower slopes and flatter areas are a mix of grass and shrubs including Apache plume. Figure 3.2.76 shows the confluence of the Red River and the Rio

Grande. Pinyon and juniper trees are scattered throughout this area and can be seen in denser pockets as well.



Figure 3.2.77: Map of the San Antonio Gorge Area of Critical Environmental Concern FMU

Fire Management Unit Name: **San Antonio Gorge ACEC**

Category/Number: **C/4**

1. Characteristics.

Total Unit Acreage: BLM= 271 acres, Private= 8 acres, State Land= 97 acres and total surface area=376 acres.

Location and Access: This FMU is located immediately north of San Antonio Mountain. Its borders are formed by the San Antonio Wilderness Study Area, which surrounds it on all sides. **Access** is from the south end of the gorge via a Forest Service and BLM road, which can be reached from US 285.

Terrain and Vegetation: Terrain is composed solely of a steep gorge that cuts through the basalt plain several hundred feet down to the San Antonio River. Vegetation includes ponderosa pine (*Pinus ponderosa*), Douglas-fir (*Pseudotsuga menziesii*) and aspen (*Populus tremuloides*) towards the top half of the canyon and shrub species in the canyon, which include big sagebrush (*Artemisia tridentata*), mountain mahogany (*Cercocarpus montanus*), serviceberry (*Amelanchier arborea*), gamble oak (*Quercus gambelii*) and chokecherry (*Prunus virginiana*).

Wildland Fire History: Between fiscal years 1999 and 2009, there were no recorded natural or human caused fires.

Fire Regime: This FMU is characteristic of Fire Regime group III because it is made up of the upper montane conifer forest vegetation type community.

Fire Regime Condition Class: The FRCC is 1 as it has not been significantly altered from its historical regime.

Wildlife: Riparian habitat exists throughout this FMU in the form of the Rio San Antonio. Riparian areas provide nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. Mule deer, pronghorn antelope and Rocky Mountain elk are abundant and utilize the adjacent grassland, sagebrush-steppe and mixed conifer habitat as well as the riparian zones. The FMU is considered both winter and summer range for big game species such as elk and mule deer. Raptors known to nest in this FMU include golden eagle, peregrine falcon, prairie falcon and great horned owl. Migratory birds of management concern that could be found in this unit include those found in the Rio Grande Corridor ACEC FMU above.

Watersheds: The whole area is contained in the San Antonio River watershed.

Recreation: There are no developed recreation sites, and recreation use in this FMU is very limited.

Special Areas: This FMU consists of the San Antonio Gorge ACEC.

Cultural Values: Prehistoric and historic sites are known to exist throughout the FMU. Cultural

sites may include lithic scatters, rock art, quarries, and structural sites. Archeologists must be consulted prior to any surface disturbing fire suppression actions.

History: 1881 survey records mention third rate soil and good grama and bunch grass in the river corridor.

Values at Risk/Protection Constraints: Values at greatest risk include winter range habitat for elk and other wildlife, riparian habitat and watershed health as well as state in-holdings.

Communities at Risk: There are no WUI concerns or communities at risk.

2. Management Guidance

Specific Objectives:

1. Maintain the majority of the FMU at a Condition Class 1. Natural disturbance and management actions combined would average 10 acres per year.
2. Improve winter range conditions for elk and Mule deer.
3. Mitigate impacts to wilderness values within the San Antonio WSA.

Desired Conditions:

Wildland Fire Suppression - All fires occurring at FIL 1-3 will be suppressed at less than 100 acres 70% of the time. All fires at FIL 4-6 will be suppressed at less than 300 acres 80% of the time. Suppression strategies will be tailored to address the riparian area within the FMU. This FMU is a narrow canyon and, therefore, there are limited suppression options.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow fire for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - A minimum of 10 acres per year will be targeted for prescribed fire. Cooperate with the state to complete projects in forest/range restoration, and wildlife habitat improvement.

Non-fire Fuels Treatments - There are no current non-fire fuel treatments being considered.

Post-Fire Rehabilitation / Restoration - There will be no need for rehabilitation/restoration projects within this FMU.

3. Safety Considerations

This FMU may contain power lines that could pose an aviation hazard. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions



Figure 3.2.78



Figure 3.2.79

Figure 3.2.78 shows the shallower lower end of the gorge which includes a good shrub and grass component with some juniper on the walls. The fuels at the bottom of the canyon are fairly continuous and could carry a fire. Figure 3.2.79 depicts the mixed conifer component. There are many big trees and there are no signs of logging in the area. There is some encroachment of juniper. This area also has continuous fuels in the form of grasses and shrubs and could carry a fire.



Figure 3.2.80: Map of the San Antonio Gorge Wilderness Study Area FMU

Fire Management Unit Name: **San Antonio Wilderness Study Area**

Category/Number: **C/5**

1. Characteristics.

Total Unit Acreage: BLM=7,044 acres, State Land= 1,199 acres and total surface area= 8,243 acres.

Location and Access: This FMU is located in Rio Arriba County, NM. It lies northwest of San Antonio Mountain, approximately six miles southwest of Antonito, CO and 12 miles northwest of Tres Piedras, NM. **Access** is through Road C (pavement then dirt two tracks) in Colorado from the north and through a Forest Service/BLM marked dirt road off of US 285 from the south.

Terrain and Vegetation: Terrain is mostly flat with some gently rolling hills. The FMU is bisected east to west by the 200 feet deep Rio San Antonio Canyon. The northwest section (Los Pinos) of the FMU is also separated by the Rio de Los Pinos and the private land surrounding it. Vegetation includes sagebrush flats as well as grasslands composed of western wheatgrass (*Pascopyrum smithii*), Indian ricegrass (*Achnatherum hymenoides*) and grama (*Bouteloua* spp) with some scattered juniper (*Juniperus* spp.). There are also pockets of aspen and mixed conifer and shrubs.

Wildland Fire History: Between fiscal years 1999 and 2009, there were no recorded natural or human caused fires.

Fire Regime: This FMU has primarily two Fire Regimes, II and III corresponding to plain mesa grassland/great basin desert scrub and upper montane conifer forests vegetation type communities.

Fire Regime Condition Class: The mixed conifer regime has not significantly departed from historical conditions and is a FRCC 1. The sagebrush/grassland is classified as a high 2 or low 3 because of its sparse native grass cover and heavy component of invasive shrubs. There are not sufficient fuels to support fires required to maintain the grassland and limit shrub invasion except in some areas. However, these areas may not have the necessary seed bank required to re-colonize the area with native grasses and may pose a risk for noxious weed invasion.

Wildlife: Mule deer, pronghorn antelope and Rocky Mountain elk are abundant and utilize the grassland, sagebrush-steppe and mixed conifer habitat as well as the riparian zones. The area is considered both winter and summer range for big game species such as mule deer and elk. The habitat in this FMU provides the prey base for nesting raptors in the adjacent Rio San Antonio Gorge FMU.

Watersheds: The Los Pinos section includes two ephemeral drainages leading to the Rio de Los Pinos. The other main watershed is the San Antonio River which passes through the area.

Recreation: Recreation activities include hiking and hunting, but there are no developed recreation sites.

Special Areas: This FMU is designated a Wilderness Study Area and is under review for a Wilderness designation. It is part of the larger San Antonio Special Management Area. The New Mexico

Department of Game and Fish identified this area in 1984 as the most important winter range on public lands in the entire state. Management Objectives for this area include protection of thermal cover, in both crucial winter and summer ranges, for elk, deer and pronghorn antelope. (Taos RMP, 1988)

Cultural Values: Prehistoric and historic sites are known to exist throughout the FMU. Cultural sites may include lithic scatters, rock art, quarries, and structural sites. Archeologists must be consulted prior to any surface disturbing fire suppression actions.

History: 1882 surveyor's records indicated that the area had scattered pinyon, ponderosa and juniper and that there was good grazing in some of the places. Other records mentioned scattered lakes and areas of cottonwood, ponderosa, juniper, spruce and aspen.

Values at Risk/Protection Constraints: Values at greatest risk include winter range habitat for elk, the historic Cumbres-Toltec Railroad and state in holdings.

Communities at Risk: There are no communities at risk within this FMU, but there are some private in holdings.

2. Management Guidance

Specific Objectives:

1. Maintain the small patches of mixed conifer at a FRCC 1, and restore the sagebrush/grassland to a FRCC 1. Natural disturbance and management actions combined would average between 200 acres and 1,500 acres per year.
2. Reduce hazardous fuels; restore forest, range and watershed health.
3. Improve winter/summer range conditions in a manner that will improve thermal cover conditions for elk, mule deer, and pronghorn. All fuel wood sales in the Special Management Area surrounding the wilderness area will be intensively managed to and monitored to improve habitat, as directed by the Taos RMP(1998).
4. Mitigate possible adverse impacts to wilderness values within the San Antonio WSA.

Desired Conditions:

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 100 acres 90% of the time. All fires at FIL 4-6 will be suppressed at less than 500 acres 75% of the time. Aggressive fire suppression will be conducted on all wildland fires which threaten private property.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow fire for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Cooperate with adjacent landowners, to complete projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement. Slash produced from thinning operations will be burned following mechanical treatment. Broadcast burning will be conducted in both treated and untreated areas at an average of 100 acres each per year.

Non-fire Fuels Treatments - Consideration will be given to all non-fire fuels treatments for the purpose of hazardous fuels reduction in the SMA surrounding the WSA boundary and will have a minimum goal

of 100 acres per year but will be only utilized as a treatment if it does benefit wildlife habitat. The RMP(1998) states that the management of the San Antonio SMA would emphasize wildlife habitat and scenic values as the highest priority over other resources uses when considering proposed actions within its boundary. All non-fire fuels treatments conducted surrounding the San Antonio wilderness area will be only mechanical treatments.

Post-Fire Rehabilitation / Restoration - There will be no need for rehabilitation/restoration projects within this FMU.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Figure 3.2.81 shows the typical rangeland area of the FMU. Sagebrush flats interspersed with grassland and mountain mahogany lead to scattered juniper and pockets of mixed conifer and aspen with a shrub and grass understory (as seen in **Figure 3.2.82**). Track for the historic railroad is also shown in **Figure 3.2.82**.



Figure 3.2.81



Figure 3.2.82



Figure 3.2.83

Figure 3.2.83 shows an artificially seeded rangeland area where there is both sagebrush and western wheatgrass in equal parts and there is some continuous cover. This area could only burn if a strong wind is present.



Figure 3.2.84: Map of the Cerro del Aire and Surrounding Area FMU

Fire Management Unit Name: **Cerro del Aire and Surrounding Area**

Category/Number: **B/6**

1. Characteristics.

Total Unit Acreage: BLM= 43,663 acres, State Land= 15,152 acres, U.S. Forest Service= 39 acres, Private= 92,332 acres and total surface area= 151,186 acres.

Location and Access: This FMU is located between the Rio Grande gorge and the Tusas Mountain range and bordered on the north by the North Unit / Pot Mountain FMU, and on the south by a checkerboard ownership of private and USFS lands. **Access** is via US 285.

Terrain and Vegetation: The majority of the unit is flat rangeland, with an assemblage of large volcanic mountains (Cerro Montoso and Cerro del Aire in the north, Cerros de Taos and Tres Orejas in the east and south). Vegetation on the unit is primarily sagebrush and grassland. Common grass species include blue grama (*Bouteloua gracilis*) and western wheatgrass (*Pascopyrum smithii*), with pockets of pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*) limited to the lower slopes of the three mountains, rock outcroppings, and draws throughout the unit. The higher elevations on Cerro del Aire include ponderosa pine (*Pinus ponderosa*), Engelmann spruce (*Picea engelmannii*), Douglas-fir (*Pseudotsuga menziesii*), and aspen (*Populus tremuloides*). Shrub species found in the same areas include mountain mahogany (*Cercocarpus montanus*), serviceberry (*Amelanchier arborea*), gambel oak (*Quercus gambelii*), and chokecherry (*Prunus virginiana*).

Wildland Fire History: Between fiscal years 1999 and 2009, there were 8 natural fires totaling 469.4 acres and 2 human caused fires totaling 3.1 acres.

Fire Regime: This FMU has three vegetation types with three different Fire Regimes: a. Closed conifer woodland (II), b. plain mesa grassland/great basin desert scrub (I), and c. upper montane conifer forest (III).

Fire Regime Condition Class: The Fire Regime Condition Classes correspond to the Fire Regimes listed above a. high 2, b. high 2 or low 3, c. 2. The pinyon-juniper woodland exhibits an increase in age class variation with a higher abundance of ladder fuels. Increase in canopy density has resulted in a corresponding decrease in groundcover vegetation that would commonly support a large stand-replacement fire rather than the mixed severity fires found in historic stands. In the sagebrush area, there has been an increase in invasive shrubs and a decrease in native grass cover and health with a subsequent loss of carrier fuels. The mixed conifer area has conditions that would support higher intensity stand-replacement fires. This deviates from the typical natural mosaic of conditions that historically supported mixed severity fires.

Wildlife: Cerro del Aire supports significant populations of deer, elk and antelope with the lowlands surrounding Cerro del Aire being noted for antelope fawning. In severe winters, deer and elk often utilize the sagebrush-steppe around Cerro Montoso and Pot Mountains. The area represents winter and summer range, as well as a critical migration corridor, for big game species such as elk and deer. For these reasons, all management actions will consider impacts to habitat for these large ungulates. Gunnison's prairie dog, a BLM sensitive species and federally listed candidate species in Taos

County, is located in this FMU, as well as many migratory birds of management concern (see North Unit/Pot Mountain FMU above).

Watersheds: The FMU lies in the watershed of the Arroyo de la Petaca and the Rio Grande River.

Recreation: Recreation use in the unit includes hunting and casual use.

Special Areas: This unit is adjacent to the Rio Grande Wild and Scenic River Corridor, where special consideration is given to watershed, recreational, and visual resource management. Northern portions are included in the Winter Range ACEC, one of the most important elk winter ranges in the state.

Cultural Values: The Cerro del Aire Unit is not well known archaeologically. The records search showed that there are relatively few inventories or recorded archaeological sites. The recorded sites within the area include artifact scatters and rock features dating to the Archaic, Anasazi, and Historic Periods. The general area was used, intensively, by prehistoric peoples, over a long period of time, and sites tend to be located near playas and arroyos, along the rims of the gorge, and in the small mountain ranges within wooded areas. Historic sites related to homesteading, mining, ranching, and logging are also known within the area and the historic Chili Line Railroad crosses the FMU.

History: Survey records from the late 1800s and early 1900s suggest that the area did contain adequate water in a few sites and was suitable for some agriculture. Most of the land was considered “dry” but still supported a few settlers who grazed cattle. Timber in the mountains was mostly juniper, pinyon, and ponderosa pine. Most of the surveys were conducted within a few years of each other so a comparison between growth in the same areas was not available. In 2003, the BLM initiated hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement projects in the Wind Mountain Management Area. Since that time, about 600 acres have been converted from a FRCC 3 to FRCC 1 and 2.

Values at Risk/Protection Constraints: Values at risk include deer and elk habitat, historic structures, watershed health and recreational concerns (hunting).

Communities at Risk: The community of Tres Piedras, the Chewena housing development near the south slope of Cerro del Aire and many private residences near Colorado Road are at risk. A small number of private residences are scattered throughout the northeastern portion of the unit.

2. Management Guidance

Specific Objectives:

1. Convert all Fire Regimes from FRCC 2 or 3 to FRCC 1. Natural disturbance and management actions combined would average between 200 and 1,000 acres per year.
2. Continue hazardous fuels reduction activities, including the maintenance of previously treated areas.
3. Place special emphasis on management of winter range for mule deer, pronghorn and elk.
4. Maintain early to mid-seral conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.

Desired Conditions:

The Cerro del Aire Management Area Forest and Range Restoration\EA (#NM-020-02-020) identifies strategies for hazardous fuels reduction, forest and range restoration, and wildlife habitat improvement on approximately 9,000 acres of the FMU. Planning efforts are ongoing to identify strategies for range improvement and hazardous fuels reduction projects throughout the rest of the unit, with most efforts focused on lands north of NM 64 where BLM ownership is more continuous and found in larger blocks.

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 25 acres 90% of the time. All fires at FIL 4-6 will be suppressed at less than 200 acres 75% of the time. Aggressive fire suppression will be conducted on all wildland fires which threaten private property.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - Slash produced from thinning operations will be burned following mechanical treatment. Broadcast burning will be conducted in both treated and untreated areas to maintain low fuel loadings and promote herbaceous groundcover growth. Prescribed annual fire acreage goals include a minimum of 200 acres per broadcast burns and pile burns. Cooperation will continue with adjacent landowners to complete projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.

Non-fire Fuels Treatments - Mechanical treatments, including thinning, are targeted at a minimum of 200 acres per year.

Post-Fire Rehabilitation / Restoration - Emergency rehabilitation strategies for wildfire might include public access restrictions and route closure as well as seeding. Any other resource concerns would be addressed by the multi-resource staff at TAFO.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions



Figure 3.2.85



Figure 3.2.86

Figure 3.2.85 shows Cerro Montoso and adjacent rangeland which is heavily encroached by sagebrush, with little grass and herbaceous ground cover. Vigorous grass in the foreground is the result of the roadside effect and is not representative of the FMU as a whole.

Figure 3.2.86 shows a pinyon-juniper woodland on the northwest side of Cerro del Aire with typical large patches of bare ground and low density of herbaceous ground cover are common.



Figure 3.2.85: Map of the Wild Rivers FMU

Fire Management Unit Name: **Wild Rivers**

Category/Number: **B/7**

1. Characteristics.

Total Unit Acreage: BLM= 11,225 acres, State Land= 1,239 acres and total area= 12,464 acres.

Location and Access: This FMU lies at the confluence of the Red and Rio Grande Rivers in the Upper Gorge. It is bordered on the west by the Rio Grande Gorge, on the east by the Red River and on the north by public and private land and the community of Cerro, NM. **Access** is via a paved road from SR 522.

Terrain and Vegetation: Terrain is highly varied and includes the Rio Grande Gorge, sagebrush flats and grasslands and the heavily forested Guadalupe Mountains. Vegetation includes a riparian plant community directly along the river consisting of Apache plume (*Fallugia paradoxa*), various grasses, willow (*Salix scouleriana*), cottonwood (*Populus fremontii*) and tamarisk (*Tamarix ramosissima*). The rangeland areas consist of big sagebrush (*Artemisia tridentata*), Indian ricegrass (*Achnatherum hymenoides*), needleandthread (*Stipa comata*), blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*) and scattered pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*). The Guadalupe Mountains have dense spacing of pinyon, juniper, Engelmann spruce (*Picea engelmannii*), and ponderosa pine (*Pinus ponderosa*) with an understory of mountain mahogany (*Cercocarpus montanus*), gambel oak (*Quercus gambelii*), serviceberry (*Amelanchier arborea*), chokecherry (*Prunus virginiana*) and many grass species.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 6 naturally-caused fires totaling 1.4 acres and 0 human-caused fires.

Fire Regime: There are three different vegetation communities with three different Fire Regimes: a. open conifer woodland (II), b. plain mesa grassland/great basin desert scrub (II), and c. upper montane conifer forest (III).

Fire Regime Condition Class: All three communities are classified as FRCC 3 as conditions have severely departed from historical fire regimes. The sagebrush/grassland community cannot support a fire in most areas. There are some fuel arrangements of the shrub canopy which may support a stand replacement fire but do not have the necessary seed bank required to re-colonize the area with native grasses. The woodland areas have high canopy densities with high abundances of ladder fuels. Increased canopy density has led to corresponding decrease in ground cover vegetation that has significantly altered the fire regime.

Wildlife: Riparian habitat exists adjacent to this FMU in the form of the Rio Grande and Red River as well as several seeps and springs providing nesting for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. The unique geology of the adjacent FMU in the Gorge represents critical habitat for cliff nesting raptors, such as peregrine falcon, golden eagle, prairie falcon and red-tailed hawk. This FMU represents habitat for the prey base of these raptor species in the form of small mammals and migratory birds. Mule deer and Rocky Mountain elk are abundant on the sagebrush-steppe and in the mixed

conifer habitat and the area contains important winter range for these species. Gunnison's prairie dog, a BLM sensitive species and federally listed candidate species in Taos County, is found in this unit. Many migratory birds of management concern would be found in this unit, as listed in the North Unit/Pot Mountain FMU above.

Watersheds: The Rio Grande and Red Rivers mark the boundaries of this FMU. There are four drainages coming from the Guadalupe Mountains.

Recreation: Wild Rivers Recreation Area is popular with locals and tourists alike as it has a visitor's center and more than 22 developed and 19 undeveloped, camping areas. Recreation includes hiking, biking, fishing and wildlife viewing.

Special Areas: This FMU includes the Wild Rivers Recreation Area, and portions of the Rio Grande and Red River Wild and Scenic Rivers. Goals for watershed management include, "Woodlands and shrub grasslands will be treated to promote forest and watershed health. Fire suppression and mechanical thinning will be limited to the methods least disturbing to soils and vegetation." Wildlife management goals include, "Emphasize wildlife viewing as a principle use in the recreation area by promoting habitat improvement projects that will enhance the abundance and variety of wildlife in the area." (Rio Grande Corridor Final Plan 1998)

Cultural Values: Eleven sites have been recorded on Guadalupe Mountain alone and date to the Archaic and Anasazi Periods. Fifty-six other sites have been identified within the Wild Rivers area, most of which include quarries, campsites, rock art and lithic scatters.

History: The survey records indicate that the land near the Rio Grande was deemed tillable and was being cultivated in 1881. The 1896 survey record described the mountainous areas as having a 'dense growth of pinyon and juniper,' and the flatter land between the mountains and the Rio Grande as having been seeded for grazing. The land was used for grazing and agriculture (including bean and alfalfa fields in the northern sections) at this time. A 1982 survey stated that the eastern portion of the FMU ranges from dense growth of pinyon, juniper and ponderosa pine in the mountainous areas to sagebrush in the flatter areas.

Values at Risk/Protection Constraints: Values at greatest risk include recreation facilities, wildlife habitat and cultural sites.

Communities at Risk: The WUI concerns in this FMU include the communities of Cerro and Questa, NM.

2. Management Guidance

Specific Objectives:

1. Convert all fire regimes from FRCC 3 to FRCC 1 or low 2. Natural disturbance and management actions combined would average 200-1,000 acres per year.
2. Mitigate impacts to recreation in the Wild Rivers Recreation Area.
3. Use limited suppression tactics, where possible, to mitigate impacts to cultural resources in the FMU.
4. Place special emphasis on management of winter range for mule deer, pronghorn, and elk in the FMU.

5. Maintain early to mid-seral conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.
6. Reduce the potential for large stand-replacing, high-intensity wildfires.

Desired Conditions:

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 50 acres 90% of the time. All fires at FIL 4-6 will be suppressed at less than 200 acres 75% of the time. The priority is to prevent wildland fire from spreading to private lands and to prevent fire from damaging improvements. Aggressive fire suppression will be conducted on all wildland fires that threaten private property. Options may include the use of aerial initial attack.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - Prescribed fire treatments include both pile burning and broadcast burning and will be conducted at a minimum rate of 200 acres each per year. Cooperate with adjacent landowners, including private and state lands, to complete projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.

Non-fire Fuels Treatments - Mechanical thinning treatment targets will be a minimum of 200 acres per year.

Post-Fire Rehabilitation / Restoration - Rehabilitation efforts include seeding of areas within the FMU to facilitate re-establishment of native plants, preventing erosion and enhancing watershed health. Grazing would be deferred to allow the vegetation to recover after a fire.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions



Figure 3.2.86



Figure 3.2.87

Figure 3.2.86 was taken from La Junta point and shows the confluence of the Red and Rio Grande Rivers with scattered pinyon and juniper on the steeper slopes and denser pockets along the river and in shallow canyons. A grassland area is depicted in **Figure 3.2.87**. It was treated for sagebrush removal more than 20 years ago and still has relatively little sagebrush. Ground cover consisted of mostly grass (40-60%), a few forbs (5-10%) and a little sagebrush cover (5-10%). Bare ground accounted for 40% of cover on average.

Sagebrush flats with scattered juniper are shown in **Figure 3.2.88**. The Guadalupe Mountains are in the background. Ground cover between sagebrush plants was varied with some areas having a good grass component that could carry a fire. Other areas were sparser and would only carry a fire in a strong wind event. Crowded pinyon and juniper mark the slopes of the Guadalupe Mountains, canopy cover in this area ranges from 50-100%. This area has close to 100% continuous ground cover consisting of grass and coniferous litter.



Figure 3.2.88



Figure 3.2.89: Map of the Cebolla /Abiqui FMU

Fire Management Unit Name: **Cebolla/Abiqui**

Category/Number: **C/8**

1. Characteristics.

Total Unit Acreage: BLM= 35,539 acres, State Land= 6,703 acres, Private= 28,297 acres, U.S. Forest Service= 8 acres and total surface area= 70,547 acres.

Location and Access: This FMU is a patchwork of BLM lands and mixed ownership located west of Cebolla, NM. It is bordered by private land to the north and east, tribal lands to the northwest, and U.S. Forest Service lands to the south. **Access** is via SR 112 from the north or SR 221 from the south.

Terrain and Vegetation: Terrain varies widely and includes rolling hills covered by big sagebrush (*Artemisia tridentata*) and grassland in the east. The western sections bordering the Rio Chama include mountains and canyons (200 to 800 feet deep), covered by mixed conifer at upper levels and pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*) on the lower slopes. The understory of these areas includes shrubs, such as mountain mahogany (*Cercocarpus montanus*), serviceberry (*Amelanchier arborea*), gooseberry (*ribes spp.*) and grasses such as Indian ricegrass (*Achnatherum hymenoides*), grama (*Bouteloua gracilis*) and western wheatgrass (*Pascopyrum smithii*).

Wildland Fire History: Between fiscal years 1999 and 2009, there were 6 naturally-caused fires totaling 8.2 acres and 0 human-caused fires.

Fire Regime: There are three vegetation communities that correspond to three fire regimes: a. plain mesa grassland/great basin desert scrub (I), b. upper montane conifer forest (III), and c. closed conifer woodland (II).

Fire Regime Condition Class: The Fire Regime Condition Classes correspond to the different Fire Regimes: a. 3, b. high 2 or low3 and c. high 2. The sagebrush/grassland community has a heavy component of invasive shrubs and extremely low native grass cover. In most cases, fuels would not support the historical fire regime. The mixed conifer area and pinyon-juniper woodland both exhibit an increase in tree density with corresponding declines in groundcover vegetation. The increased density would more commonly support large stand-replacement fires rather than the mixed severity fires found in historic stands.

Wildlife: Riparian areas exist along the Rio Chama, Rio Nutrias and Rio Cebolla providing nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the aquatic ecosystem necessary to sustain fisheries. The Rio Chama is classified as a cold-water fishery and is a large perennial system. Mule deer and Rocky Mountain elk are abundant and utilize the sagebrush-steppe and mixed conifer habitat along the rim, as well as the riparian zones. The FMU represents critical winter range and a migratory corridor for big game species such as elk and mule deer. The pinyon-juniper/ sagebrush draws are important corridors for movement in the landscape. There is potential long-term Southwestern Willow Flycatcher habitat. Special status species, such as Gunnison's prairie dog, a BLM sensitive and federally listed candidate species, as well as western burrowing owl, may be found in this FMU. Migratory birds of management concern similar to those found in the North Unit/Pot Mountain FMU may also be found in this FMU.

Watersheds: This FMU contains the following drainages and natural springs: The Rio Chama, Rio Cebolla, Canada del Humo, Canada de la Lagurita, Arroyo Blanco, and the Rio Nutrias.

Recreation: Recreational uses include boating, swimming, fishing, hunting and hiking.

Special Areas: It is part of the Rio Chama Special Management area and a Wild and Scenic River Corridor. Management Objectives include managing woodland and forest resources to enhance wildlife values. Fires in this SMA will have limited suppression except in the riparian zone and no surface disturbance will be allowed. (Taos RMP, 1988)

Cultural Values: Structural sites from the Gallina culture and historic period have been recorded within the Rio Chama canyon.

History: Survey records show that, by the late 1800's, there were settlers farming and grazing sheep and cattle. Some of the mountainous areas were described as having ponderosa pine, pinyon, juniper, aspen and oak. The earliest reports (1878) mention areas with good grass while later reports (1914) indicate an undergrowth of sagebrush 3-4 feet high. The surveyors also mention trout in the streams and bear, deer and turkey in the mountains.

Values at Risk/Protection Constraints: Values at greatest risk include Rio Chama SMA and Wild and Scenic River Corridor, state in-holdings, wildlife habitat and cultural sites.

Communities at Risk: Communities at risk include Cebolla, Nutrias, Alire, La Mesita and Placitas.

2. Management Guidance

Specific Objectives:

1. Restore the sagebrush/grasslands to a FRCC 1 or 2, mixed conifer to a FRCC 1, and the pinyon-juniper woodland to a FRCC 1. Natural disturbance and management actions combined would average between 500 and 8,000 acres per year.
2. Consider resource concerns in all management activities, with special emphasis on the Rio Chama Special Management Area and Wild and Scenic River Corridor, wildlife values, and limiting surface disturbance as directed by the Taos RMP (1988).
3. Maintain early to mid-serial conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.
4. Reduce the potential for large stand-replacing, high-intensity wildfires.

Desired Conditions:

The Esperanza/Rio Nutrias Allotment Management Plan #NM-020-03-017 outlines strategies for the management of grazing allotments #561 and #579, which cover the majority of the western portion of this FMU.

Wildland Fire Suppression - All fires occurring at FIL 1-3 will be suppressed at less than 300 acres 90% of the time. All fires occurring at FIL 4-6 will be suppressed at 500 acres 75% of the time. Using natural or

man-made barriers is also an option where aggressive suppression tactics would have a greater negative impact on the resource than the fire activity itself.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Cooperate with adjacent landowners in designing hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement projects. Broadcast and pile burns will be considered.

Non-fire Fuels Treatments - Current mechanical and chemical treatment targets are expected to average 500 acres each per year.

Post-Fire Rehabilitation / Restoration - Soils near the Rio Chama may be re-seeded or re-vegetated with native plants to prevent tamarisk invasion. Any other rehabilitation or restoration measures will be planned by an interdisciplinary team.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Mixed conifer woodland, as seen in **3.2.90**, is typical of the canyon and mountain areas on a high region of the Rio Chama Canyon. **Figure 3.2.91** depicts the open sagebrush flats of the eastern sides which includes broom snakeweed, very little grass and considerable bare ground.



Figure 3.2.90



Figure 3.2.91

Figure 3.2.92 shows a transition zone between grassland and sagebrush flats and dense pinyon-juniper and mixed conifer woodland. Canopy cover on this slope ranged from 50-100%.



Figure 3.2.92



Figure 3.2.93 Map of the Black Mesa and Ojo Caliente FMU

Fire Management Unit Name: **Black Mesa/Ojo Caliente**

Category/Number: **B/9**

1. Characteristics.

Total Unit Acreage: BLM= 67,099 acres, State Land= 5,688 acres, Private= 4,422 acres and total surface area= 77,209 acres.

Location and Access: This FMU is located around the town of Ojo Caliente, both east and west of US 285. It is bordered by U.S. Forest Service and private land on all sides. **Access** is via US 285.

Terrain and Vegetation: This FMU can be broken into two parts, Black Mesa (east of US 285) and Ojo Caliente. Black Mesa has steep slopes consisting of basalt boulder embedded in rocky soils below a flat mesa. The mesa consists of sagebrush flats with a small amount of grass including blue grama (*Bouteloua gracilis*), and Indian ricegrass (*Achnatherum hymenoides*). The edges of the mesa, near the cliffs, have pinyon (*Pinus edulis*) and juniper (*Juniperus* spp.) woodland. The lower areas of the mesa consist of pinyon-juniper grassland. Ojo Caliente includes rolling hills and wide drainages with similar vegetation but with substantial beetle-kill and more bare ground. There is riparian vegetation as well along the Ojo Caliente and Rio Grande Rivers.

Wildland Fire History: Between fiscal years 1999 and 2009, there was 1 naturally-caused fire totaling 0.1 acres and 1 human-caused fires totaling 0.5 acres.

Fire Regime: This FMU has two vegetation type communities with two different fire regimes: Plain mesa grassland/great basin desert scrub-I and open conifer woodland-II.

Fire Regime Condition Class: These regimes are in class 3, and high 3, respectively. Each of these vegetation communities has experienced significant departure from its historical fire regime. As seen from the photos above, there has been significant erosion and there is a lack of carrier fuels to support a surface fire.

Wildlife: This area contains riparian zones in the form of the Rio Ojo Caliente which provides nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. Big game, such as mule deer and elk, would be present in this unit and the FMU represents important winter range for these species. There is potential long-term habitat for Southwestern Willow Fly Catcher, a federally listed endangered species, and the yellow-billed cuckoo, a BLM sensitive species and federal candidate species, has been documented in the area. Migratory birds of management concern include all those listed in the Rio Grande Corridor ACEC FMU.

Watersheds: This FMU includes sections that are adjacent to, or drain into the Chama, Ojo Caliente and Rio Grande Rivers. In addition, there are more than ten drainages throughout the FMU.

Recreation: Recreational activities include hiking, horseback riding and archaeological site viewing.

Special Areas: The Black Mesa ACEC and Ojo Caliente ACEC are part of this FMU. The Black Mesa ACEC's management objectives focus on maintaining and improving the stability of vegetative populations. Black Mesa contains the following rare and endemic plant species: *Astragalus canes*, *Astragalus pumices* var. *Gertrud's*, *Alerts spp.* and *Predicates papyracanthus* and was, therefore, nominated for special management by the Nature Conservancy. The Ojo Caliente ACEC's primary management goals are to preserve cultural and interpretive values with limited suppression of wildfires.

Cultural Values: The Ojo Caliente area contains many important archaeological sites and has three sites listed on the NRHP.

History: The historical records for Ojo Caliente indicated that in the southern section in the later 1800's there were no settlers. The only water was from the Ojo Caliente River and there was considerable growth of scrub juniper, pinyon pine and bunch grass that would be desirable for grazing. The 1970's records mention the same conditions using the word "moderate" for pinyon pine and juniper growth and indicated that the land was used primarily for grazing and agriculture. The northern section of Ojo Caliente had an abundance of Ponderosa in the mountains, and dense growth of oak, aspen, juniper and pinyon pine in 1882. The survey records described the Black Mesa as having a heavy covering of pinyon pine, juniper and grass in 1930.

Values at Risk/Protection Constraints: Values at greatest risk include Black Mesa's rare and endemic plants, watershed health and cultural sites. Archaeological sites on the NRHP will be protected.

Communities at Risk: There are four communities located along US 285 in the center of the unit; Ojo Caliente, Gallegos, Duranes, and Gavilan.

2. Management Guidance

Specific Objectives:

1. Restore the pinyon-juniper woodland throughout the FMU to a FRCC 1 and 2. Natural disturbance and management actions combined could total between 100 and 2,000 acres per year.
2. Protect rare plants and cultural resources.
3. Return the area to early to mid-serial conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion.

Desired Conditions:

Wildland Fire Suppression - All fires occurring at FIL 1-3 will be suppressed at less than 75 acres 90% of the time. All fires at FIL 4-6 will be suppressed at less than 200 acres 75% of the time. Whenever fire poses a threat to adjacent private property or improvements, aggressive suppression tactics will be used.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - There are no current targets set for prescribed fire.

Non-fire Fuels Treatments - Need for non-fire treatments will be determined on a case-by-case basis. Hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement projects will be designed as collaborative efforts with adjacent private landowners and the state.

Post-Fire Rehabilitation / Restoration - Post-fire rehabilitation/restoration will be done in Black Mesa to improve or maintain the habitat of rare and endemic plants found there. This could include erosion control structures, re-seeding and protecting the documented rare plants.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions **Figure 3.2.94** gives a view of the slope from the southeastern side of Black Mesa. The rims of the mesa and the slopes leading down have scattered pinyon-juniper trees with sagebrush understory. **Figure 3.2.95** shows typical vegetation layers; the foreground is Indian ricegrass intermixed with juniper and the background is beetle-killed pinyon pine and sagebrush. Aspect plays a strong role in the amount of vegetation on a slope as seen in **Figure 3.2.96**. The north aspect has a denser concentration of pinyon-juniper while the south aspect is barely covered. The lower area of the south aspect also shows bank cutting from the water flowing through this drainage.



Figure 3.2.94



Figure 3.2.95



Figure 3.2.96



Figure 3.2.97: Map of the Rio Grane Corridor Well Developed Riparian Area FMU

Fire Management Unit Name: **Rio Grande Corridor Well Developed Riparian Area**

Category/Number: **A/10**

1. Characteristics.

Total Unit Acreage: BLM= 7,460 acres, State Land= 268 acres, Private= 380 acres and total surface area= 8,108 acres.

Location and Access: This FMU is a long and narrow corridor containing the developed Orillo Verde Recreation area complex between Pilar, NM and the Taos Junction Bridge along SR 570 and the Rio Grande River. **Access** is via SR 64.

Terrain and Vegetation: The FMU is defined by the riparian area along the Rio Grande, the unique natural geography of the gorge and the abundant recreational opportunities. It includes the Taos Valley Overlook and the Petaca trails which are on the southeastern and northwestern sides above the gorge. Vegetation consists of important riparian habitat immediately adjacent to the river such as willow (*Salix scouleriana*), tamarisk (*Tamarix ramosissima*), white-top and various grasses. Near the canyon bottom is big sagebrush (*Artemisia tridentata*), rabbitbrush (*Chrysothamnus nauseosus*), mountain mahogany (*Cercocarpus montanus*), service berry (*Amelanchier arborea*), pinyon (*Pinus edulis*), juniper (*Juniperus spp.*) and many grasses. The areas above the rim include pinyon, juniper and ponderosa pine (*Pinus ponderosa*), sagebrush, gambel oak (*Quercus gambelii*), Indian ricegrass (*Achnatherum hymenoides*), and needleandthread (*Stipa comata*).

Wildland Fire History: Between fiscal years 1999 and 2009, there were 2 naturally-caused fires totaling 0.4 acres and 3 human-caused fires totaling 2.6 acres.

Fire Regime: This area has a mix of three plant communities which make up three different fire regimes: a. plain mesa grassland/great basin desert scrub (I), b. closed conifer woodland (III) and c. open conifer woodland (II).

Fire Regime Condition Class: The Fire Regime Condition Classes are: a. 3, b. high 2 and c. 2. The sagebrush community has a high degree of departure from the historical FRCC's because of lack of fuels to support a surface fire which has increased invasive shrubs. The pinyon-juniper woodlands and savannah have an increased tree density with a matching decrease in herbaceous understory. Traditionally, grasses supported low-intensity surface fires which killed pinyon and juniper seedlings and kept the density lower. The current low herbaceous understory and lack of carrier fuels indicates extensive deviation from historical fire regimes.

Wildlife: Riparian areas include the Rio Grande River, and adjacent streams, seeps and springs which provides nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. Mule deer and elk are frequent in the sagebrush benches and in mixed conifer habitat, as well as the riparian zone. The area is considered important summer range for these big game species. Hondo Canyon, just south of the Taos Valley Overlook, is an important wildlife corridor between the Picuris Mountains and the Rio Grande, providing access to water and important thermal and hiding cover for large animals. Most of this FMU contains occupied and short-term potential habitat for the Southwestern Willow Flycatcher, a federally

listed endangered species. All of the riparian zone is designated as critical habitat for the Southwestern willow flycatcher by the U.S. Fish and Wildlife Service (2005). The unique geology of the gorge contains critical habitat for various species of bats, many of which are BLM sensitive species, and cliff nesting raptors, such as peregrine falcon, red-tailed hawk, great horned owl and golden eagle. Ospreys are observed annually in this FMU. River otters were reintroduced in the area and are often sited along the banks of the Rio Grande. Gunnison's prairie dog, a federal candidate species and BLM sensitive species, are also found in this area, although not in great abundance. Migratory birds of management concern include those that are listed in the Rio Grande ACEC FMU listed above.

Watersheds: This FMU contains the Rio Grande and the Rio Pueblo drainage.

Recreation: Recreation is an important resource concern as there are many developed and undeveloped recreation sites. It is heavily used for fishing and boating, picnicking and camping sites especially because of its access to the Taos and Española communities.

Special Areas: This FMU includes two SMAs: Orilla Verde Recreation Area (OV) and the Lower Gorge ACEC. The RMP addresses fire concerns under the 'Watershed' heading and states that for the OV site, "Fire suppression activities will be conducted in a manner least disturbing to soils and vegetation." For the Lower Gorge ACEC, parts are defined as a "full-suppression zone," and "In the rest of the ACEC, fire prescription and burn plan will be developed to meet vegetation management objectives."

Cultural Values: Prehistoric and historic sites are known to exist throughout the FMU. Cultural sites may include lithic scatters, rock art, quarries, and structural sites. Archeologists must be consulted prior to any surface disturbing fire suppression actions.

History: Survey records indicated that the area had been used to supply water for grazing and agriculture since at least 1877. Areas that were not disturbed by grazing or agriculture were described as having 'good grass.' The records from 1904 say the same thing about the use of the water. The 1927 record described the area as a very rough canyon with a scattering of pinyon pine and juniper and a few springs in the area that supplied water for stock and irrigation.

Values at Risk/Protection Constraints: Values at greatest risk include BLM developed recreation sites along the river from Pilar to Taos Junction Bridge, Southwestern Willow Flycatcher habitat, the Rio Grande Gorge Visitors Center, watershed health and cultural sites.

Communities at Risk: The community of Pilar is a community at risk.

2. Management Guidance

Specific Objectives:

1. Convert areas of FRCC 3 and 2 to 1 and 2. Natural disturbance and management actions combined would not exceed 1,000 acres per year.
2. Improve conditions around developed recreation areas to reduce the risk of wildfire.
3. Mitigate impacts to Southwestern Willow Flycatcher habitat from all fire management projects or suppression activities.
4. Reduce the potential for large stand-replacing, high-intensity wildfires.

Desired Conditions:

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 25 acres 75% of the time and all fires at FIL 4-6 will be suppressed at less than 50 acres 90% of the time. The priority is to prevent wildland fire from spreading to private land and to prevent fire from damaging improvements. The use of aerial fire retardants and foam products will be prohibited on all suppression operations in and around riparian and wetland areas, unless life and property are threatened.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category A.

Prescribed Fire - Prescribed fire will be limited to pile burning of slash from non-fire fuels treatments.

Non-fire Fuels Treatments - Non-fire treatments will include mechanical treatments at an annual target of 10 acres.

Post-Fire Rehabilitation / Restoration - A multi-resource team will decide which rehabilitation and restoration activities will be implemented based on the conditions and severity of the fire and the resources affected by it. Priority areas for restoration activities will be maintaining Southwest Willow Flycatcher habitat and re-seeding or re-vegetating of areas to prevent further Tamarisk invasion.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions**Figure 3.2.98****Figure 3.2.99**

Figure 3.2.98 is the FMU as seen from the rim of the gorge including the Orilla Verde Recreation Area. The vegetation changes in relation to elevation. The flat areas on the rim are sagebrush grasslands with pinyon-juniper (P-J) encroachment. The gorge sides are scattered P-J and sagebrush leading into riparian vegetation along the canyon bottom. This picture was taken from the Petaca Area. **Figure**

3.2.99 shows the riparian area, called the Tamarisk forest, which is potential Southwest Willow Flycatcher habitat.

Arroyo Hondo is shown in **Figure 3.2.100**. This canyon is an important wildlife corridor and is just below the 'horseshoe' area of US 64. It includes tall ponderosa pines as well as younger pinyon pine and juniper. In the canyon, there are many robust and tall gambel oaks. The understory consists of grass and shrubs. Ground cover is not continuous and could not sustain a fire. There are ladder fuels but the canopy is very open (25-40% cover) and would not sustain a crown fire.



Figure 3.2.100



Figure 3.2.101: Map of the Copper Hill Area of Critical Environmental Concern/ Sebastian Land Grant FMU

Fire Management Unit Name: **Copper Hill ACEC/Sebastian Martin Grant**

Category/Number: **C/11**

1. Characteristics.

Total Unit Acreage: BLM= 53,371 acres, State Land= 5,218 acres, Private= 5,512 acres and total surface area= 64,101 acres.

Location and Access: This FMU is found immediately southeast of US 68. The northern boundary is near the village of Pilar and the southern boundary lies at Alcalde, NM and extends east to border Fun Valley FMU. The eastern boundary is formed by U.S. Forest Service land, Picuris Pueblo land and private land. This FMU is bisected into two parts, the northern section being the Copper Hill ACEC and the southern section being the Sebastian Martin Grant. **Access** is via SR 75 or US 68.

Terrain and Vegetation: Terrain includes rolling hills and mountains with flatter prairie land near the Alcalde, NM. In general, vegetation consists of pinyon-juniper grasslands and shrublands. Higher elevation areas within the Copper Hill ACEC are mixed conifer including ponderosa pines (*Pinus ponderosa*), aspen (*Populus tremuloides*), Douglas-fir (*Pseudotsuga menziesii*) and Engelmann spruce (*Picea engelmannii*) with an understory of big sagebrush (*Artemisia tridentata*), mountain mahogany (*Cercocarpus montanus*), gambel oak (*Quercus gambelii*) and various grass species including grama (*Bouteloua spp.*), Indian ricegrass (*Achnatherum hymenoides*), needleandthread (*Stipa comata*) and squirrel tail (*Elymus elymoides*).

Wildland Fire History: Between fiscal years 1999 and 2009, there were 13 naturally-caused fires totaling 11.5 acres and 5 human-caused fires totaling 11 acres.

Fire Regime: There are four vegetation communities with 3 different Fire Regimes; a. upper montane conifer forest (III), b. lower montane conifer forest (I), c. plain mesa grassland/great basin desert scrub (I), d. open conifer woodland (II).

Fire Regime Condition Class: The Fire Regime Condition Classes are: a. 3, b. high 2, c. 2 and d. 2. The mixed conifer and ponderosa-pinyon-juniper woodlands and savannah have both experienced an increase in tree density with a corresponding decrease in understory vegetation. The mixed conifer area has a stand structure that deviates considerably from historic conditions and is likely to experience a stand-replacement burn of high intensity resulting in a less natural mosaic required for mixed severity burns in the future. The P-J woodlands and P-J savannah exhibit an increase in age class variation with a higher abundance of ladder fuels in the woodlands. This causes a high degree of deviation from traditional low-intensity or mixed severity fires at shorter intervals. The sagebrush area has an increased component of invasive shrubs with a decrease in both the diversity and vigor of native bunchgrasses. This alters the high frequency fire intervals of historic conditions.

Wildlife: Riparian areas along the Rio Embudo and other tributaries provide nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the aquatic ecosystem necessary to sustain fisheries. Mule deer and Rocky Mountain elk use the mountainous areas of Copper Hill as well as the riparian zones. Turkey is known to frequent the area as well. Parts of this FMU include potential short-term Southwestern Willow Flycatcher habitat. Various bat species,

many of which are BLM sensitive species, would frequent the woodland and riparian areas in this FMU. Migratory birds of management concern would include those listed in the North Unit/Pot Mountain FMU, as well as the Rio Grande ACEC FMU.

Watersheds: The major drainages include: Agua Caliente, Canada de Piedra Lumbre, Rio Embudo and Canada de las Entranas. The Agua Caliente (AC) drainage is listed in The Rio Grande Corridor Final Plan- January 2000 as the AC Protection Zone because it supplies water to the village of Pilar that is used for irrigation. This watershed contains noteworthy riparian and fish habitat and the BLM works with the NM Department of Game and Fish to reintroduce the Rio Grande Cutthroat trout to the AC Canyon. The Canada de Piedra Lumbre and Rio Embudo drainages run east to west through the FMU. The Embudo Canyon is a deep, box canyon with outstanding scenic, wildlife, and recreation values. The portion known as the Embudo Box is recommended for designation as a wild component of the Wild and Scenic River System. The Canada de las Entranas is located on the Sebastian Martin Grant and runs east to west.

Recreation: Recreation use in this unit includes boating, hiking, wildlife viewing and hunting.

Special Areas: This FMU contains the Copper Hill ACEC which is divided into four zones: Agua Caliente Protection Zone (AC), Rio Embudo Protection Zone (RE), LE and the Central Protection zone (C). These areas' special values include the following: important drainage and watershed (AC zone); Wild and Scenic River Study Area, and Rio Embudo box canyon (RE Zone); important archaeological sites (LE zone); and boundaries of the Wild and Scenic River Study Areas (C zone).

Cultural Values: This unit contains a variety of archaeological resources dating from the Archaic, Pueblo, and Historic periods and also contains historic trails. Mining sites are common on and around Copper Hill and historic Apache sites have been encountered in the area. The LE is in this FMU and contains archaeological sites dating to the Anasazi Coalition Period (A.D. 1200-1325). The Rio Grande Corridor Plan states that in this area, the BLM will "use limited techniques to suppress fires. Suppression techniques causing earth disturbance will not be used in this zone."

History: The FMU was surveyed many different times from the 1870's to the 1950's. In general, there have been no distinct changes in vegetation between surveys. Some areas were reported to have an undergrowth of sagebrush, chamisal and other plants in an early report, but do not have the same information about undergrowth in subsequent surveys. Copper Hill ACEC was described as being very mountainous and with 4th rate soil in many places. The only survey from the 1870's is vague and stated that the area was good for grazing. In 1915, the area was said to have a "scattered covering of pinyon pine, ponderosa pine, fir and juniper timber." In addition aspen, scrub oak and sagebrush were noted. The Rio Picuris, Rio Grande and Rio Embudo Rivers were noted as the only sources of water. The land was characterized as good for grazing in most reports; however, in one report from 1901 the grass was defined as poor. In the 1920's, there were settlers and mines in the area. The Sebastian Martin Grant has fewer surveys, but was described as being hilly with very little timber and grass in 1876. By 1922, the land had scattered scrub cedar (juniper) and pinyon in the east, no surface water was present and the area was said to be good for grazing and firewood.

Values at Risk/Protection Constraints: Values at greatest risk include BLM developed recreation sites along the river from Pilar to Taos Junction Bridge, Southwestern Willow Flycatcher habitat, the Rio Grande Gorge Visitors Center, watershed health and cultural sites.

Communities at Risk: Picuris Pueblo, Penasco and Chamisal are located on the eastern boundary and Dixon is located within the FMU. Alcalde, Velarde, Embudo, Rinconada, and Pilar are on the western boundary. The adjacent FMU (Copperhill WUI) has had thinning, pile burning, and prescribed fire to protect the communities on the eastern boundary.

2. Management Guidance

Specific Objectives:

1. Restore the sagebrush/grasslands to a FRCC 1 or 2, mixed conifer to a FRCC 1, and the pinyon-juniper woodland and savannah to a FRCC 1. Natural disturbance and management actions combined would average between 200 - 8,000 acres per year.
2. Consider resource concerns in all management activities especially within the Copper Hill ACEC and its four Protection Zones. Resource concerns for the four zones are as follows:
 - a. AC: watershed protection;
 - b. RE: preservation of Wild and Scenic River Corridor values;
 - c. LE: Cultural site protection; and
 - d. Central Protection Zone: preservation of Wild and Scenic River Study Area values.
3. Maintain early to mid-seral conditions in forests, woodlands, and rangelands.
4. Reduce overall fire management costs by reducing the potential for stand-replacing, high-intensity wildfires and their associated suppression response.

Desired Conditions:

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 100 acres 75% of the time. All fires at FIL 4-6 will be suppressed at less than 200 acres 90% of the time. Aggressive suppression tactics will be used when private property is threatened or the fire may escape from the FMU boundaries. Within the Lower Embudo SMA, limited techniques will be used to suppress fires and suppression activities causing earth disturbance will not be used. Using natural or man-made barriers is also an option where aggressive suppression tactics would have a greater negative impact on the resource than the fire activity itself.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities

Prescribed Fire - Slash produced from thinning operations will be burned following mechanical treatment at a minimum rate of 100 acres per year. Broadcast burning will be conducted in both treated and untreated areas to maintain low fuel loadings and promote herbaceous groundcover growth, also at a minimum rate of 200 acres per year. Hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement projects will be developed collaboratively with adjacent landowners.

Non-fire Fuels Treatments - Mechanical treatments will be targeted at a rate of 200 acres per year.

Post-Fire Rehabilitation / Restoration - Rehabilitation and restoration activities will be focused in watershed areas and cultural sites. This will include re-seeding the area and temporary rest from grazing.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions



Figure 3.2.102



Figure 3.2.103

Figure 3.2.102 and **Figure 3.2.103** show the highest elevation areas of the Copper Hill ACEC that are mixed conifer woodland with high tree density and canopy cover ranging from 50-100%. This area has experienced extensive beetle kill as seen in **Figure 3.2.102**. The understory is a mix of scrub oak, cacti, forbs and grasses with ground cover ranging from 25-75%. In some areas, coniferous litter contributes to continuous ground cover. **Figure 3.2.103** shows the sagebrush flats that have varying degrees of herbaceous ground cover. The Sebastian Martin Grant is shown in **Figure 3.2.104**. In general, this area is rolling hills with wide drainages in between. The hillsides have scattered pinyon pine and juniper with very little cover. Estimates from ground cover transects indicated an average cover of 5-20% for grass, 0.5-10% for forbs and 50-70% for bare ground.



Figure 3.2.104



Figure 3.2.105: Map of the Copper Hill Wildland Urban Interface FMU

Fire Management Unit Name: **Copper Hill WUI**

Category/Number: **B/12**

1. Characteristics.

Total Unit Acreage: Total surface acreage is 1,314 acres of BLM.

Location and Access: The Copper Hill WUI FMU is located 5 miles west of Penasco, NM. It is bordered on the east by Picuris Pueblo, on the north by U.S. Forest, on the south by private lands, and on the west by private, state, and BLM lands. This FMU serves as a wildland urban interface fuels management area between BLM lands located in the Copper Hill ACEC and adjacent lands, primarily private and Picuris Pueblo. **Access** in much of the unit is limited by steep, densely wooded terrain. SR 75 is the main route through this FMU.

Terrain and Vegetation: The terrain is mountainous and the vegetation consists mainly of dense pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*) woodland with several stands of ponderosa pine (*Pinus ponderosa*). Other vegetation includes gambel oak (*Quercus gambelii*), mountain mahogany (*Cercocarpus montanus*), big sagebrush (*Artemisia tridentata*), willow (*Salix scouleriana*) in the Embudo canyon, cottonwood (*Populus fremontii*), and several grasses such as blue grama (*Bouteloua gracilis*), sideoats grama (*Bouteloua curtipendula*), Indian ricegrass (*Achnatherum hymenoides*), pine dropseed (*Blepharoneuron tricholepis*), and squirreltail (*Elymus elymoides*).

Wildland Fire History: Between fiscal years 1999 and 2009, there were no recorded natural or human caused fires.

Fire Regime: The FMU contains two different vegetation type communities that make up the same fire regime: upper montane conifer forest (III) and closed conifer woodland (III).

Fire Regime Condition Class: The entire FMU is in Fire Regime Condition Class 2. The mixed conifer community has a stand structure which has deviated more than 30% from historic conditions. Mixed severity fires are less common with more fires being high intensity stand replacement burns. The P-J woodland exhibits an increase in age class variation with a higher abundance of ladder fuels. Increase in canopy density has resulted in a corresponding decrease in groundcover. Increased density and ladder fuels would more likely support large stand-replacement fires rather than the mixed severity fires found in historic stands.

Wildlife: Riparian habitat exists along the Rio Embudo. Riparian zones represent the highest value wildlife habitat in TAFO, in the form of nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the aquatic ecosystem necessary to sustain fisheries. Mule deer and Rocky Mountain elk use the mountainous areas of Copper Hill as well as the riparian zones. Turkey is known to frequent the area as well. Various bat species, many of which are BLM sensitive species, would frequent the woodland and riparian areas in this FMU. Some migratory birds of management concern would include: broad-tailed hummingbird, pygmy nuthatch, Grace's warbler, in addition to those listed in the Rio Grande Corridor ACEC FMU.

Watersheds: There are two main drainages, the Canada de Piedra Lumbre and Rio Embudo

drainages which run east to west through the area. The Embudo canyon is a deep box canyon with outstanding scenic, wildlife, and recreation values and is included in the management of the Rio Grande Corridor.

Recreation: Recreation includes river use of the Rio Embudo Wild and Scenic River Study Area, hunting, and primitive camping throughout the FMU.

Special Areas: This FMU lies within the 17,280 acre Copper Hill ACEC and in the RE and the LE Special Management Areas. Special emphasis is placed on the management of scenic, wildlife, recreation, and cultural resources.

Cultural Values: The Lower Embudo SMA has a management prescription that states “fires in the SMA will have limited suppression.” Archaeological inventories will be performed before prescribed fire and non-fire fuels treatment projects. Archaeological sites, including agricultural terraces, should be treated by careful thinning of trees and removal of wood and slash to be piled and burned off-site. TAFO archaeologists will determine which sites may benefit from treatment and what types of treatment should be used.

History: Survey records over the last century document that most of this FMU was timbered with pinyon pine and juniper and mostly rocky or sandy 3rd rate soil. There were no reports of good grass at any time. The Rio Grande and Embudo Rivers supplied some of the area with water. A few settlements were reported along the Rio Grande but most of the land was deemed unsuitable for agriculture because of the lack of water. There were no distinct changes in vegetation and physical attributes between surveys. Some areas were reported to have an undergrowth of sagebrush and other plants in more recent surveys. Most of the land was reported to be suitable for grazing. In 1999, hazardous fuels reduction and forest restoration activities were initiated by the BLM resulting in approximately 1200 acres having been fully converted from FRCC 3 to FRCC 1 and 2 through thinning and prescribed fire.

Values at Risk/Protection Constraints: All management actions will take into consideration the restrictions associated with the proposed Wild and Scenic River status of the Rio Embudo in the FMU. Values at risk also include wildlife habitat, watershed health and cultural sites.

Communities at Risk: These include the communities of Penasco, Chamisal, and Picuris Pueblo located to the east of the FMU.

2. Management Guidance

Specific Objectives:

1. Maintain the mixed conifer and ponderosa-pinyon-juniper woodland at a Condition Class 2, and restore areas to a Condition Class 1 where required by specific resource interests such as wildlife or range. Natural disturbance and management actions combined would average between 40 and 500 acres per year.
2. Continue hazardous fuels reduction activities, including the maintenance of previously treated areas.
3. Maintain early to mid-seral conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.

4. Reduce the potential for stand-replacing, high-intensity wildfires.

Desired Conditions:

The Copper Hill WUI Hazardous Fuels Reduction EA #NM-020-03-022 outlines strategies for managing the majority of this FMU, except the Rio Embudo Wild and Scenic River Corridor.

Wildland Fire Suppression - All Fires at FIL 1-3 will be suppressed at less than 50 acres 90% of the time. All fires at FIL 4-6 will be suppressed at less than 200 acres 80% of the time.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - Slash produced from thinning operations will be burned following mechanical treatment and broadcast burning will be conducted in both treated and untreated areas to maintain low fuel loadings and promote herbaceous groundcover growth at an average rate of 200 acres each per year. TAFO will collaborate as much as possible with adjacent landowners, including private, state, U.S. Forest Service, and the Picuris Pueblo to complete projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.

Non-fire Fuels Treatments - Mechanical thinning is targeted at an average rate of 200 acres per year.

Post-Fire Rehabilitation / Restoration - There is no need for post-fire rehabilitation or restoration projects within this FMU.

3. Safety Considerations

Aviation hazards and powerline hazard will be addressed after an assessment has been conducted referencing the aviation hazards map.

4. Photos and Descriptions



Figure 3.2.106



Figure 3.2.107

Figure 3.2.106 shows the Rio Embudo Canyon on the southern end of the FMU. Mixed conifer forest exists on the north facing slopes of this canyon, with pinyon-juniper woodland dominating the drier, south-facing slopes. **Figure 3.2.107** shows a typical ponderosa pine stand found in the FMU, with heavy

encroachment of the understory by younger age class trees and a continuous layer of duff and litter. Herbaceous ground cover in these stands is relatively low, averaging 5-15%.

Figure 3.2.108 shows a south-facing ridgeline in the central portion of the FMU. These drier site pinyon-juniper woodlands show heavy encroachment by younger age class trees of both species. Herbaceous ground cover is generally sparse being inversely proportional to tree canopy closure.



Figure 3.2.108



Figure 3.2.109: Map of the Thirty-One Mile FMU

Fire Management Unit Name: **Thirty-One Mile**

Category/Number: **B/13**

1. Characteristics.

Total Unit Acreage: BLM=11,712 acres, State Land= 1,030 acres, Private= 199 acres and total surface area= 12,941 acres.

Location and Access: This FMU is located in Rio Arriba County, 8 miles west of the town of Española and just east of the Jemez Mountains. The area is bordered by the Santa Fe National Forest to the north and west, and by the Santa Clara Indian Reservation to the south. **Access** is from the southeastern section on a forest road 144. There are other access points from two tracks on the western side of SR 30.

Terrain and Vegetation: The FMU has elevations ranging from 7,200 feet in the southeast corner of the FMU to 8,200 feet in the northwest. Clara Peak is less than a mile to the north and the deep arroyo, Espiritu-Wauquie, lies on the southern boundary. Vegetation generally consists of juniper savanna while the easternmost sections consist of dense pinyon-juniper woodlands. The arroyos also contain ponderosa pines (*Pinus ponderosa*). In general, the understory is predominantly grama (*Bouteloua* spp.) and bunch grasses, gambel oak (*Quercus gambelii*), mountain mahogany (*Cercocarpus montanus*), prickly pear (*Opuntia* spp.) and cholla (*Cylindropuntia* spp.).

Wildland Fire History: Between fiscal years 1999 and 2009, there was 1 naturally-caused fire totaling 11.5 acres and 0 human-caused fires.

Fire Regime: This area has two vegetation type communities two different fire regimes; open conifer woodland (II) and closed conifer woodland (II).

Fire Regime Condition Class: These two communities are in FRCC 2, and high 2 or low 3, respectively. The pinyon-juniper savannah has a high density of woodland trees and a decrease in herbaceous understory. The understory would have historically supported the high fire return intervals required to maintain savannah. The pinyon-juniper woodland exhibits an increase in age class variation with an abundance of ladder fuels and high canopy density. Increased density and ladder fuels are more typical of large stand-replacement fires rather than the mixed-severity fires found in historic stands.

Wildlife: Mule deer and Rocky Mountain are infrequent but can be found the area and the FMU contains important winter range for these species. Various bat species, including BLM sensitive species, could inhabit the woodland habitat. Migratory bird species of management concern would include those found in the North Unit/Pot Mountain FMU.

Watersheds: One major seasonal water source is the Arroyo de la Plaza Larga which bisects the FMU from west to east. There are five other drainages on the eastern side including Arroyo del Ojitos and the Arroyo de la Presa in the Rio Grande watershed.

Recreation: There are no developed recreation sites at this area, but recreational uses include hiking and off highway vehicle use.

Special Areas: This FMU contains the Ku Pueblo SMA which contains a management prescription that states, “fires in the SMA will have limited suppression.”

Cultural Values: Ku Pueblo was a large, multistoried adobe and cobble pueblo. The management objective for the Ku Pueblo SMA is to protect cultural resource values. The Ku Pueblo is listed on the NRHP.

History: In the 1880’s, the mountains were reported to contain juniper, scrub oak, ponderosa pine, and aspen in different areas and water was reported to be present in various areas. The survey conducted in the 1910’s reports a scarcity of water. The soil was called first rate with a fair growth of grass. None of the surveyors recorded the presence of inhabitants in the area and grazing was not mentioned.

Values at Risk/Protection Constraints: Values at risk include radio towers and cultural and religious sites important to Santa Clara Pueblo and state inholdings. Archaeological sites on the NRHP will be protected.

Communities at Risk: The Sikh educational center is located within the western section and contains several permanent structures and year-round residents, hosting thousands of visitors in the summer months.

2. Management Guidance

Specific Objectives:

1. Restore areas of FRCC 2 and 3 to FRCC 1 and 2, with priority on the wildland urban interface and areas containing other critical resource concerns. Natural disturbance and management actions combined would average between 200 and 3,000 acres per year.
2. Continue hazardous fuels reduction activities, including the maintenance of previously treated areas.
3. Maintain early to mid-seral conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.
4. Reduce the potential for stand-replacing, high-intensity wildfires.

Desired Conditions:

The 31 Mile WUI Thinning Project Categorical Exclusion 1.12 (Hazardous Fuels Reduction Activities) #NM-020-04-014 outlines fuels management strategies for approximately 850 acres of this FMU.

Wildland Fire Suppression - All fires occurring at FIL 1-3 will be suppressed at less than 100 acres 90% of the time. All fires occurring at FIL 4-6 will be suppressed at less than 500 acres 80% of the time. Suppression priority is to prevent wildfires from spreading to private property or damaging cultural sites identified in the FMU.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - Projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement will be planned with input from adjacent landowners, including private, state, U.S. Forest

Service, and the Santa Clara Reservation. Broadcast burning will be conducted in both treated and untreated areas to maintain low fuel loadings and promote herbaceous groundcover growth at a minimum rate of 200 acres per year. An average of 200 acres of pile burns will also be conducted annually after mechanical treatments.

Non-fire Fuels Treatments - An average of 200 acres will be treated annually.

Post-Fire Rehabilitation / Restoration - There is no need for post-fire rehabilitation and restoration.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Figure 3.2.110 is a view of 31 mile from the western boundary showing the dense spacing of pinyon and juniper trees. Canopy closure is 50-100%. The understory consists of grass, coniferous litter, and shrubs and is not continuous. There are many ladder fuels and a surface and crown fire could carry. There is a mosaic of beetle-killed areas within the pinyon-juniper woodlands.



Figure 3.2.110



Figure 3.2.111

Figure 3.2.111 gives a good view of the whole area. The Arroyo de la Plaza Larga can be seen in the top section of the photo. In the top right corner is the Sikh Educational center, as well as some grasslands in the distance. The Sikh center is a WUI concern in the FMU as it is surrounded by dense pinyon and juniper woodland.

Figure 3.2.112 shows the flat areas where ground cover is generally sparse. Bare ground accounts for approximately 50%, grass 12%, and forbs only 1%. A fire could not carry in these sparse grassland areas.



Figure 3.2.112



Figure 3.2.113: Map of the Fun Valley/Chimayo FMU

Fire Management Unit Name: Fun Valley and Chimayo**Category/Number: C/14****1. Characteristics.**

Total Unit Acreage: BLM= 25,621 acres, State Land= 2,570 acres, Private= 707 acres and total surface area= 28,898 acres.

Location and Access: This FMU is located two miles northeast of Española, NM. Boundaries of the FMU include BLM lands to the north, U.S. Forest Service land to the east, tribal lands to the west and private lands to the south. **Access** is from NM 68 or NM 76.

Terrain and Vegetation: Topography is characterized by steep escarpments with high, sharply eroded ridges in the northwest corner of the unit tapering to rolling hills and arid lowlands. Vegetation includes scattered pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*) trees with an understory of big sagebrush (*Artemisia tridentata*), and herbaceous species including needleandthread (*Stipa comata*), Indian ricegrass (*Achnatherum hymenoides*), and grama (*Bouteloua spp.*). A special status species plant, the Santa Fe cholla (*Opuntia viridiflora*), is found in this FMU in one isolated location. It is unknown if other populations exist in the area, however, it is possible there are more plants in areas not yet inventoried where appropriate soils and habitat conditions exist.

Wildland Fire History: Between fiscal years 1999 and 2009, there was 1 naturally-caused fire totaling 0.1 acres and 0 human-caused fires.

Fire Regime: This area is made up of the open conifer woodland vegetation type community which is fire regime I.

Fire Regime Condition Class: The majority of the FMU is a FRCC 2. There is very little ground cover, extensive erosion and many roads and paths. There are almost no fuels that could sustain a surface fire.

Wildlife: There is potential habitat in this FMU for Gunnison's prairie dog, however, currently none or known to exist there. Various bat species, including BLM sensitive species, would be found in this area. Raptor species that would forage in the area include red-tailed hawk, northern harrier, Swainson's hawk, golden eagle, and prairie falcon. Other migratory birds of management concern that might be found in this area include: black-throated sparrow, Brewer's sparrow, broad-tailed hummingbird, loggerhead shrike, mourning dove, pinyon jay, plumbeous vireo, vesper sparrow, white-throated swift.

Watersheds: Drainages include the Canada Ancha, Canada del Apache, Arroyo del Pueblo, Arroyo del Palacio, Canada Parida, Arroyo Chinguague, Arroyo de los Martinez, and Arroyo de los Ajuelos spring. There are no perennial streams in this area.

Recreation: Off Highway Vehicle (OHV) use is heavy and there is an established race track for dirt bikes and ATVs.

Special Areas: This FMU is part of the Fun Valley SMA that is primarily used by OHV riders. Taos RMP directs that any fires in this SMA will be fully suppressed. This FMU also includes the Ojo del Zorro Pueblo SMA and the Pueblo Quemado SMA, both of which are managed for protection of cultural resources and call for limited suppression of wildfires. (Taos RMP, 1988)

Cultural Values: Cultural resources have been identified for protection in the Ojo del Zorro Pueblo SMA and the Pueblo Quemado SMA.

History: 1910 survey records state that the soil was second and third rate and was gravelly in some places and sandy in others. There was scrub cedar (juniper) brush and greasewood ground cover with scattered pinyon pine timber. Along the southern border of the FMU there were a few settlements with springs and the land was generally suitable for grazing.

Values at Risk/Protection Constraints: Values at risk include cultural resources within the Ojo del Zorro Pueblo SMA and Pueblo Quemado SMA.

Communities at Risk: This FMU is adjacent to the communities of Quarteles, La Puebla, Chimayo, Rio Chiquito and Cordova, which due to the current fuel conditions are at minimal risk from wildfire.

2. Management Guidance

Specific Objectives:

1. Restore the pinyon-juniper woodland to a FRCC 1. Natural disturbance and management actions combined would average 200 acres per year.
2. Maintain early to mid-seral conditions in woodlands and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.
3. Consider impacts of all management actions to OHV use throughout the FMU.
4. Protect cultural resources within the Ojo del Zorro Pueblo SMA and the Pueblo Quemado SMA.

Desired Conditions:

Wildland Fire Suppression - Limited suppression strategies are required for the protection of cultural resources within the Ojo del Zorro Pueblo SMA and the Pueblo Quemado SMA. Within the Fun Valley SMA portion of the FMU, all fires at FIL 1-3 will be suppressed at less than 50 acres 90% of the time and all fires at FIL 4-6 will be suppressed at less than 100 acres 100% of the time.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Design hazardous fuels reduction, forest/range restoration and wildlife habitat improvement projects in conjunction with adjacent private landowners. The goal is to treat an average of 100 acres per year as broadcast burns.

Non-fire Fuels Treatments - Mechanical treatments (thinning, diskings, blading, etc.) would be targeted at an average of 100 acres per year.

Post-Fire Rehabilitation / Restoration - Post-fire rehabilitation and restoration projects include public access restrictions and route closure. Grazing may be deferred to allow vegetation to recover.

3. Safety Considerations

Aviation hazards and powerline hazard will be addressed after an assessment has been conducted referencing the aviation hazards map.

4. Photos and Descriptions

Figure 3.2.114 shows the overlay of the land as seen from the south. **Figure 3.2.115** depicts the typical fuel arrangement of scattered juniper trees intermixed with some grass species, shrubs and extensive bare ground. An example of the ubiquitous roads and two-tracks can be seen in **Figure 3.2.116**.



Figure 3.2.114



Figure 3.2.115



Figure 3.2.116



Figure 3.2.117: Map of the Sombrillo Special Management Area/Santa Cruz Lake FMU

Fire Management Unit Name: **Sombrillo SMA/ Santa Cruz Lake**

Category/Number: **B/15**

1. Characteristics.

Total Unit Acreage: BLM= 20,187 acres, Private= 426 acres and total surface area= 20,613 acres.

Location and Access: This FMU is located south of the town of Chimayo and East of Española, NM. It is bordered by private land to the north and west, private and U.S. Forest Service land to the east and Nambe tribal lands to the south. **Access** is via SR 503.

Terrain and Vegetation: The terrain includes rugged, rolling hills with mesas and steep canyons. Santa Cruz Lake is a man-made reservoir. Vegetation is primarily pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*) savannah/ grassland with an understory that includes big sagebrush (*Artemisia tridentata*), snakeweed (*Gutierrezia sarothrae*) and grasses. Cottonwood (*Populus fremontii*) and willow (*Salix scouleriana*) grow along the shoreline of Santa Cruz Lake. A special status species plant, the Santa Fe cholla (*Opuntia viridiflora*), is found in this FMU in one isolated location. It is unknown if other populations exist in the area, however, it is possible there are more plants in areas not yet inventoried where appropriate soils and habitat conditions exist.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 0 naturally-caused fires and 3 human-caused fires totaling 0.6 acres.

Fire Regime: There are two vegetation type communities within this FMU that make up two different fire regimes: open conifer woodland (II) and plain mesa grassland/great basin desert scrub (I).

Fire Regime Condition Class: Both vegetation communities are FRCC 2.

Wildlife: Riparian habitat exists on the Rio Medio, Rio Frijoles, Santa Cruz River and other drainages throughout this FMU. Riparian areas provide nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. Important summer range for mule deer and elk can be found in the extreme northeast portion of this FMU in appropriate habitat types. There is potential habitat in this FMU for Gunnison's prairie dog, however, currently none or known to exist here. Various bat species, including BLM sensitive species, would be found in this area. Raptor species that would forage in the area include red-tailed hawk, Swainson's hawk, northern harrier, golden eagle, and prairie falcon. Other migratory birds of management concern that might be found in this area include: black-throated sparrow, Brewer's sparrow, broad-tailed hummingbird, loggerhead shrike, mourning dove, pinyon jay, plumbeous vireo, vesper sparrow, white-throated swift.

Watersheds: Santa Cruz Lake (reservoir) collects water from the Rio Medio and Rio Frijoles within the Rio Grande watershed.

Recreation: Santa Cruz Lake contains developed and undeveloped recreation sites including numerous shelters and campsites. Recreation at this site includes boating, fishing, hiking and camping, and a high use of OHVs.

Special Areas: This FMU is part of the Sombrillo ACEC and Santa Cruz Lake Recreation SMA which are being managed for paleontological resources, recreation, cultural resources and riparian and aquatic habitat. Both call for full suppression of wildfires and OHV use to be limited to designated trails.

Cultural Values: La Caja Pueblo and Pueblo Sarco are both prehistoric Tewa Pueblos and hundreds of small sites consisting of artifact scatters with small structures have been recorded. These areas call for limited suppression of wildfires.

History: A 1920's survey mentioned that there was a small amount of grazing, but that generally the soils were second rate, sandy and gravelly. There were no permanent springs or streams mentioned in the area, as well as no inhabitants. The 1986 survey mentions scattered pinyon, juniper and sagebrush with lowlands covered in cottonwood. Grasses, cactus and sagebrush were mentioned as understory cover.

Values at Risk/Protection Constraints: Values at risk include paleontological resources, recreation, cultural resources, riparian and aquatic habitat found in the Sombrillo ACEC and Santa Cruz Lake Recreation SMA.

Communities at Risk: WUI concerns include the communities of Chimayo, Rio Chiquito, La Puebla, and Cundiyo, as well as the developed corridor along State Highway 285/84. An additional concern is the Camp Frank Rand Boy Scout camp that is located along the eastern boundary of the FMU and has many structures and seasonal residents.

2. Management Guidance

Specific Objectives:

1. Restore the pinyon-juniper savannah and grassland areas to FRCC 1 through a multi-resource effort. Natural disturbance and management actions combined would average between 100 and 1,000 acres per year.
2. Within the Santa Cruz Lake Recreation SMA, mitigate potential impacts to cultural values and riparian and aquatic habitat. All actions in the Sombrillo SMA will mitigate impacts to paleontological resources.

Desired Conditions:

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 50 acres 90% of the time and all fires at FIL 4-6 will be suppressed at less than 100 acres 90% of the time.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - Cooperate with adjacent landowners in designing hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement projects. Prescribed broadcast and pile burns would be targeted at an average of 100 and 70 acres per year. Broadcast burning will be conducted in both treated and untreated areas to maintain low fuel loadings and promote herbaceous groundcover.

Non-fire Fuels Treatments - This area will need substantial mechanical treatments to return the area to its historic conditions. Other techniques to improve the area would include deferring grazing, road closures and public access restrictions following fuels treatments.

Post-Fire Rehabilitation / Restoration - Post-fire rehabilitation and restoration activities will include deferred grazing, public access restrictions and closures as well as seeding. Other restoration projects would be decided by an interdisciplinary team.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Figure 3.2.118 depicts the typical vegetation spread and cover. **Figure 3.2.119** shows higher amounts of vegetation cover in contrast to **Figure 3.2.120** which shows an area nearby with sparse ground cover. A transect survey was conducted in this area and cover consisted of an average of 70% for bare ground, 5-10% for grass and 12% for shrubs.



Figure 3.2.118



Figure 3.2.119



Figure 3.2.120

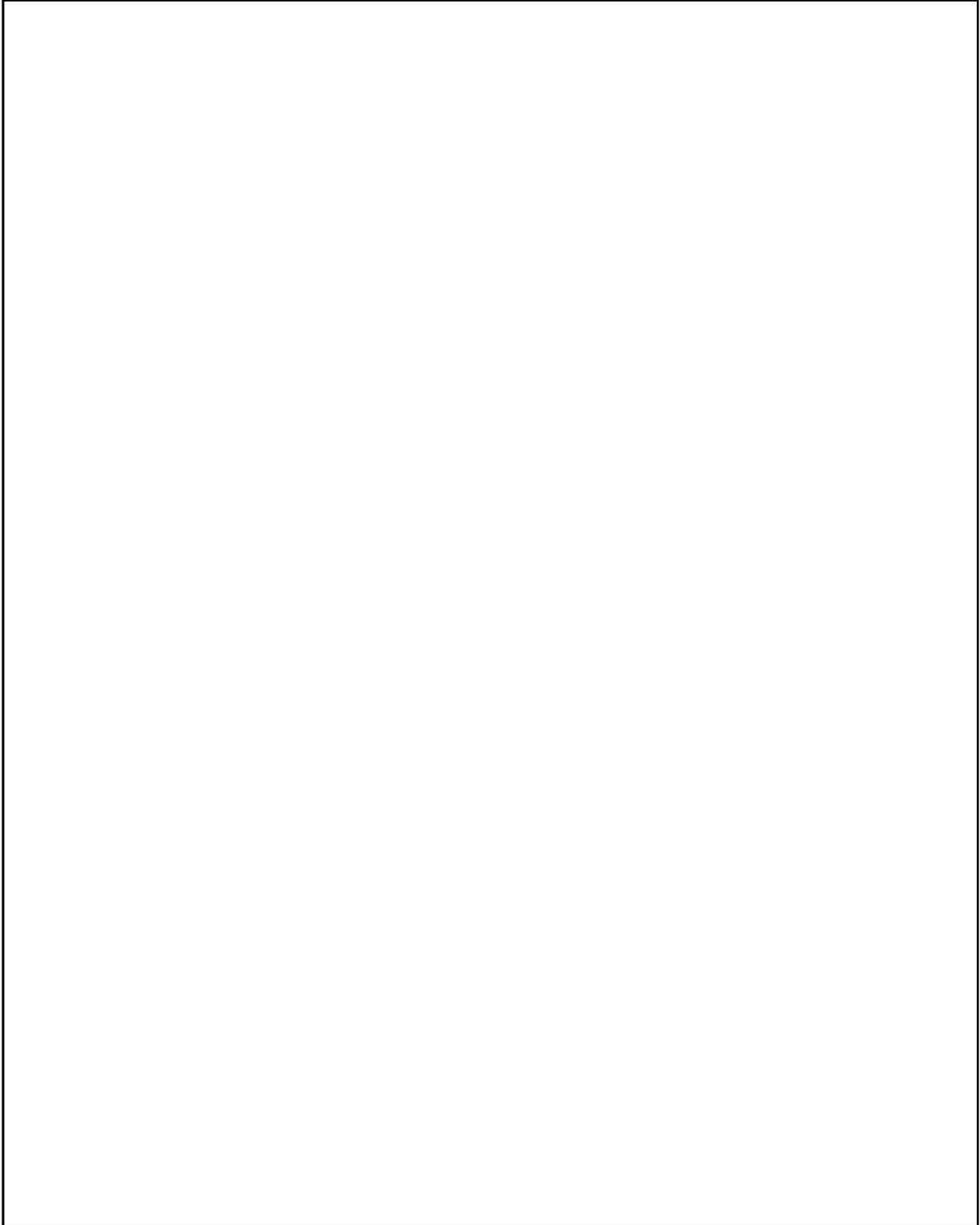


Figure 3.2.121: Map of the Chimayo Scout Camp FMU

Fire Management Unit Name: **Chimayo Scout Camp**

Category/Number: **B/16**

1. Characteristics.

Total Unit Acreage: Total surface area is 2,614 acres of private land. BLM retained mineral rights when the land was sold in the 1960's and 1970's.

Location and Access: This FMU is located approximately 10 miles east of Española and 3 miles southeast of Chimayo, NM. This FMU is Camp Frank Rand, a scout camp managed by the Boy Scouts of America (BSA). BLM retains surface management responsibility of the area under a Recreation and Public Purpose Patent sold to the BSA more than 40 years ago. It is bordered on the east by Santa Fe National Forest and the Pecos Wilderness, on the south by the Nambe Indian Reservation, on the north by private lands in the Santo Domingo de Cundiyo parcel, and on the west by BLM lands. Four hundred acres of private land including residential and business properties lie 1/2 mile from the western boundary. **Access** is via SR 503.

Terrain and Vegetation: Terrain consists of steep slopes and rolling hills with a limited range of vegetation zones and habitat types. The canopy is a mix of ponderosa pine (*Pinus ponderosa*), juniper (*Juniperus spp.*), and pinyon (*Pinus edulis*). The understory is composed of various grasses, forbs, and shrubs, including blue grama (*Bouteloua gracilis*), side-oats grama (*Bouteloua curtipendula*), longleaf squirrel tail (*Elymus elymoides*), lupine (*Lupinus spp.*), broom snakeweed (*Gutierrezia sarothrae*), gamble oak (*Quercus gambelii*), and mountain mahogany (*Cercocarpus montanus*).

Wildland Fire History: Between fiscal years 1999 and 2009, there was 1 naturally-caused fire totaling 0.5 acres and 0 human-caused fires. In 2003, there was a fire in the Pecos Wilderness of the Santa Fe National Forest (Molina Complex) that burned approximately 7000+ acres within a mile of the FMU. Between 1996 and 2002, there were two additional large fires near this unit. Fire history of lands around the scout camp suggests that the primary cause of ignitions is lightning; however, given the high level of human activity in the scout camp it is likely that human-caused ignitions pose a significant threat to the area as well.

Fire Regime: There are two different vegetation type communities within this area that make up two different fire regimes: open conifer woodland-II, and closed conifer woodland-III.

Fire Regime Condition Class: Since 1998, approximately 400 acres have been converted from a FRCC 3 to a FRCC 1 and 2 by thinning and prescribed fire. The remaining 2,093 acres are in FRCC 3, and characterized by increased canopy density with low understory vegetation and a greater potential for stand-replacement fires rather than the mixed severity fires of historical conditions.

Wildlife: Important summer range for mule deer and elk can be found in the southern portion of this FMU. Various bat species, including BLM sensitive species, would be found in this area. Migratory birds of management concern that might be found in this area include: band-tailed pigeon, black-chinned hummingbird, black-throated gray warbler, broad-tailed hummingbird, Bullock's oriole, Cordilleran flycatcher, Grace's warbler, juniper titmouse, mountain bluebird, mourning dove, olive-sided

flycatcher, pinyon jay, pygmy nuthatch, vesper sparrow, warbling vireo, western scrub-jay, white-throated swift, yellow warbler, western bluebird, and Virginia's warbler.

Watersheds: The FMU lies in the Rio Frijoles watershed. Several drainages flow into the Chimayo Scout Camp from the Pecos Wilderness, including the Chimayo Canyon and Rio Frijoles.

Recreation: Recreation in the FMU is limited to activities by the boy scouts which include wildlife viewing, nature/interpretive hikes, outdoor survival activities, shooting sports, and camping. The area is not open to the public for recreational use.

Special Areas: There are no ACECs or SMAs within the FMU.

Cultural Values: The Chimayo Boy Scout Camp has a rich collection of cultural resources. Sites are primarily late pre-history, with several structural sites and many lithic sites. Sixty-five sites dating from the thirteenth and fourteenth centuries were identified in a 1,000 acre inventory. Their field notes stated that "the presence of three major adobe pueblos, a range of small structures, shrines, and gardens and the high level of preservation of all these features present circumstances rarely seen elsewhere in the region."

History: Cadastral surveys were conducted from the 1890's to the 1980's. On all survey records, there was general agreement that the land was very "barren" and "useless," although, good grass and grazing land was reported in limited sections. There was some scattered pinyon pine, ponderosa pine, and juniper but nothing significant for cutting. Water sources were not present in the area. There were no inhabitants of the land. Records begin in the late 1890's and characterize some sections as high-barren and rocky mesas with no timber, and other sections as having poor grass in the mountainous area with a dense undergrowth. The area was reported to have been used for some goat grazing. By 1908, the descriptions mention a covering of scrub pinyon and juniper. The 1920's records stated that there was a dense growth of scrub juniper in the foothills and some ponderosa at higher elevations. In another area of the FMU around the same time, the descriptions stated that there was a dense growth of pinyon and juniper in the mountains with some grass that would be fair grazing. The latest records from 1982 mention scattered pinyon pine, juniper and some ponderosa pine, some willow along the river with mainly sagebrush for ground cover. In 1998, hazardous fuels reduction and forest restoration activities were initiated by the BLM at the camp. Since that time, approximately 400 acres have been fully converted from Condition Class 3 to Condition Class 1 and 2 through thinning and prescribed fire.

Values at Risk/Protection Constraints: Values at risk include scout camp facilities, the "Cerro Pinyon" radio tower repeater and cell tower, wildlife habitat, watershed health and cultural sites.

Communities at Risk: There are several private residences to the west and north and the community of Cundiyo.

2. Management Guidance

Specific Objectives:

1. Convert the remainder of FRCC 3 areas to a FRCC 1 and/or 2. Maintain areas already in FRCC 1 and FRCC 2. Natural disturbance and management actions combined would average between 70 and 600 acres per year.
2. Maintain early to mid-seral conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.
3. Complete projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement with the cooperation of the Boy Scouts of America, adjacent landowners, including private, U.S. Forest Service, and the Nambe Pueblo.
4. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires.

Desired Conditions:

The Chimayo Scout Camp Hazardous Fuels Reduction EA (NM-02003-016) outlines actions for treating the majority of pinyon-juniper woodland and some ponderosa forest within the FMU.

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 25 acres 80% of the time and all fires at FIL 4-6 will be suppressed at less than 100 acres 75% of the time. Since the Chimayo Scout Reserve is a recreation site used by more than 400 young scouts at any one time, the Taos Fire Management Officer will pre-plan suppression strategies with the camp management to insure a quick and aggressive response on all wildfires that may threaten life, property and recreation improvements at the camp and adjacent private lands.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - Slash produced from thinning operations will be burned following mechanical treatment. Broadcast burning will be conducted in both treated and untreated areas to maintain low fuel loadings and promote herbaceous groundcover growth. Two hundred acres of pile burning and 200 acres of broadcast burning on average will be targeted each year.

Non-fire Fuels Treatments - Mechanical thinning will be continued at an average rate of 200 acres per year.

Post-Fire Rehabilitation / Restoration - No post-fire rehabilitation and restoration activities will be necessary.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Figure 3.2.122 shows most of section 4; with some of the scout camp facilities. **Figure 3.2.123** shows a typical ponderosa pine stand found in the FMU, with heavy encroachment of the understory by ponderosa pine, pinyon pine, and juniper. **Figure 3.2.124** shows a typical canopy density of the pinyon-juniper woodland.



Figure 3.2.122



Figure 3.2.123



Figure 3.2.124



Figure 3.2.125: Map of the Buckman FMU

Fire Management Unit Name: **Buckman**

Category/Number: **B/17**

1. Characteristics.

Total Unit Acreage: BLM= 21,330 acres, State Land= 639 acres, Private= 3,168 acres and total surface area= 25,137 acres.

Location and Access: This FMU is located in northwest Santa Fe County and is bordered by the Santa Fe National Forest on the west, San Ildefonso Pueblo on the north, the Jacona Land Grant on the northeast, residential developments on the southeast and the Municipal Recreation Center on the south. **Access** is via NM 599.

Terrain and Vegetation: This Unit consists of low hills, Diablo Canyon and part of the Rio Grande River. Vegetation includes a juniper (*Juniperus spp.*) savannah with an understory of big sagebrush (*Artemisia tridentata*), broom snakeweed (*Gutierrezia sarothrae*) and grasses (Indian ricegrass (*Achnatherum hymenoides*), needleandthread (*Stipa comata*), and blue grama (*Bouteloua gracilis*)). The Rio Grande area includes a riparian habitat and associated vegetation of willow (*Salix scouleriana*), cottonwood (*Populus fremontii*) and tamarisk (*Tamarix ramosissima*).

Wildland Fire History: Between fiscal years 1999 and 2009, there were no recorded natural or human caused fires.

Fire Regime: This FMU consists of two vegetation type communities that make up two different fire regimes; open conifer woodland (II) and Plain mesa grassland/great basin desert scrub(I).

Fire Regime Condition Class: This FMU is in FRCC 2 as both vegetation communities have experienced a significant decrease in both the density and vigor of native grasses and a subsequent increase in invasive shrubs. Without carrier fuels, there are fewer opportunities for surface fires to be supported and as such a severe departure from historic fire conditions.

Wildlife: Riparian habitat exists along the Rio Grande River, providing nesting for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. Important to wildlife are the areas encompassed by Diablo Canyon and the Rio Grande. The Rio Grande contains riparian habitat that provides forage, hiding, and nesting habitat for many species, including access to water. Diablo Canyon contains known habitat for nesting peregrine falcons. Special status species, such as Gunnison's prairie dog, western burrowing owl, various bat species, and raptors would be found in this FMU. Migratory birds of management concern include: band-tailed pigeon, mourning dove, black-chinned hummingbird, broad-tailed hummingbird, belted kingfisher, olive-sided flycatcher, Say's phoebe, Cassin's kingbird, and pinyon jay.

Watersheds: The Rio Grande River runs through this FMU.

Recreation: Hiking, fishing, camping and OHV use are the major recreation activities.

Special Areas: There are no ACEC's or SMA's.

Cultural Values: Due to the documentation of many archaeological sites throughout this FMU, it is recommended that all suppression activities avoid the use of earth disturbing equipment.

History: Survey records from the 1890's and 1920's indicated that the land was densely covered with pinyon pine and juniper. A few settlers were reported in 1923 to have small acreages of crops and the land was said to be suitable for grazing even with the lack of water.

Values at Risk/Protection Constraints: Values at risk include private or state in-holdings, watershed health and cultural sites.

Communities at Risk: There are four privately owned ranches throughout the unit and several subdivisions near the southeast boundary.

2. Management Guidance

Specific Objectives:

1. Restore the pinyon-juniper woodland throughout the FMU to a FRCC 1 where resource management objectives are identified (ex. WUI, range improvement, etc.). Natural disturbance and management actions combined would average between 100 and 500 acres per year.
2. Maintain early to mid-serial conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.
3. Design hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement projects cooperatively with adjacent private landowners and the U.S. Forest Service.

Desired Conditions:

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 300 acres 80% of the time and all fires at FIL 4-6 will be suppressed at 100 acres or less 90% of the time. Aggressive fire suppression will be used on all wildfires that may threaten to escape onto private lands and adjacent residential subdivisions. In areas where there are known cultural sites, dozers will not be allowed. When any dozer lines are constructed, an on-site archaeologist/resource advisor will monitor all work activities. Aerial support will 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 firelines, anchor points, etc.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - Slash produced from thinning operations will be burned following mechanical treatment at an average target rate of 100 acres per year.

Non-fire Fuels Treatments - Mechanical treatments will be targeted at an average rate of 100 acres per year.

Post-Fire Rehabilitation / Restoration - Rehabilitation might include public access restrictions and route closures and seeding and revegetation of native plants within recreation areas.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions



Figure 3.2.126



Figure 3.2.127

Figure 3.2.126 displays the typical vegetation spread and ground cover. There has been extensive beetle kill of pinyon pine with the junipers remaining unaffected. The understory is sparse. Diablo Canyon can be seen in **Figure 3.2.127**. Vegetation in the canyon consists of junipers and a number of shrubs. Water flows ephemerally within the canyon. The Rio Grande River riparian area can be seen in **Figure 3.2.128**; including willow, tamarisk and other shrub species. The other bank has almost no vegetation.



Figure 3.2.128



Figure 3.2.129: Map of the Sabinoso Wilderness and Special Management Area FMU

Fire Management Unit Name: **Sabinoso Wilderness Area and Special Management Area**

Category/Number: **D/18**

1. Characteristics.

Total Unit Acreage: BLM= 21,462 acres, State Land= 6,569 acres, Private= 27,317 acres and total surface area= 55,348 acres.

Location and Access: The Sabinoso Wilderness Area FMU is located in San Miguel County, approximately 8 miles northeast of Trujillo, NM and 1 mile west of Sabinoso, NM. **Access** is via rugged, eroded two-track dirt roads.

Terrain and Vegetation: The terrain is dramatic with deep canyons, benches and mesas. Vegetation is consistent; mostly ponderosa (*Pinus ponderosa*) pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*) woodland and pinyon-juniper savannah. Understory includes gambel oak (*Quercus gambelii*) and grama (*Bouteloua spp.*). There are some meadows and the canyon bottoms are more open with grass and some riparian vegetation.

Wildland Fire History: Between fiscal years 1999 and 2009, there was 1 naturally-caused fire totaling 10 acres and 0 human-caused fires.

Fire Regime: This FMU includes two vegetation communities which make up two different fire regimes: closed conifer woodland (III) and open conifer woodland (II).

Fire Regime Condition Class: These areas fall within FRCC 2 and 1, respectively. The ponderosa/pinyon juniper woodland exhibits an increase in age class variation with a higher abundance of ladder fuels. An increase in canopy density has resulted in a corresponding decrease in groundcover vegetation. Such density and fuels would more commonly support large stand-replacement fires rather than the mixed severity fires found in historic stands. The pinyon-juniper savannah is currently close to historic conditions and could support historic fire return intervals.

Wildlife: Riparian habitat exists along the Canadian River and in the Canyon Largo providing nesting habitat for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. The area is remote and large enough to sustain populations of black bear, mountain lion, mule deer, elk, raptors, bats, and a host of small mammals and rodents, along with various amphibians and reptiles. This region represents excellent biodiversity and habitat qualities. The FMU encompasses a unique topographic anomaly in the area, representing an island of habitat where similar structure does not exist in any direction adjacent to in northeastern New Mexico. Migratory birds of management concern include those listed in the North Unit/Pot Mountain FMU.

Watersheds: There are two main drainages; the Canadian River and the Canyon Largo. Canyon Largo has an ephemeral stream that runs west to east and enters the Canadian River at the town of Sabinoso. The Canadian River winds north to south along the eastern boundary of the FMU.

Recreation: Recreation use is limited by difficult access, but does include hunting, horseback riding and hiking.

Special Areas: This FMU includes the Sabinoso Wilderness Area. Under wilderness designation the primary management goal is to manage and protect in such a manner as to leave wilderness unimpaired for future use and enjoyment as wilderness. Wilderness areas are devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use. Management prescriptions include limited suppression of wildfire. The FMU also includes the Sabinoso SMA.

Cultural Values: There are many archaeological sites, which include homestead sites, lithic and ceramic scatters and mines.

History: Surveyors' records from the 1880's suggest that vegetation characteristics were similar to what exists today. Pinyon pine, juniper, and ponderosa pine timber still cover most of the mountainous regions. A few rivers supplied water to some of the land for livestock. Land near water sources had good grass and primarily sandy soil. One area had man-made reservoirs and windmills.

Values at Risk/Protection Constraints: Values at risk include historical structures, watershed health, wildlife habitat, cultural sites, and wilderness values. The wilderness area makes up 16,030 acres of the FMU.

Communities at Risk: The town of Sabinoso is located on the eastern boundary. Trujillo is on the western boundary, and many homeowners have land either abutting the FMU boundaries or within the FMU boundaries.

2. Management Guidance

Specific Objectives:

1. Restore all areas of FRCC 2 to a FRCC 1. However vegetative manipulation should be limited to those actions that would improve wildlife habitat only in the SMA and other non wilderness areas of the FMU.
2. Cooperate with adjacent landowners, including private and state, when planning projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement in areas outside of the wilderness area.
3. Allow wildfire to serve its natural role in the two vegetation communities.
4. Reduce overall fire management costs by reducing the potential for large stand-replacing, high-intensity wildfires and their associated suppression response.
5. Mitigate impacts to wilderness values within the Sabinoso Wilderness area.

Desired Conditions:

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 500 acres 90% of the time. All fires at FIL 4-6 will be suppressed at less than 2000 acres 80% of the time.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow fire for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Broadcast burning to be conducted only in non wilderness areas of the FMU will maintain low fuel loadings and promote herbaceous groundcover at a targeted average rate of 500 acres per year.

Non-fire Fuels Treatments - No fuels treatments are currently planned in the SMA due to no available legal access to public lands. Non-fire fuels treatments will not be conducted in the wilderness area due to wilderness designation.

Post-Fire Rehabilitation / Restoration - There will be no need for post-fire rehabilitation and restoration within this FMU.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Figure 3.2.130 gives a view of the typical terrain and vegetation. High mesas lead down to steep canyon walls and into flat canyon bottoms. This picture shows the confluence of the Canyons Largo and Olguin. Vegetation is dense pinyon-juniper on the slopes with ponderosa pines on the mesa tops. Surface and stand replacement fires could carry throughout this FMU. However, there are many natural barriers that would help to keep the fire size relatively minimal even under extreme circumstances. **Figure 3.2.131** depicts dense pinyon-juniper woodland located on a bench overlooking Canyon Largo. Oak and mountain mahogany are the major shrub component in this area. Due to the dense canopy cover of 50-100% and heavy ladder fuels, this area could carry a stand replacement fire under the right conditions.



Figure 3.2.130



Figure 3.2.131

Figure 3.2.132 gives a view of the bottom of Canyon Largo. At the time of this picture, there were only a few pools located at the canyon bottom, but no surface flow.



Figure 3.2.132



Figure 3.2.133: Map of La Cienega FMU

Fire Management Unit Name: **La Cienega**

Category/Number: **B/19**

1. Characteristics.

Total Unit Acreage: Total surface area= 13,897 acres of BLM land.

Location and Access: This FMU is located approximately 12 miles southwest of Santa Fe, NM, just west of the Santa Fe Municipal airport and the confluence of the Arroyo Calabasas and the Santa Fe River. It is bordered on the northern side by state land and along the northwestern and western sides by U.S. Forest Service land. Private land forms the border along the eastern and southern sides. **Access** is via NM 599.

Terrain and Vegetation: Elevation ranges from about 6000 feet in the lower drainages and riparian areas to 6800 feet on the low hills with rocky cliffs and flat rangelands in between. Vegetation in the riparian areas includes willow (*Salix scouleriana*), Russian olive (*Elaeagnus angustifolia*) and tamarisk (*Tamarix ramosissima*). About 60% of the unit is sparsely vegetated grasslands with shrubs, tree cholla (*Cylindropuntia imbricata*) and rabbitbrush (*Chrysothamnus nauseosus*). The vegetation changes to juniper savannah, then pinyon-juniper woodland as the elevation increases, which accounts for the rest.

Wildland Fire History: Between fiscal years 1999 and 2009, there were 2 naturally-caused fires totaling 16 acres and 2 human-caused fires totaling 0.2 acres.

Fire Regime: There are two vegetation type communities that make up two different fire regimes in this unit, plain mesa grassland/great basin desert scrub (I) and open conifer woodland (II).

Fire Regime Condition Class: All areas of this FMU are categorized as FRCC 1. Currently, conditions in both vegetation communities are relatively close to historical conditions, though ground cover vegetation is low.

Wildlife: Riparian habitat exists along the Santa Fe River, providing nesting for avian species; cover, forage and opportunities for water to terrestrial species; and the perennial aquatic ecosystem necessary to sustain fisheries. Raptors found in the area include the golden eagle and red-tailed hawk. Various bat species would be found throughout the area, many of which are BLM sensitive species, and Gunnison's prairie dog and western burrowing owl are also located in the region. Gray vireo, a state listed threatened species, is known to occur here in pinyon juniper woodlands, along with many migratory birds of management concern, including the loggerhead shrike, also a BLM sensitive species. Northern leopard frogs are also known to occur along the Santa Fe River, as well as migratory Southwestern willow flycatcher.

Watersheds: This FMU includes the Santa Fe River and some drainages throughout the area.

Recreation: Recreation uses at this site include petroglyph viewing, hiking, fishing and OHV use.

Special Areas: This FMU is primarily composed of the La Cienega Area of Critical Environmental Concern. This ACEC was designated in 1992 as an amendment to the Taos RMP and it outlines the management objectives and prescriptions needed to protect resources on 3,556 acres of public land and 7 miles of the Santa Fe River canyon. The management objectives are to protect cultural and interpretive values. Management prescriptions designated this area as a limited suppression zone.

Cultural Values: This FMU contains nationally significant paleontological and prehistoric and historic cultural resources on the NRHP.

History: Cadastral surveys from the 1870's, 1930's and 1980's mention rolling prairie land with scrub pinyon and juniper. The Santa Fe River was reported to be the only water source and was used by some inhabitants in the 1890's for irrigation of crops. The flat rangeland areas were reported to be good for grazing by all surveyors.

Values at Risk/Protection Constraints: There are many important cultural resources including thousands of petro glyphs which are protection concerns. The NRHP sites will be protected.

Communities at Risk: The communities at risk include La Cienega and Cañon as well as private lands along US 25 on the southern border.

2. Management Guidance

Specific Objectives:

1. Maintain grasslands and pinyon-juniper savannah at a FRCC 1. Natural disturbance and management actions combined could average 400 acres per year.
2. Protect paleontological, cultural and interpretive values within the La Cienega ACEC.

Desired Conditions:

Wildland Fire Suppression - Limited suppression tactics will be used in the La Cienega ACEC. All fires at FIL 1-3 will be suppressed at 30 acres or less 90% of the time and all fires at FIL 4-6 will be suppressed at 100 acres or less 90% of the time. Aggressive fire suppression will be done on all wildfires that may escape from the FMU into private lands. In areas where there are known cultural sites, dozers will not be allowed. When any dozer lines are constructed, an on-site archaeologist/resource advisor will monitor all work activities. Aerial support will follow established national guidelines for restricting aerial fire retardant applications near streams and riparian areas. Existing roads will be used whenever possible for fuel modification zones for firelines and anchor points because of cultural sites.

Wildland Fire for Resource Benefit - This strategy is not an option under FMU category B.

Prescribed Fire - Cooperate with adjacent landowners to plan projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement. Broadcast burning will be conducted in areas to maintain low fuel loadings and promote herbaceous groundcover growth.

Non-fire Fuels Treatments - Currently, no fuels treatments are planned.

Post-Fire Rehabilitation / Restoration - Rehabilitation projects might include public access restrictions around petro glyphs and deferred grazing in rangeland areas.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Figure 3.2.134 shows the rolling hills and juniper savannah with an understory of widely spaced grama. A fire could not carry in this area at this time.

Figure 3.2.135 gives a closer view of the ground cover at La Cienega, both on top of a hillside (left) and on the flatter rangeland (right). Note in the right picture, the presence of tree cholla. Two vegetation transects were done in both of these sites and indicated very little vegetative cover. Both transects indicated cover of grass being between 10-30% and bare ground or rock covering the rest (between 60-70% combined). Random cholla and juniper trees accounted for cover in some of the transect squares.

Figure 3.2.136 shows the riparian area on the banks of the Santa Fe River. The Russian olive, willows and tamarisk are visible in this picture, as well as other deciduous shrubs and some grass. This riparian area is located near the road.



Figure 3.2.134



Figure 3.2.135



Figure 3.2.136



Figure 3.2.137: Map of the Archuleta Mesa FMU

Fire Management Unit Name: **Archuleta Mesa**

Category/Number: **C/20**

1. Characteristics.

Total Unit Acreage: BLM= 3,997 acres, State Land= 582 acres, Private= 584 acres, Tribal= 1 acre and total surface area= 5,164 acres.

Location and Access: This Unit lies in the Northwestern corner of TAFO. It is bordered on the north by the Colorado border, on the south and west by the Jicarilla-Apache nation, and on the east by private land. It is directly north of Dulce, NM. **Access** is from the southeast via a BIA dirt road.

Terrain and Vegetation: Terrain includes the Archuleta Mesa in the northwest corner, leading to the eastern and southern edges which drop abruptly into steep slopes and cliffs. Also included are the Vigil Mesa and Mesa Diamante, which lie 6 miles east of Archuleta Mesa, and have the same terrain. Vegetation is primarily ponderosa pine (*Pinus ponderosa*) woodland and grassland. Some areas have a mixed conifer canopy of Douglas-fir (*Pseudotsuga menziesii*), ponderosa pine and aspen (*Populus tremuloides*). The understory on the mesa consists of gambel oak (*Quercus gambelii*), mountain mahogany (*Cercocarpus montanus*) and grasses (bluegrass (*Poa* spp.), grama (*Bouteloua* spp.), Indian ricegrass (*Achnatherum hymenoides*), western wheatgrass (*Pascopyrum smithii*), oatgrass (*Arrhenatherum* spp.) and yellow sedge (*Carex flava*).

Wildland Fire History: Between fiscal years 1999 and 2009, there were 5 naturally-caused fires totaling 7.9 acres and 0 human-caused fires. In 1998, a wildfire burned more than 4,000 acres of this FMU and an additional 12,000 acres in the areas surrounding it.

Fire Regime: There are two vegetation type communities that make up two different fire regimes; Lower montane conifer forest (I) and upper montane conifer forest (III).

Fire Regime Condition Class: All areas of the FMU are categorized as FRCC 1. Since there was a recent fire event the FMU is currently at early successional stages and the vegetation conditions are comparable to historic conditions.

Wildlife: This FMU contains important summer range for mule deer and elk. Due to its complex habitat structure, including mixed conifer and oak, black bear, mountain lion and many small mammals and bat species are likely to be found here. Due to the protected nature of the area and limited public access, habitat qualities are high and both terrestrial and avian species biodiversity is rich in this zone. Migratory birds of management concern include those listed for the North Unit/Pot Mountain FMU.

Watersheds: The Abeyta Canyon is a drainage in the eastern section of this unit (Mesa Diamante). The Navajo River lies directly southeast of the Archuleta FMU.

Recreation: This area is closed off to motorized vehicles.

Special Areas: There are no SMAs or ACECs within this FMU boundary.

Cultural Values: Prehistoric and historic sites are known to exist throughout the FMU. Cultural sites may include lithic scatters, rock art, quarries, and structural sites. Archeologists must be consulted prior to any surface disturbing fire suppression actions.

History: A cadastral survey from 1881 noted generally rolling prairie with a large amount of good grama and bunch grass. By this time, the area had already been used for stock and sheep grazing for many years. A survey from 1943 mentions low broomweed undergrowth and fair sod grasses and states that the area was badly overgrazed. It was recommended that the area was only good for more grazing.

Values at Risk/Protection Constraints: Tribal, state and private inholdings exist within the FMU boundaries. Watershed health, wildlife habitat, lookout tower and a radio tower repeater will be protected.

Communities at Risk: The community of Dulce, NM is located south of Archuleta Mesa.

2. Management Guidance

Specific Objectives:

1. Maintain forest stand structures throughout the FMU at a FRCC 1 or 2. Natural disturbance and management actions combined would average between 100 and 1000 acres per year.
2. Restore forest conditions and improve wildlife habitat.
3. Reduce the potential for large stand-replacing, high-intensity wildfires.

Desired Conditions:

Wildland Fire Suppression - All fires at FIL 1-3 will be suppressed at less than 50 acres 80% of the time and all fires at FIL 4-6 will be suppressed at less than 100 acres 75% of the time. All wildland fires will be suppressed aggressively where there are known cultural sites and where the fire may escape from the FMU onto private land or adjacent residences. Emphasis will be placed on working with the local tribal forestry and suppression programs.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow fire for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities.

Prescribed Fire - Cooperate with adjacent landowners and the Durango BLM office to complete projects in hazardous fuels reduction, forest restoration, and wildlife habitat improvement. Broadcast burning will be conducted in areas to maintain low fuel loadings and promote herbaceous groundcover growth at an average rate of 200 acres per year.

Non-fire Fuels Treatments - Currently, no fuels treatment projects are planned, but consideration will be given to all non-fire fuels treatments.

Post-Fire Rehabilitation / Restoration - There is no need for post-fire rehabilitation and restoration projects.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Figure 3.2.138 gives a wide view of the Archuleta Mesa. The slopes are dominated by large diameter ponderosa pine and mixed conifer. A severe wildfire burned much of Archuleta Mesa in 1998. **Figure 3.2.139** shows a mosaic of live and dead ponderosa pines along with the accompanying regrowth. The mixed conifer higher slopes on Vigil-Abeyta Mesa (located adjacent to Mesa Diamante) can be seen in **Figure 3.2.140**.



Figure 3.2.138



Figure 3.2.139



Figure 3.2.140



Figure 3.2.141: Map of the Ute Mountain FMU

Fire Management Unit Name: **Ute Mountain**

Category/Number: **D/21**

1. Characteristics.

Total Unit Acreage: Total surface area= 11,487 acres of BLM land.

Location and Access: Ute Mountain is located just west of Costilla, NM and north of Sunshine Valley. Its western boundary is formed by the Rio Grande Gorge. Its other boundaries are private land. **Access** is through either the northern end (locked gate) and through the southern end via Sunshine Valley.

Terrain and Vegetation: This FMU consists of the freestanding Ute Mountain and the land immediately surrounding it. This mountain's main feature characteristics are ridges and drainages which cover all sides. The mountain's primary vegetation is pinyon (*Pinus edulis*) and juniper (*Juniperus spp.*) trees scattered in various densities. Herbaceous ground cover generally consists of blue grama (*Bouteloua gracilis*), needleandthread (*Stipa comata*), big sagebrush (*Artemisia tridentata*), mountain mahogany (*Cercocarpus montanus*), and some forbs. Herbaceous ground cover varies between different locations on the mountain. The slopes contain mostly scattered sagebrush, with some denser pockets in different areas. The drainage areas have higher pinyon-juniper concentrations.

Wildland Fire History: Between fiscal years 1999 and 2009, there were no recorded natural or human caused fires.

Fire Regime: There are four vegetation type communities in this FMU ecosystem that correspond with three fire regime groups. The vegetation type communities include lower montane conifer forests, plain mesa grassland/great basin desert scrub, closed conifer woodland, and open conifer woodland. These ecosystems include fire regime groups I, II, and III.

Fire Regime Condition Class: The Fire Regime Condition Classes correspond to the vegetation types of the FMU. The FRCC for Ponderosa Pinyon-juniper forests is 2. The FRCC for grasslands is 1. The FRCC for shrublands and mixed conifer forests is 2. b. high 1, c. high 1-low 2, and d. low 2. The ponderosa-pinyon-juniper woodland has exhibited an increase in canopy density and a subsequent decrease in groundcover vegetation and a departure from historical Fire Regime conditions. The grassland and sagebrush communities are fairly close to historical conditions. These areas could support surface fires consistent with their FRCC. The mixed conifer area has more ladder fuels with higher canopy density. It is more likely to experience a high intensity stand-replacement burn resulting in less of a mosaic of conditions which would support mixed severity burns in the future.

Wildlife: This Unit is adjacent to the Rio Grande and includes critical foraging habitat for cliff nesting raptors, as well as foraging and cover habitat for significant populations of deer, elk and antelope. Western burrowing owls could be found in active or abandoned prairie dog towns, mountain plovers could be nesting in the winterfat ground cover during the summer, and potential long-term habitat for the Southwestern Willow Flycatcher could be near the confluence of the Rio Grande and Costilla drainage. The area is also a critical habitat for Northern Goshawk. An avian survey was

conducted in 2008 by Hawks Aloft, Inc. Migratory birds of management concern would be similar to those listed for North Unit/Pot Mountain FMU.

Watersheds: In addition to the Rio Grande Gorge and river, which mark the western boundary of the FMU, there are 12 intermittent drainages located in Ute Mountain. These are spread out through all sides of the mountain and one on the northwest side becomes Costilla Creek.

Recreation: Currently, there is no public access to Ute Mountain and subsequently, very few recreational activities.

Special Areas: There are no SMAs or ACECs within this FMU boundary.

Cultural Values: At this time, no archaeological surveys have been done, but it is believed that there are many important sites including petro glyphs.

History: The southern part of Ute Mountain and the land below it was originally part of the Sangre De Cristo Land Grant. The only survey record is from the 1880's. These records stated that ponderosa pine, cedar (*Juniperus spp.*) and pinyon timber were present on Ute Peak and on the slopes. The rolling prairie surrounding the mountain contained good quality bunch grasses and grama. Ute Mountain was acquired by the BLM in two phases in 2005 and 2003.

Values at Risk/Protection Constraints: Ute Mountain is known to contain critical winter range habitat for deer and elk. The area is also known to be habitat for sensitive avian species such as Northern Goshawk, and Mexican Spotted Owl. Peregrine Falcons, which are listed as a state endangered and threatened species, have also been observed in the area

Communities at Risk: There are no WUI concerns or communities at risk within this FMU.

2. Management Guidance

Specific Objectives:

The Ute Mountain Interim Management Plan (2005) gives overall direction for the FMU and provides that treatment objectives will be identified following a resource inventory. The following general objectives can be identified at this time.

1. Restore all areas of FRCC 2 to FRCC 1 through natural disturbance and/or management actions.
2. Reduce hazardous fuels, improve wildlife habitat and restore forest, range and watershed health.
3. Allow wildfire to serve its natural role in the four fire regimes found throughout the FMU.
4. Maintain early to mid-seral conditions in forests, woodlands, and rangelands in order to retain the herbaceous groundcover component necessary to reduce erosion and contribute to overall watershed health.

Desired Conditions:

Wildland Fire Suppression - The fire management/suppression strategy will be to manage the wildfire using Minimum Impact Suppression Tactics (MIST) until an approved Fire Use Plan can be implemented. Dozers will only be used where they are absolutely necessary to accomplish suppression objectives.

Wildland Fire for Resource Benefit - A site specific NEPA analysis is currently being conducted to give clearance that will allow fire for resource benefit to occur within this FMU. The timeline for completion of this analysis will be entirely based on current funding and project priorities

Prescribed Fire - Cooperate with adjacent landowners, including private and state, to complete projects in hazardous fuels reduction, forest/range restoration, and wildlife habitat improvement.

Non-fire Fuels Treatments - Consideration will be given to all non-fire fuels treatments.

Post-Fire Rehabilitation / Restoration - In the event of a high intensity fire, an ID Team will determine the need for and type of post-fire rehab projects.

3. Safety Considerations

This FMU may contain known and unknown power lines. Other safety concerns may include poisonous plants, snakes, and rocky and steep terrain.

4. Photos and Descriptions

Ute Mountain, looking south, is depicted in **Figure 3.2.142**. This is a good representation of the entire mountain. Generally, the lower areas are covered by either sagebrush or some grass component (primarily foxtail barley). There is scattered pinyon-juniper in the lower areas and denser pockets in the drainages. On the higher slopes, the pinyon-juniper is too scattered to carry a crown fire. Canopy cover on the slopes is around 50 % with little herbaceous ground cover. In the drainages, canopy cover is 75-100%. Conditions in the lower drainages could support a crown fire.

Figure 3.2.143 shows a typical drainage on the western side of Ute Mountain. On the left side, there is scattered pinyon-juniper with grass. In the foreground, there is sagebrush and to the right, in the picture, there is denser concentration of pinyon-juniper in the drainage versus the slopes. **Figure 3.2.144** shows some ground cover at the top area. There are thousand hour fuels, some snags and herbaceous ground cover. There was evidence of a fire 10-30 years ago at this area.



Figure 3.2.142



Figure 3.2.143



Figure 3.2.144

Chapter 4 Wildland Fire Operational Guidance

Farmington District Fire Management Plan

Chapter 4. Wildland Fire Operational Guidance

The intent of this chapter is to document the procedures used to implement the Farmington District Fire Management Program and related strategies for fire and fuels management. The Farmington District Fire Management Program conducts activities based on the 2009 Federal Wildland Fire Management Policy guiding principles, policies, and implementation actions. The *Guidance for Implementation of Federal Wildland Fire Management Policy (February 2009)* has been adopted and used to revise, as appropriate, all manuals, handbooks, guidebooks, plans, agreements and other pertinent documents related to the fire organization.

4.1 Management of Unplanned Ignitions

District-wide management of unplanned ignitions considers characteristics common to all FMUs. A full range of fire management suppression tactics will be used to help achieve ecosystem sustainability, including interrelated ecological, economic and social components. The circumstances under which fires occur, and the resulting consequences, will dictate the appropriate response to each fire.

Normally, specific actions or combinations of actions will be determined on site by the Incident Commander or Fire Use Manager. Primary considerations in the determination of response techniques include the following: the risk to firefighters and to public health and safety, land and resource management objectives, prevailing weather conditions, fuel loads and conditions, threats to values to be protected, and the cost of fire management operations.

4.1.1 Preparedness

Preparedness is a continuous process that includes routine evaluation and upgrading to improve overall operations. It is the result of procedures that are planned and implemented prior to wildland fire ignitions and includes long-term strategies to improve management practices and allow the restoration of the natural role of fire in healthy landscapes. This preparedness approach lays the foundation for managers to strategically use prescribed fire and wildland fires that meet prescription criteria (or other fuels management treatments, where needed) to reduce hazardous fuel accumulations and improve resource conditions throughout the Farmington District.

Initial attack strategies range from aggressive suppression to monitoring, depending on the fire's location relative to ACEC's, critical habitats for threatened and endangered species, and soils, and is influenced by resource constraints. Prescribed criteria will be used as guidelines for the decision-making process in determining the appropriate response strategy for any unplanned ignition in the District. The criteria will serve as a checklist to ensure that all relevant factors have been considered in the management of a particular fire.

An appropriate management response will be determined prior to taking action on any wildfire that occurs on BLM-administered lands within the Farmington District. The operational roles of the Farmington District in areas of wildland-urban interface constitute wildland firefighting, hazardous fuels reduction, cooperative 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.

Training and fitness requirements for all personnel involved in Wildland Fire Suppression and support are found in the Interagency Standards for Fire and Fire Aviation Management and NWCG 310-1. Attendance at a yearly eight-hour refresher course and successful completion of the Work Capacity Test at the appropriate level is mandatory for issuance of a Red Card.

Preparedness Levels

Table 4.1 gives general information relating to dispatching roles and responsibilities at each preparedness level for the Farmington District.

Table 4.1. Preparedness Levels for the Farmington District.

PREPAREDNESS LEVEL	INDICES	FIRE DANGER & BEHAVIOR	FIRE ACTIVITY	MANAGEMENT ACTIONS
PL-1	BI 0-14 1000hr 20-15%	LOW Low intensity, low flame lengths, low resistance to control, low spread potential.	Little or no activity occurring.	Normal hours. At least one T-6 Engine will be available for each Field Office.
PL-2	BI 15-19 1000hr 14-12%	MODERATE Low to moderate intensity, low to moderate flame lengths, low to moderate resistance to control, low to moderate spread potential.	A-B size class fires occurring. Potential exist for escape to larger fires.	Same as PL-1 plus Daily staffing report to Taos Dispatch Center. WIMS will be inputted on a daily basis. Evaluate availability of Taos Zone resources for out-of-zone response.
PL-3	BI 20-30 1000hr 11-9%	HIGH Moderate to high intensity, moderate to high flame lengths, moderate to high resistance to control, moderate to high spread potential.	Potential for "C" size class fires or larger fires exist. Lightning activity may produce multiple start fire days. Incidents occurring require a major commitment of area resources.	Same as PL-2 plus Possible extended staffing of initial attack resources, dispatch and additional resources if needed on severity funds.
PL-4	BI 31-39 1000hr 8-5%	VERY HIGH High intensity, long flame lengths, high resistance to control, frequent spotting possible, single or group tree torching, potential for crown runs, high spread potential.	One or more Type I, II, or III incidents occurring within the Taos Dispatch Zone. Lightning activity may produce multiple start fire days.	Same as PL-3 plus Extended staffing for all initial attack resources, severity request for additional Engines, possible staging T-1 or 2 IA Crews, and overhead. Evaluate discontinuing of Taos Zone for out-of-zone response and making the resources available for local response. SEAT stationed at Dulce Airport. Aerial Detection daily during lightning activity.
PL-5	BI 40-96 1000hr 6-0%	EXTREME Extreme intensity, 50' to 100' flame lengths possible, extreme resistance to control, short to long range spotting, group tree torching with crown runs probable.	Multiple Type I, II, or III incidents occurring within the Taos Dispatch Zone. Lightning activity may produce multiple start fire days.	Same as PL-4 plus Possible SEAT stationed at Aztec Airport. Discontinuing of Taos Zone resources for out-of-zone response and making the resources available for only in-zone response.

Fire Weather and Fuel Moisture Sampling

The Farmington District Fire Management organization is responsible for the operation of two fixed remote automated weather stations (RAWS) and three portable remote automated weather stations. The ROMAN ID listed in the table refers to the number used for tracking each weather station on the Southwest Coordination Center website weather page. Table 4.2 provides details on these RAWS.

Table 4.2. Farmington District Remote Automated Weather Stations.

Name	Type	ROMAN ID	Elevation	Latitude	Longitude
Albino Canyon	Fixed	CWRN5	7160	36.9769	107.6283
Ute Mountain RAWS	Fixed	UTMN5	7593	36.9361	105.7286
Taos Portable #1	Portable	TR315	varies	varies	varies
Taos - FTS	Portable	TS447	varies	varies	varies
BLM Farmington QDI	Portable	TS816	varies	varies	varies

Portable weather stations belonging to the Farmington District Fire Management organization are always available to obtain site specific weather data for prescribed burns, forest projects and wildfires. All RAWS stations use National Fire Danger Rating System (NFDRS) fuel models A and C to determine fire danger ratings.

The Taos Dispatch Center is responsible for the daily data collection and associated Weather Information Management System input to determine fire danger ratings and consequent staffing levels. This information and daily fire weather forecasts are posted daily in the dispatch office.

Fuel moisture sampling is used to gauge live and dead fuel moisture contents that effect fire behavior.

The objectives of fuel moisture sampling and reporting are to:

- Assist in fire behavior predictions for wildfires and fire use
- Provide a basis for severity funding
- Determine whether a site meets required criteria for prescribed burns
- Aid in determining post-fire resource effects
- Determine drought or drying trends
- Validate NFDRS calculated outputs

Aviation

Local vendors as well as zone aviation resources are available for reconnaissance, point to point transportation, and aerial retardant missions. All aviation resource orders will be placed through the Taos Dispatch Center. Any aircraft sharing with Durango Interagency Dispatch Center likewise will be coordinated with Taos Dispatch Center. The aviation plan is on file at Taos Dispatch Center. The District Fire Management Officer is designated as the unit Aviation Manager.

4.1.2 Incident Management

Initial Attack

All fires within the Farmington District will be managed according to pre-established dispatch protocols that are in conformance with the resource management objectives laid out in this FMP. Suppression tactics and strategies will be based on current and predicted weather and fire behavior. Firefighter and public safety is always the first priority. The highest initial attack priorities for the field office are the FMUs with wildland-urban interface concerns. All initial attack is conducted under the Taos Zone Mobilization Plan.

Wildland Fire for Resource Benefit (WFRB)

On occasion, an unplanned ignition will meet the criteria for Wildland Fire for Resource Benefit. In these cases, the fire will be used to accomplish resource management objectives.

These criteria include:

- The cause of the ignition must be natural, not the result of human activity.
- The ignition must occur in an area that has been previously approved for WFU
- An approved burn plan must have been developed for the area in question
- Full NEPA documentation must have been completed

At this time, only the Sabinoso Wilderness Area FMU (D-18) and Ute Mountain FMU (D-21), both in the Taos Field Office, have been approved for WFRB as part of the Fire and Fuels Management Plan Amendment and Environmental Assessment for Public Land in New Mexico and Texas (2004).

If a wildland fire is determined to be eligible as a WFRB, the Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy (June 2003) requires “the application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in predefined designated areas (i.e. Fire Management Unit or FMU). Operational management is described in the Wildland Fire Implementation Plan.”

Wildland Fire Implementation Plan

A Wildland Fire Implementation Plan (WFIP) will be utilized to determine cases when a naturally-occurring ignition meets management objectives for a wildland fire use event. A WFIP is a progressively developed assessment and operational management plan that documents the analysis and describes the Appropriate Management Response (AMR) for wildland fire use. The WFIP is a plan that guides the management of a WFRB fire. An approved FMP is required for the management of WFRB. The FMP identifies the specific resource and fire management objectives, a predefined geographic area, and specific criteria that must be met prior to designating a wildland fire for fire use.

4.1.3 Emergency Stabilization

After any substantial wildfire, rehabilitation of the affected area must take place. These rehabilitation efforts fall into three categories: emergency stabilization, burned area emergency response, and longer-term rehabilitation.

Short-term Emergency Stabilization Rehabilitation (ESR) is aimed primarily at repairing damage to roads, fences and other man-made improvements resulting from suppression activities. Requirements for ESR and its tactics will be determined by a multi-disciplinary resource team and a line manager.

The Burned Area Emergency Response (BAER) program addresses restoration with the goal of protecting life, property, water quality, and deteriorated ecosystems from further damage after the fire is extinguished. Concern for possible post-fire effects on fish, wildlife, archeological sites and endangered species is often a primary consideration in the development of a BAER plan.

BAER objectives include:

- Determine if an emergency condition exists after the fire.
- Alleviate emergency conditions to help stabilize soil; control water, sediment and debris movement; prevent impairment of ecosystems; mitigate significant threats to health, safety, life, property and downstream values at risk.
- Monitor the implementation and effectiveness of emergency treatments.

BAER is essentially 'first aid' for lands- immediate stabilization that often begins even before a fire is fully contained. BAER does not seek to replace what has been damaged by a fire, but to reduce further damage due to the land being temporarily exposed in a fragile condition. In most cases, only a portion of the burned area is actually treated, with priority given to severely burned areas, very steep slopes, places where water runoff will be excessive, and fragile slopes above homes, businesses, municipal water supplies, and other valuable facilities. Treatments are installed as soon as possible, generally before the next damaging storm. Initial BAER plans must be submitted within seven calendar days after total containment of the wildfire.

4.2 Burned Area Rehabilitation

A Burned Area Rehabilitation (BAR) Plan provides rehabilitation recommendations for all lands burned within the fire perimeter and downstream impact areas, including public lands administered by the BLM Farmington District and by other jurisdictions if necessary. The primary objectives of BAR include:

- To repair or improve lands unlikely to recover naturally from severe wildland fire damage by emulating historic or pre-fire ecosystem structure, function, diversity, and dynamics according to approved land management plans.
- Restore or establish healthy, stable ecosystems, even if these ecosystems cannot fully emulate historic or pre-fire conditions as specified in approved land management plans.

- Repair or replace fire-damaged minor operating facilities (e.g., campgrounds, interpretive signs and exhibits, shade shelters, fences, wildlife guzzlers, etc.)

Separate plans are required for all burned areas needing BAER and/or BAR treatment and must be consistent with approved land management plans. Considerations involved in the development of a BAR plan include the following:

- Data requirements
- Resource specialists needed
- Anticipated rehabilitation issues
- Monitoring protocols and reporting requirements
- Native American consultation
- Endangered and special status species
- NEPA compliance
- Public information and public concerns

Each BAR plan must contain:

- A description of each proposed treatment or activity
- A discussion demonstrating how the specifications are consistent and compatible with approved land use plans, and how the proposed treatments and activities are related to damage or changes caused by the wildfire
- An explanation of how a treatment or activity is reasonable and cost-effective relative to the severity of the burn and submit a cost-risk analysis
- Provisions for monitoring and evaluation of treatments and techniques (including criteria for measuring a successful treatment or activity) and a procedure for collecting, archiving, and disseminating results
- Clear delineation of funding and responsibilities for implementation, operation, maintenance, monitoring, and evaluation throughout the entire life of the project, and criteria for determining failure of a treatment or activity

Funding for these types of activities is competitive and is based on proposed projects submitted through the National Fire Plan Operations and Reporting System (NFPORS). Treatments and activities are funded in one-year increments and are reviewed at the end of each fiscal year and funded with the next fiscal year's funds.

4.3 Management of Planned Fuels Treatments

Types of Treatments

Various fuels treatments are planned to greater or lesser extent for each FMU and include the use of prescribed fire, wildland fire use, herbicide weed treatments, thinning, and mechanical vegetation treatments to accomplish resource objectives.

Prescribed fire includes broadcast burns and pile burns, and generally occurs in the early spring, though it may be done at any time of the year as conditions allow and when fuels are dry and able to carry a fire. Broadcast burns are primarily implemented in areas encroached on by sagebrush and/or pinyon-juniper, encouraging grass recolonization of the site and maintenance of existing grasslands.

Following thinning activities, pile burning is used to eliminate high concentrations of surface fuels, followed by broadcast burning of the understory to reduce duff and litter accumulations. Pile burning generally occurs in the late fall and winter. All burn operations are conducted under the supervision of a certified fuels foreman and implemented by the Farmington District fire and fuels crew.

Wildland Fire for Resource Benefit allows a natural ignition (lightning) to burn under a pre-determined set of environmental conditions and serve as an effective natural fuel-break for containing later wildfire starts. Areas where WFU has occurred can also be used as a fuel-break for future prescribed burns.

Herbicide treatments are used to treat invasive non-native species within the Farmington District area. Following herbicide weed treatment, the use of prescribed fire, drill seeding, shaving, seeding, or rangeland disking would be implemented to eliminate unwanted species while stimulating herbaceous recovery by native grasses.

Thinning is done by chainsaw. Thinning is conducted in areas with high concentrations of pinyon and juniper. All thinning prescriptions would be developed by the Farmington District Fire management staff in collaboration with a wildlife resource specialist for and would include mitigation measures outlined in the Taos and Farmington Resource Management Plans. Thinning projects have a social benefit in addition to resource benefits. Many families within the Farmington District are dependent upon fuelwood as their sole source of household heat. Thinning projects provide a ready source of dead-and-down wood for collection by members of the public.

Mechanical vegetation treatments provide the opportunity to increase vegetative competition against non-native invasive species and encroachment of native species such as big sagebrush (*Artemisia tridentata*). They serve to provide conditions where native grasses can proliferate, and be used as a carrier fuel for future prescribed fires used to maintain the grassland.

Mechanical vegetation treatments include one or more of the following techniques in any sequence and during any time of the year: shaving, mowing, rangeland disking, drill seeding, Dixie Harrow/seeding, chipping, mulching, pruning, or plowing. If seeding is required following treatment, only a certified weed-free mix of native grasses, shrubs and forbs would be used.

Determination of the type(s) of fuels treatment(s) to be employed is based on the following criteria:

- **Human Life and Safety:** Protection of human life and safety, both of the public and of firefighters, is the highest priority in fire management.
- **Property and Resources:** Protection of human communities, their infrastructure, and the natural resources on which they depend. The risk of wildfire to communities and property will be reduced using the full range of options available to fire managers.

- **Ecosystem Sustainability:** Allow wildland fire to function as an essential ecological process and natural change agent in fire-dependent ecosystems where possible.
- **Wildlife:** Protection, maintenance, preservation, and/or restoration of habitats necessary for the conservation of special status species and the ecosystems upon which they depend. Maintenance of viable and diverse populations of special status native terrestrial and aquatic species. Special status species include federally Threatened and Endangered Species, proposed or candidate species for such listing, BLM Sensitive Species and state Species of Concern.
- **Vegetation:** Improvement of ecosystem health by maintaining or restoring the range of ecological conditions on which native floral components depend. Maintain or improve the habitats of special status plant species. Decrease noxious weed presence and proliferation on lands within the Farmington District
- **Cultural, Historical and Paleontological Resources:** Protection of high value cultural, historical and paleontological resources from damage by unplanned ignitions.
- **Designated Special Areas:** Protection of the characteristics that warranted designation of Areas of Critical Environmental Concern (ACECs), Special Recreation Management Areas (SRMAs), Wilderness Study Areas (WSAs), and Special Management Areas (SMAs). Enhance or maintain the wilderness values of wildernesses and WSAs.
- **Air:** Meet federal and state air quality standards through proper management of emissions. There are currently no non-attainment areas for air quality within the Farmington District Office.
- **Visual:** Meet established Visual Resource Management (VRM) objectives through appropriately planning fuel reduction treatments. VRM will be a consideration in any post-fire erosion control and other burned area rehabilitation and restoration activities.
- **Water/Watersheds:** Meet Federal and State water quality standards and prevent degradation through Best Management Practices during and after fires and vegetative treatments. Enhancement and protection of watersheds.

Project-level analysis, through the NEPA process and other state and federal regulatory compliance processes, document the purpose and need for a given treatment. This analysis also identifies the goals and objectives that the treatment is intended to achieve.

All project workloads are maintained in the National Fire Plan Operating and Reporting System (NFPORS) system.

Prescribed Fire Program

Fire is recognized as a natural and indispensable process in fire-adapted ecosystems and can also be used to achieve objectives for other resources. Prescribed fire projects are initiated by the fire program and by BLM personnel in other resource areas, such as wildlife and range. Such projects require a multi-resource review, NEPA analysis and a burn plan.

Each burn plan must include a list of required personnel, prescription requirements, a fire plan, provisions for air quality and smoke management, documentation requirements and a monitoring protocol.

All prescribed fire plans follow the guidelines and policies laid out in the 9214-1 BLM Prescribed Fire Management Handbook. NEPA analysis is conducted on a project-by-project basis and can include a variety of treatments in addition to fire.

Tables 4.3 and 4.4 list the proposed fuels treatments for the Farmington District for fiscal year 2010.

Table 4.3. Farmington Field Office Proposed Fuels Treatments List.

Project	Treatment	Type	Planned Direct Cost
LB93 Glade	Biomass Harvest	Biomass Removal (WUI)	\$2,000
LB51 Largo Canyon	Broadcast Burn	Broadcast Burn (WUI)	\$12,000
LB92 Lone Tree 2	Broadcast Burn	Broadcast Burn (WUI)	\$10,000
LB96 East 550	Broadcast Burn	Broadcast Burn (Non-WUI)	\$200,000
LB97 South 550	Broadcast Burn	Broadcast Burn (Non-WUI)	\$200,000
LB66 Vereda	Broadcast Burn	Broadcast Burn (WUI)	\$50,000
LB71 Mud Canyon	Broadcast Burn	Broadcast Burn (WUI)	\$70,000
LB77 Farmington Teb	Broadcast Burn	Broadcast Burn (WUI)	\$100,000
LB55 Point Pasture	Broadcast Burn	Broadcast Burn (Non-WUI)	\$50,000
LB77 Farmington Teb	Chemical Spike	Chemical (WUI)	\$100,000
LB97 South 550	Chemical Spike	Chemical (Non-WUI)	\$200,000
LB96 East 550	Chemical Spike	Chemical (Non-WUI)	\$200,000
LB51 Largo Canyon	Chemical	Chemical (WUI)	\$50,000
LB94 Cerreza Canyon	Chemical	Chemical (WUI)	\$10,000
LB75 Bloomfield Community Assistance	Chip & Remove	Chipping (WUI)	\$5,000
LB76 Farmington Community Assistance	Chip & Remove	Chipping (WUI)	\$5,000
LB85 San Juan County Fuels Reduction	Chip & Remove	Chipping (WUI)	\$15,000
LB87 Escrito	Jackpot Burn	Jackpot Burn (WUI)	\$30,000
LB94 Cerreza Canyon	Mastication	Mastication/Mowing (WUI)	\$55,000
LB51 Largo Canyon	Mastication	Mastication/Mowing (WUI)	\$240,000
LB51 Largo Canyon	Pile Burn	Hand Pile Burn (WUI)	\$150,000
LB91 Lindrith	Pile Burning	Hand Pile Burn (WUI)	\$120,000
LB71 Mud Canyon	Seeding	Seeding (WUI)	\$10,000
LB51 Largo Canyon	Thinning	Thinning (WUI)	\$750,000
LB78 Jog Canyon	Thinning	Thinning (WUI)	\$45,000
LB29 Knickerbocker	Thinning	Thinning (Non-WUI)	\$60,000
LB93 Glade	Thinning	Thinning (WUI)	\$10,000
LB91 Lindrith	Thinning	Thinning (WUI)	\$120,000

NOTE: All proposed treatment information was taken from the National Fire Plan Operating and Reporting System (NFPORS) website (<https://www.nfpors.gov/>).

Table 4.4. Taos Field Office proposed fuels treatments list.

Project	Treatment	Type	Planned Direct Cost
LG27 Guadalupe Mtn. (Cerro)	Biomass harvest	Biomass Removal (WUI)	\$10,000
LG06 Chimayo WUI	Biomass harvest	Biomass Removal (WUI)	\$10,000
LG01 Wind Mtn WUI	Broadcast Burn	Broadcast Burn (WUI)	\$90,000
LG11 San Antonio	Broadcast Burn	Broadcast Burn (WUI)	\$30,000
LG03 Pot Mountain	Broadcast Burn	Broadcast Burn (Non-WUI)	\$110,000
LG22 North Chiflo	Broadcast Burn	Broadcast Burn (Non-WUI)	\$80,000
LG04 Cebolla Allotment	Broadcast Burn	Broadcast Burn (Non-WUI)	\$90,000
LG23 South Chiflo	Broadcast Burn	Broadcast Burn (Non-WUI)	\$85,000
LG02 Torres Ranch	Broadcast Burn	Broadcast Burn (Non-WUI)	\$180,000
LG06 Chimayo WUI	Broadcast Burn	Broadcast Burn (WUI)	\$40,000
LG05 Copper Hill WUI	Broadcast Burn	Broadcast Burn (WUI)	\$40,000
LG04 Cebolla Allotment	Chemical Spike	Chemical (Non-WUI)	\$100,000
LG22 North Chiflo	Discing	Mastication/Mowing (Non-WUI)	\$160,000
LG23 South Chiflo	Discing	Mastication/Mowing (Non-WUI)	\$200,000
LG07 Wild Rivers WUI	Discing	Mastication/Mowing (WUI)	\$40,000
LG27 Guadalupe Mtn. (Cerro)	Pile Burn	Hand Pile Burn (WUI)	\$120,000
LG10 Edgewood WUI	Pile Burn	Hand Pile Burn (WUI)	\$130,000
LG05 Copper Hill WUI	Pile Burn	Hand Pile Burn (WUI)	\$75,000
LG07 Wild Rivers WUI	Pile Burn	Hand Pile Burn (WUI)	\$50,000
LG16 31 Mile Road Espanola WUI	Pile Burn	Hand Pile Burn (WUI)	\$120,000
LG06 Chimayo WUI,H,	Pile Burn	Hand Pile Burn (WUI)	\$100,000
LG01 Wind Mtn WUI	Sagebrush Burn	Broadcast Burn (WUI)	\$90,000
LG27 Guadalupe Mtn. (Cerro)	Thinning	Thinning (WUI)	\$120,000
LG06 Chimayo WUI	Thinning	Thinning (WUI)	\$120,000
LG01 Wind Mtn WUI	Thinning	Thinning (WUI)	\$120,000
LG16 31 Mile Road Espanola WUI	Thinning	Thinning (WUI)	\$120,000

NOTE: All proposed treatment information was taken from the National Fire Plan Operating and Reporting System (NFPORS) website (<https://www.nfpors.gov/>).

Smoke Management and Air Quality

Air Quality within the Farmington Field Office is good. There are two Class I airsheds in proximity to the Farmington Field Office: San Pedro Parks near Cuba, and Bandelier National Monument near Los Alamos. Limited data is available on the air quality for the Taos Field Office area due to the fact that no air quality stations are operating in this portion of Taos County.

Impact to air quality would be caused typically by the production of smoke from prescribed burns. During the burning operation, smoke would be released into the atmosphere.

Smoke permits must be obtained from the New Mexico State Environment Department (NMED) prior to burning. Smoke permits for all anticipated prescribed fire projects should be completed at the beginning of each calendar year. Waivers for night-time burning and poor ventilation can be obtained from NMED. Prescribed fire managers would also utilize local techniques for limiting the amount of smoke produced, including scheduling burning when weather conditions are favorable, limiting the amount of burning in adjacent areas and scheduling burns during periods of higher fuel moisture and/or relative humidity levels to limit fine fuel consumption.

Community Protection and Assistance

The Farmington District currently assists local government agencies and fire departments through the Rural Fire Assistance program. This program is designed to support volunteer and rural fire departments in suppressing wildfires on public lands, especially in the wildland-urban interface. The Rural Fire Assistance program provides funding for training for rural firefighting personnel and by providing firefighting equipment. Grants for fiscal year 2010 are presented in Table 4.5.

Table 4.5. Rural Fire Assistance Grants Submitted to the National Interagency Fire Center for Funding.

Department	Amount Obligated
Rio Arriba County/Dixon Fire Department	\$4,800
Rio Arriba County/Lindrith/Liaves Volunteer Fire Department	\$13,800
San Juan County Fire Department	\$18,000
Village of Questa/Questa Fire Department	\$6,500
City of Bloomfield/Bloomfield Fire Department	\$10,000
Mora County/Buena Vista Volunteer Fire Department	\$14,700
San Miguel County/Tecolote Fire Department	\$15,000
Rio Arriba County/Brazos Canyon Volunteer Fire Department	\$16,100
Taos County/Wheeler Peak Fire District	\$7,200
TOTAL	\$106,100

4.4 Prevention, Mitigation and Education

There are several communities that are considered to be at risk from wildland fire immediately adjacent to BLM boundaries, which include Farmington, Taos, Questa, Aztec, and Bloomfield. In Farmington, the primary users of all lands in the Interagency District are employees of the oil and gas industry. The primary recreational users are hunters. Very few fires that are ignited through human activity occur on federal lands. Lightning accounts for approximately 90% of all ignitions in the District's area of response, with various human causes accounting for the remaining 10%.

4.4.1 Prevention Program

The New Mexico BLM has a very aggressive prevention program that includes public education, extensive field patrols, and on-site inspections. The overall goal is to minimize all human caused fires within the Farmington District. The above objective is to be met through strict enforcement of all fire prevention provisions in all contracts and permits, through an extensive public education programs, and by an aggressive law enforcement program.

4.4.2 Special Orders and Closures

The BLM New Mexico State Office Fire Education and Mitigation Specialist works in close coordination with the Carson National Forest, New Mexico State Forestry, San Juan County, Navajo Lake State Park, and the Jicarilla Apache Tribe, and other land management agencies prior to special orders being initiated for the Farmington District. Special Orders and closures are covered in the BLM New Mexico Fire Prevention Plan. Total closure of Federal Lands within the Farmington Field Office management area is not an option due to the extensive oil and gas operations and grazing leases within the field office. All Special Orders must be approved by the appropriate line officer.

Chapter 5 Monitoring and Evaluation

Farmington District Fire Management Plan

Monitoring and Evaluation Protocol

Monitoring and evaluation of the fire program will determine whether projects are meeting objectives defined in the office-specific resource management plans, and if the costs of implementation are as predicted.

The Farmington District Fire and Fuels Program has taken a systematic approach to monitoring prescribed fire and non-fire treatments. Information obtained from monitoring and evaluations will be used to update the District Fire Management Plan and facilitate pertinent input toward land management plan revisions.

Projects are subject to pre- and post-treatment monitoring which will be conducted according to the Monitoring Protocol established by the Taos Field Office for the Farmington District Fire and Fuels Program. The Fire and Surface Monitoring Protocol was developed in 2002 and 2003 to mandate a minimum level of monitoring and documentation of management effects, to ensure that monitoring methods will be replicable and consistent over time, and to establish a documentation program to ensure that information is organized, available and protected.

Project monitoring will also require that the Burn Boss conduct First Order Effects Monitoring. This protocol consists of the development and evaluation of prescriptive parameters (i.e. weather, fuel loading, fuel moistures, etc.) to meet desired objectives. The Burn Boss or a designated subordinate will document the following: burn patterns, fuel consumption, plant mortality, scorch height, smoke dispersal and other requirements related to fire treatment objectives. The Burn Boss will compile all data and organize it in the appropriate project file.

The Burn Boss or designated subordinate will utilize the Prescribed Fire Ignition Monitoring Field Guide developed by the Taos Field Office for the Farmington District. This Field Guide allows ground resources to keep track of all weather data and visual prescription parameters throughout the prescribed burn.

Program evaluation is a priority, and periodic fire and fuels program reviews will be conducted to insure that the program is meeting national standards. This will consist of formal Readiness Reviews or informal evaluations and site visits to specific projects. All reviews and evaluations will be documented and the results will be given to the District Manager and the Fire Management Staff.

Program monitoring records are kept within each field office under the direction of the District Fuels Specialists and Lead Planning and Monitoring Technician. A digital technical monitoring database is kept up-to-date for all projects undertaken by the fire planning and monitoring staff. The funding for monitoring within the district is project driven.

Appendix A Vegetation Communities and Associated Wildlife Species

Farmington District

APPENDIX A: VEGETATION COMMUNITIES AND ASSOCIATED WILDLIFE SPECIES

VEGETATION COMMUNITY	DOMINANT PLANT SPECIES	ELEVATION RANGE (FEET)	CLIMATE AND PRECIPITATION	COMMON WILDLIFE SPECIES
Plain-Mesa Grassland	Blue grama (<i>Bouteloua gracilis</i>), hairy grama (<i>Bouteloua hirsuta</i>), sideoats grama (<i>Bouteloua curtipendula</i>), little bluestem (<i>Schizachyrium scoparium</i>), western wheatgrass (<i>Pascopyrum smithii</i>), sand dropseeds (<i>Sporobolus cryptandrus</i>)	4,000-7,000	Cold-Temperate 10-18 inches	Pronghorn (<i>Antilocarpa americana</i>), prairie dogs (<i>Cynomys</i> spp.), pocket gopher (<i>Geomys bursarius</i>), harvest mouse (<i>Reithrodontomys montanus</i>), ground squirrel (<i>Spemophilis tridecemlineatus</i>), fox (<i>Vulpes velox</i>), meadowlark (<i>Sturnella neglecta</i>), prairie falcon (<i>Falco mexicanus</i>), prairie rattlesnake (<i>Crotalus viridis viridis</i>)
Great Basin Desert Scrub	Big sagebrush (<i>Artemisia tridentata</i>), shadscale (<i>Atriplex confertifolia</i>), four-wing saltbush (<i>Atriplex canescens</i>), greasewood (<i>Sarcobatus vermiculatus</i>), winterfat (<i>Krascheninnikovia lanata</i>) rubber rabbitbrush (<i>Chrysothamnus nauseosus</i>).	5,250-7,200	Cold Temperate < 10 inches	Coyote (<i>Canis latrans</i>), deer mouse (<i>Peromyscus maniculatus</i>), black-tailed jack rabbit (<i>Lepus californicus</i>), sage sparrow (<i>Amphispiza belli</i>), horned lark (<i>Eremophila alpestris</i>), western whiptail (<i>Cnemidophorus neomexicanus</i>)
Southwest and Plains Forested/ Shrub Wetland	Fremont cottonwood (<i>Populus fremontii</i>), plains cottonwood (<i>Populus sargentii</i>), Arizona walnut (<i>Juglans major</i>), netleaf hackberry (<i>Celtis reticulata</i>) willows (<i>Salix</i> spp.) seepwillows (<i>Baccharis</i> spp.). Russian olive (<i>Elaeagnus angustifolia</i>) saltcedar (<i>Tamaix</i> spp.)	3,000-7,000	Cold to Warm Temperate Various	Red-headed woodpecker (<i>Melanerpes erthrocephalus</i>), American redstart (<i>Setophaga ruticilla</i>), vermilion flycatcher (<i>Pyrocephalus rubinus</i>), blue heron (<i>Ardea herodias</i>), belted kingfisher (<i>Ceryle alcyon</i>), swallows (<i>Riparia</i> spp.), warblers (<i>Vermivora</i> spp.), tiger salamander (<i>Ambystoma tigrinum</i>), leopard frogs (<i>Rana</i> spp.), chorus frog (<i>Pseudacris triseriata</i>), numerous fish species

Closed Conifer Woodland	Pinyon (<i>Pinus edulis</i>), junipers, primarily <i>Juniperus monosperma</i>	6,500-8,000	Cold-temperate 16-25 inches	Elk (<i>Cervus elaphus</i>), golden-mantled ground squirrel (<i>Citellus lateralis</i>), brown bat (<i>Eptesicus fuscus</i>), porcupine (<i>Erethizon dorsatum</i>), Abert's squirrel (<i>Sciurus aberti</i>), mule deer (<i>Odocoileus hemionus</i>), pygmy nuthatch (<i>Sitta pygmae</i>)
Open Conifer Woodlands (Savanna)	One-seed Juniper (<i>Juniperus monosperma</i>) and Utah juniper (<i>Juniperus osteosperma</i>)	5,000-7,000	Cold-temperate 12-16 inches	Elk (<i>Cervus elaphus</i>), pronghorn (<i>Antilocarpa americana</i>), pinyon deer mouse (<i>Peromyscus truei</i>), pinyon jay (<i>Gymnorhinus cyanocephalus</i>), gray vireo (<i>Vireo vicinior</i>)
Upper Montane Conifer Forest	Douglas fir (<i>Pseudotsuga menziesii</i>), white fir (<i>Abies concolor</i>), and blue spruce (<i>Picea pungens</i>)	8,000-10,000	Cold – Temperate 16-25 inches	Elk (<i>Cervus elaphus</i>), deer (<i>Odocoileus spp.</i>), chipmunk (<i>Eutamias minimus</i>), pocket gophers (<i>Thomomys spp.</i>), voles (<i>Microtus spp.</i>), goshawk (<i>Accipiter gentiles</i>), Stellar's jay (<i>Cyanocitta stelleri</i>), western tanager (<i>Piranga ludoviciana</i>)
Lower Montane Conifer Forests	Ponderosa pine (<i>Pinus ponderosa</i>), Pinyon (<i>Pinus edulis</i>), junipers (<i>Juniperus spp.</i>), Gambel's oak (<i>Quercus gambellii</i>), silverleaf oak (<i>Quercus hypoleuroides</i>), Arizona white oak (<i>Quercus arizonica</i>), alligator juniper (<i>Juniperus deppeana</i>)	6,500-9,000	Cold-Temperate 12-25 inches	Abert's squirrel (<i>Sciurus aberti</i>), black bear (<i>Ursus americanus</i>), Elk (<i>Cervus elaphus</i>), deer (<i>Odocoileus spp.</i>), chipmunk (<i>Eutamias minimus</i>), mouse-eared bats (<i>Myotis spp.</i>), wild turkey (<i>Melegris gallopavo</i>), mountain chickadee (<i>Paris gambellii</i>), rattlesnakes (<i>Crotalus spp.</i>), lizards

SOURCE: New Mexico GAP species list; Brown (1994), BLM (2000)

Appendix B Wildlife

Farmington District

Appendix B -- Wildlife

Wildlife Species Common to Most FMUs in the Farmington District

Game Animals:

Mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), Pronghorn (*Antilocarpa americana*), mountain lions (*Felis concolor*), black bears (*Ursus americanus*), and turkeys (*Melegris gallopavo*) are the predominant game animals.

Other species:

Bobcats (*Lynx rufus*), coyotes (*Canis latrans*), gray foxes (*Urocyon cinereoargenteus*), porcupines (*Erethizon dorsatum*), jackrabbits (*Lepus californicus*), kangaroo rats (*Dipodomys deserti*), deer mice (*Peromyscus maniculatus*), least chipmunks (*Tamias minimus*), prairie dogs (*Cynomys spp.*), squirrels (*Sciurus spp.*), raccoons (*Procyon lotor*), ringtails (*Pseudocheirus peregrinus*), muskrats (*Ondatra zibethicus*), mink (*Neovison vison*), and various bat species (*Corynorhinus spp.*) are common in the District. Bobcat, gray fox, and ringtail distribution is intermittent in wooded and brushy areas. The coyote is the most common mammal found throughout the area. Mountain lions and black bears occur in limited numbers in mountainous areas.

Upland Game Birds:

These include the mourning dove (*Zenaida macroura*) and scaled quail (*Callipepla squamata*).

Raptors:

Raptor species occurring in the Farmington District include the sharp-shinned hawk (*Accipiter striatus*), red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrines*), prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), screech owl (*Megascops kennicottii*), western burrowing owl (*Athene cunicularia*), Mexican spotted owl (*Strix occidentalis lucida*) and the great-horned owl (*Bubo virginianus*).

Amphibians and Reptiles:

These include the western spadefoot toad (*Spea hammondi*), the Woodhouse's toad (*Bufo woodhousii*), the leopard frog (*Rana pipiens*), the western whiptail (*Cnemidophorus tigris*), collared lizards (*Crotaphytus collaris*), the great plains skink (*Eumeces obsoletus*), bull snakes (*Pituophis catenifer*), western diamondback rattlesnakes (*Crotalus atrox*) and prairie rattlesnakes (*Crotalus viridis*).

Special Status Species

Below are the special status species lists for the Farmington District, listed by county. This list was taken from the New Mexico Master List which was compiled by the US Fish and Wildlife Service (revised May 2009).

Rio Arriba County

ENDANGERED:

Black-footed ferret (*Mustela nigripes*)

Interior least tern (*Sterna antillarum*)

Southwestern willow flycatcher (*Empidonax traillii extimus*)

Rio Grande silvery minnow (*Hybognathus amarus*)

THREATENED:

Mexican spotted owl (*Strix occidentalis lucida*) with critical habitat

CANDIDATE:

Yellow-billed cuckoo (*Coccyzus americanus*)

New Mexican meadow jumping mouse (*Zapus hudsonius luteus*)

Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)

SPECIES OF CONCERN:

Goat Peak pika (*Ochotona princeps nigrescens*)

Townsend's big-eared bat (*Corynorhinus townsendii*)

Southwestern otter (*Lutra canadensis sonorae*)

American peregrine falcon (*Falco peregrinus anatum*)

Arctic peregrine falcon (*Falco peregrinus tundrius*)

Baird's sparrow (*Ammodramus bairdii*)
Black tern (*Chlidonias niger*)
Mountain plover (*Charadrius montanus*)
Northern goshawk (*Accipiter gentiles*)
Western burrowing owl (*Athene cunicularia hypugaea*)
Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)
Rio Grande sucker (*Catostomus plebeius*)
Roundtail chub (*Gila robusta*)
Boreal western toad (*Bufo boreas boreas*)
Jemez Mountains salamander (*Plethodon neomexicanus*)
New Mexico silverspot butterfly (*Speyeria nokomis nitocris*)
Arizona willow (*Salix arizonica*)
Ripley milkvetch (*Astragalus ripleyi*)

Santa Fe County

ENDANGERED:

Black-footed ferret (*Mustela nigripes*)
Southwestern willow flycatcher (*Empidonax traillii extimus*)
Rio Grande silvery minnow (*Hybognathus amarus*)

THREATENED:

Mexican spotted owl (*Strix occidentalis lucida*)

CANDIDATE:

Yellow-billed cuckoo (*Coccyzus americanus*)
New Mexican meadow jumping mouse (*Zapus hudsonius luteus*)
Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)

SPECIES OF CONCERN:

Townsend's big-eared bat (*Corynorhinus townsendii*)
American peregrine falcon (*Falco peregrinus anatum*)
Arctic peregrine falcon (*Falco peregrinus tundrius*)
Baird's sparrow (*Ammodramus bairdii*)
Mountain plover (*Charadrius montanus*)
Northern goshawk (*Accipiter gentilis*)
Western burrowing owl (*Athene cunicularia hypugea*)
Rio Grande sucker (*Catostomus plebeius*)
Santa Fe cholla (*Opuntia viridiflora*)

Taos County**ENDANGERED:**

Black-footed ferret (*Mustela nigripes*)
Southwestern willow flycatcher (*Empidonax traillii extimus*)

THREATENED:

Mexican spotted owl (*Strix occidentalis lucida*) with critical habitat

CANDIDATE:

Yellow-billed cuckoo (*Coccyzus americanus*)
New Mexican meadow jumping mouse (*Zapus hudsonius luteus*)
Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)

SPECIES OF CONCERN:

Townsend's big-eared bat (*Corynorhinus townsendii*)

Southwestern otter (*Lutra canadensis sonora*)
American peregrine falcon (*Falco peregrinus anatum*)
Arctic peregrine falcon (*Falco peregrinus tundrius*)
Baird's sparrow (*Ammodramus bairdii*)
Mountain plover (*Charadrius montanus*)
Northern goshawk (*Accipiter gentilis*)
Western burrowing owl (*Athene cunicularia hypugea*)
Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)
Rio Grande sucker (*Catostomus plebeius*)
Cockerell's striate disc (snail) (*Discus shemeki cockerelli*)
Sangre de Cristo peaclam (*Pisidium sanguinichristi*)
New Mexico silverspot butterfly (*Speyeria nokomis nitocris*)
Arizona willow (*Salix arizonica*)
Ripley's milkvetch (*Astragalus ripleyi*)

San Juan County

ENDANGERED:

Black-footed ferret (*Mustela nigripes*)
Southwestern willow flycatcher (*Empidonax traillii extimus*)
Colorado pikeminnow (*Ptychocheilus lucius*)
Razorback sucker (*Xyruachen texanus*)
Knowlton cactus (*Pediocactus knowltonii*)
Mancos milk-vetch (*Astragalus humillimus*)

THREATENED:

Mexican spotted owl (*Strix occidentalis lucida*)
Mesa Verde cactus (*Sclerocactus mesae-verdae*)

CANDIDATE:

Yellow-billed cuckoo (*Coccyzus americanus*)

SPECIES OF CONCERN:

Townsend's big-eared bat (*Corynorhinus townsendii*)

American peregrine falcon (*Falco peregrinus anatum*)

Arctic peregrine falcon (*Falco peregrinus tundrius*)

Baird's sparrow (*Ammodramus bairdii*)

Mountain plover (*Charadrius montanus*)

Northern goshawk (*Accipiter gentilis*)

Western burrowing owl (*Athene cunicularia hypugea*)

New Mexico silverspot butterfly (*Speyeria Nokomis nitocris*)

San Juan checkerspot butterfly (*Euphydryas anicia chuskae*)

Beautiful gila (*Gilia formosa*)

Bisti fleabane (*Erigeron bistiensis*)

Black's fishhook cactus (*Sclerocactus colveriae* ssp. *Brackii*)

Parish's alkali grass (*Puccinellia parishii*)

McKinley County**ENDANGERED:**

Black-footed ferret (*Mustela nigripes*)

Southwestern willow flycatcher (*Empidonax traillii extimus*)

THREATENED:

Mexican spotted owl (*Strix occidentalis lucida*)

Zuni fleabane (*Erigeron rhizomatus*)

CANDIDATE:

Yellow-billed cuckoo (*Coccyzus americanus*)

Zuni bluehead sucker (*Catostomus discobolus yarrowi*)

SPECIES OF CONCERN:

New Mexico silverspot butterfly (*Speyeria Nokomis nitocris*)

San Juan checkerspot butterfly (*Euphydryas anicia chuskae*)

American peregrine falcon (*Falco peregrinus anatum*)

Arctic peregrine falcon (*Falco peregrinus tundrius*)

Black tern (*Chlidonias niger*)

Mountain plover (*Charadrius montanus*)

Northern goshawk (*Accipiter gentilis*)

Western burrowing owl (*Athene cunicularia hypugaea*)

Acoma fleabane (*Erigeron acomanus*)

Parish's alkali grass (*Puccinellia parishii*)

Sivinski's fleabane (*Erigeron sivinskii*)

Appendix C Fire Regimes and Fire History

Farmington District

Appendix C: Fire Regimes and Fire History

Farmington District Fire Management Program Summary

This section provides a brief overview of fire management concerns in the Farmington District and the resource management philosophy that directs fire management objectives and strategies throughout this FMP. This summary identifies the different vegetation types found throughout the district and their corresponding Fire Regime Condition Class (FRCC), provides a brief summary of program objectives and strategies, and outlines management philosophy and recommendations for accomplishing identified objectives.

A. Fire Regimes and Fire History throughout the Farmington District

The District includes public lands in the Farmington Field Office and the Taos Field Office. Covering the north-central, northeastern, and northwestern portions of New Mexico, the Farmington District encompasses a wide variety of elevation zones and geographic features, and consequently a diverse array of vegetation communities. The Sangre de Cristo Mountain range of the southern Rockies, with its high-elevation forests and woodlands, divides the rolling plains of native grassland and agricultural fields in the eastern half of the Taos Field Office from the sagebrush and pinyon-juniper woodland dominated landscape of the Rio Grande Valley in the western portion of the District. The majority of BLM lands in the Taos Field Office are located in the Rio Grande Valley, where BLM ownership occurs in larger and more continuous management blocks. The Farmington Field office is located in the northwest corner of New Mexico and includes sagebrush and pinyon-juniper dominated woodlands surrounding the San Juan River Basin. The majority of the landscape of the Farmington Field Office is made up of mesas and canyons with ephemeral drainages.

The majority of BLM lands in the Farmington District currently feature the following vegetation communities as presented below (see Table C.1) with their associated Fire Regimes and Fire Regime Condition Classes.

Table C.1. Vegetation Types and Associated Fire Regimes and Condition Classes

Vegetation Type	Fire Regime (s)	FRCC(s)	Approximate % of District
Shrubland/grassland (Plain-mesa grassland/Great Basin desert scrub)*	I, II	2, 3	30%
Pinyon-juniper savannah (Open conifer woodland)*	I, II, III	2, 3	20%
Pinyon-juniper woodland (Closed conifer woodland)*	II, III, IV	2	30%
Ponderosa pine forest (Lower montane conifer forest)*	I	2, 3	12%
Mixed conifer‡ (Upper montane conifer forests)*	III, IV	1, 2	6%
Riparian areas (Southwest and plains forested/shrub wetland)*	IV	1	2%

*This is the Bureau's formal term for each vegetation community. See Appendix A for more details.
‡This includes even-aged stands of aspen as an early-seral stage.

Historically, fire return intervals in native grasslands, pinyon-juniper savannah and woodlands, and ponderosa pine forests were high to moderate in northern New Mexico. Survey records from the middle to late 1800s reveal common characteristics of the landscape from that time as having had generally lower stand densities and more herbaceous ground cover, often described in terms of an area's suitability for livestock grazing. These historic conditions are not disputed, but definitive conclusions cannot be drawn as to the type and frequency of disturbance required to maintain historic conditions for all vegetation types. Strong evidence exists to suggest that native grasslands and the ponderosa pine (lower montane) forests, were maintained primarily by a Fire Regime I with a fire return interval as short as 2-5 years (Baisan and Swetnam 1997, Fule et al. 1997). Even-aged stand regeneration of ponderosa forests was accomplished through intermittent stand replacement by disease or fire similar to that seen in a Fire Regime IV or V. The fire histories of pinyon-juniper woodlands and pinyon-juniper savannah are not as simple. Trees in these woodlands and savannahs are, in most places, increasing in density and expanding into adjoining sagebrush shrublands and grasslands, having negative effects on a variety of resources. Causes are thought to be a combination of fire exclusion, livestock grazing, and climatic fluctuations (West and Young, 2000). Common opinion indicates that fire was frequent enough in these vegetation types, before exclusion, to have maintained low-density pinyon-juniper savannahs and woodlands in some areas and to have prevented tree invasion into sagebrush and grasslands (Gottfried et al. 1995, West 1999, Brown et al. 2001). This was undoubtedly the case in some pinyon-juniper woodlands; however, evidence suggests that, in some woodlands, fire return intervals were very long with characteristics of a Fire Regime IV and V (Floyd et al. 2000). Based on current scientific opinion, it is likely that pinyon-juniper woodland types as a whole experienced a mixed severity, with long fire return intervals in some areas and high intensity/low frequency fires in other areas, a combination of Fire Regimes I, II, III, and IV.

Ponderosa pine forests, grassland/shrublands, pinyon-juniper woodlands, and pinyon-juniper savannah are the most abundant vegetation types found throughout the Farmington District. With Fire Condition Classes in these vegetation types averaging a high 2 to low 3, a variety of important resource concerns hinge on the management of these vegetation zones. These include, but are not limited to, watershed health, special status species management, hazardous fuels reduction, livestock grazing, and protection of cultural resources. Strategies for restoring areas to FRCC 1 or 2 include prescribed fire, fire use, mechanical thinning, and herbicide use. The strategies used for each project should be based on the best available science and consider impacts to all resources effected.

Artificial disturbance methods, including mechanical thinning and herbicide application, may be the best alternative for management in some scenarios (e.g., hazardous fuels reduction in the wildland/urban interface) however; it is the philosophy of Farmington District Fire Management Program to duplicate natural processes as much as possible in the restoration of different vegetation types found throughout the district. Concern has been raised that proposals for restoration of pinyon-juniper ecosystems often omit a consideration of the role of fire (Brockway et al. 2002), and that national-level policy for fire management and woodland restoration is being guided by coarse-level classification of pinyon-juniper fire regimes (Frost 1998, Brown 2000, Schmidt et al. 2002). Are alternatives to fire affecting forest structure and ecosystem processes, and are they truly a sustainable alternative to improving forest health? No mechanical means of fuels reduction (i.e., grazing, timber harvest, thinning, or biomass utilization) can duplicate the unique ecological effects of wildland fire, such as soil heating, nutrient

cycling, and alteration of community composition and structure (Leenhouts 1998). Kauffman et al. (1997) summarized this philosophy well by stating that “A basic tenet of ecological restoration is that the creation of form without function does not constitute ecological restoration.”

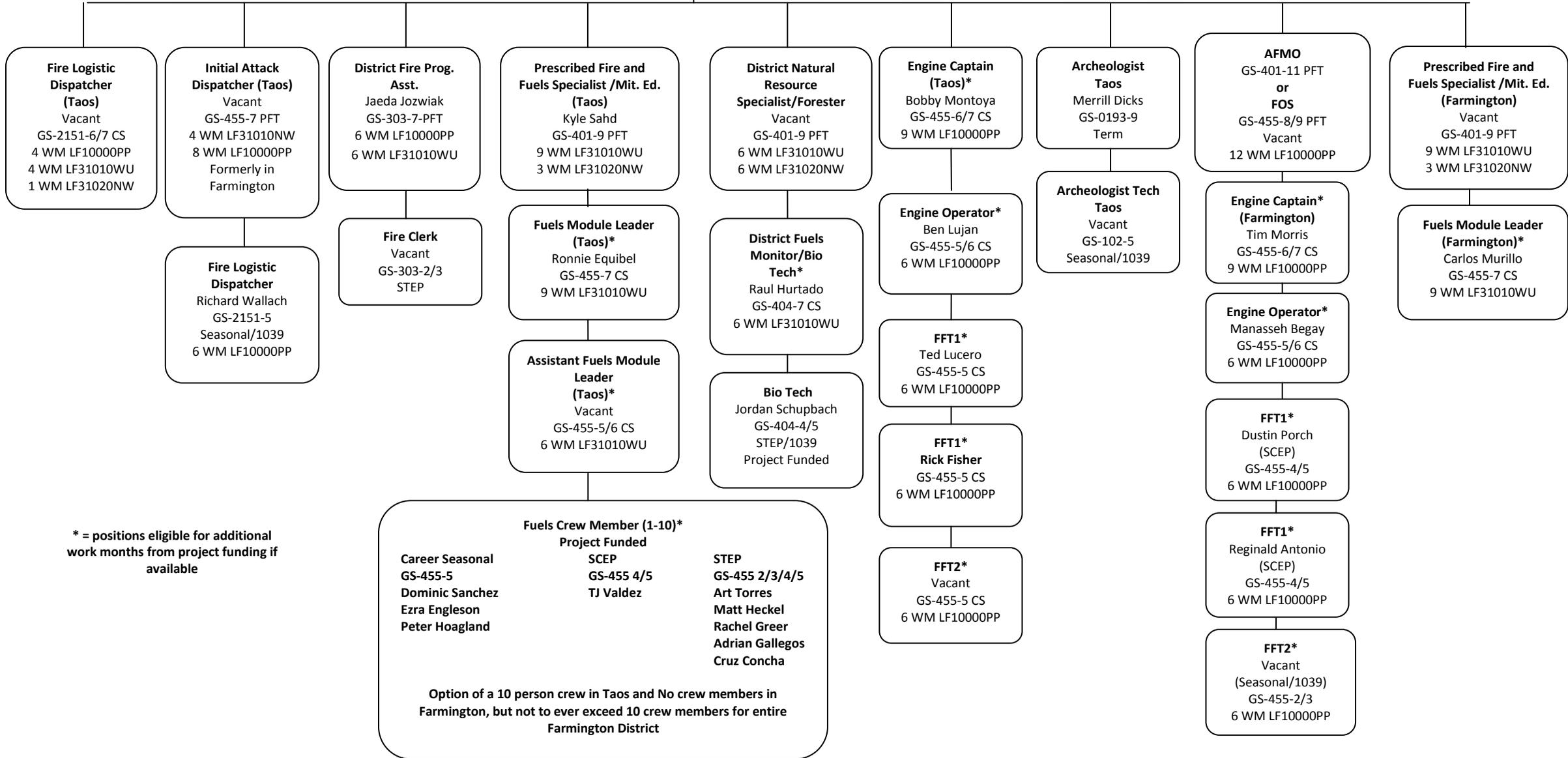
The 2001 Federal Wildland Fire Management Policy directs agencies to achieve a variety of goals, the foremost being to provide for firefighter and public safety. All FMPs and activities must reflect this commitment. The policy further directs agencies to “achieve ecosystem sustainability” and identifies fire as “a critical natural process” that will “be allowed to function in its natural ecological role.” Following this directive, the Farmington District Fire Management Program will aggressively explore opportunities to use prescribed fire for forest and rangeland management and use wildland fire as an agent of natural disturbance where safety and resource concerns allow.

Appendix D Fire Management Organizational Chart

Farmington District

**FY 2010 BLM Farmington District
Fire and Aviation Organization**

**District Fire Management
Officer**
Pat Pacheco
GS-401-12 PFT
12 WM LF10000PP



* = positions eligible for additional work months from project funding if available

Appendix E Glossary of Terms

Farmington District

Appendix E -- GLOSSARY OF TERMS

Area of Critical Environmental Concern (ACEC) – Acreage within BLM public lands where special management attention is required when such areas are developed or used, or where development is required to protect and prevent irreparable damage to important historical, cultural, or visual values; fish and wildlife resources, or other natural systems or processes; or to protect life and safety from natural hazards.

Burn Plan—see Prescribed Fire Plan.

Critical Habitat – Under the Endangered Species Act, critical habitat is defined as habitat of federally listed threatened or endangered species where those physical and biological features essential to conservation of the species are found and which may require special management considerations or protections. This habitat may currently be occupied by the species, or determined by the Secretary of the Interior to be essential for areas outside the species' current range.

Ecosystem – 1) A community of living plants and animals interacting with each other and with their physical environment; or a geographic area where it is meaningful to address the interrelationships with human social systems, sources of energy, and the ecological processes that shape change over time. 2) The complex of a community of organisms and its environment functioning as an ecological unit in nature.

Endangered Species – Any species of animal or plant in danger of extinction throughout all or a significant portion of its range and so designated by the Secretary of Interior in accordance with the 1973 Endangered Species Act.

Environmental Assessment (EA) – Environmental Assessments were authorized by the National Environmental Policy Act (NEPA) of 1969. They are concise, analytical documents, prepared with public participation, that determine if an Environmental Impact Statement (EIS) is needed for a particular project or action. If an EA determines an EIS is not needed, the EA becomes the document allowing agency compliance with NEPA requirements.

Environmental Impact Statement (EIS) – A detailed public document which complies with National Environmental Policy Act (NEPA) law and regulation; an EIS describes a major Federal action which significantly affects the quality of the human environment, provides alternatives to the proposed action, and analyzes the effects of the proposed action.

Fire Frequency (Fire Return Interval) – How often fire burns a given area; often expressed in terms of fire return intervals (e.g., fire returns to a site every 5-15 years).

Fire Management Unit – A land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, and fire regime groups that set it apart from the management characteristics of an adjacent FMU.

Fire Regime – Periodicity and pattern of naturally occurring fires in a particular area or vegetative type, described in terms of frequency, biological severity, and area of extent.

Fire Return Interval—see Fire Frequency.

Fire Severity – Denotes the scale at which vegetation and a site are altered or disrupted by fire, from low to high. It is a combination of the degree of fire effects on vegetation and on soil properties.

Fire-Adapted Ecosystem – An ecosystem with the ability to survive and regenerate in a fire-prone environment.

Fire Intensity Level (FIL) – an expression of fireline intensity, based on typical and/ or calculated flame length of a fire behavior condition. FILs are used in the analysis to reflect differences in difficulty of suppression and fire effects on natural and cultural resources.

Fuel Model – Simulated fuel complex (or combination of vegetation types) for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified.

Fuel Type – An identifiable association of fuel elements of distinctive species, form, size, arrangement or other characteristics that will cause a predictable rate of spread.

Fuel Reduction – Manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.

Fuel Wood Sale -- Sales of permits for personal and commercial use that are related to woodland products as defined by the Farmington District Woodland Standard Operating Plan (BLM, 2009).

Hazardous Fuels – A fuel complex defined by kind, arrangement, volume, condition, and location that forms a special threat of ignition or of suppression difficulty.

Interdisciplinary Team – a group of individuals with different specialized training assembled to solve a problem or perform a task. The team is assembled out of recognition that no one discipline is sufficiently broad to adequately solve the problem; through interaction, participants bring different points of view and a broader range of expertise to bear on the problem.

Land Management Plan (LMP) - A fully research, structured, and formally approved strategy for the long term maintenance of a land unit.

Maximum Manageable Area – The maximum manageable area in a Wildland Fire Implementation Plan designates the ultimate acceptable size for a given wildland fire managed for resource benefits. It provides for a closely directed fire management application in a specific area defined by resource objectives, fire and weather prescription elements, social needs, political considerations, and management capability.

Minimum Impact Suppression Tactics (MIST) –An attempt to minimize the forces necessary to achieve the fire management consistent with land and resource management objectives. Implies a greater sensitivity to the impacts of suppression tactics and their long term effects when determining appropriate management strategies.

Non-attainment Area – a locality where air pollution levels persistently exceed National Ambient Air Quality Standards, or that contributes to ambient air quality in a nearby area that fails to meet standards.

Noxious Weed – Any plant designated by a federal, state, or county government to be injurious to public health, agriculture, recreation, wildlife, or any public or private property. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host for serious insects or diseases, and generally non-native.

Off-Highway Vehicle (OHV) – Any motorized or mechanical vehicle which includes off-road vehicles, motorcycles (dirt bikes) and all-terrain vehicles. OHV use is managed as a recreational use on public lands.

Planned Fire Ignitions – Any prescribed fire or controlled burn that is scheduled and monitored and has a corresponding burn plan and specific objectives.

Preparedness – Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination.

Prescribed Fire (Rx) – Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist and National Environmental Policy Act (NEPA) requirements must be met prior to ignition.

Prescribed Fire Plan (Burn Plan) – This document provides the prescribed fire burn boss with information needed to implement an individual prescribed fire project.

Prescription – Measurable criteria that define conditions under which a prescribed fire may be ignited, guides selection of appropriate management responses, and indicates other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

Prevention – Activities directed at reducing the number of fires caused by human activity, including public education, law enforcement, dissemination of information, and the reduction of hazards.

Rehabilitation – Activities necessary to repair damage or disturbance caused by wildland fires, fire suppression activity, or fuels reduction projects.

Resource Management Plan (RMP) – A document prepared by BLM Field Office staff with public participation, and approved by the State Director, that provides general guidance and direction for land management activities.

Riparian Habitat Area (RHA) – Portions of water sheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. RHAs include traditional riparian corridors, wetland, intermittent headwater streams, and other areas where proper ecological functioning is crucial to maintenance of the stream's water, sediment, woody debris, and nutrient delivery systems.

Sensitive Species – Those plant and animal species identified by the BLM State Director as sensitive, usually in cooperation with the state agency responsible for managing the species. Sensitive species are also defined as those (a) which are under status review by the USFWS; (b) whose numbers are declining so rapidly that Federal listing may become necessary; (c) with typically small and widely dispersed populations; or (d) inhabiting ecological refugia of other specialized or unique habitats.

Special Recreation Management Area - BLM administrative units established to direct recreation program priorities, including the allocation of funding and personnel, to those public lands where a commitment has been made to provide specific recreation activities and experience opportunities on a sustained yield basis.

Special Status Species—Includes federally listed Threatened and Endangered species, species recommended or considered candidates for listing, state-listed endangered species, and BLM Sensitive Species.

Suppression – All the work involved in extinguishing or containing a fire, beginning with its discovery.

Threatened Species – Any species likely to become endangered within the foreseeable future throughout all or a significant portion of its range and that has been designated in the Federal Register by the Secretary of Interior as such.

Trespass -- Refers to the occurrence of unauthorized fire on Bureau-protected lands where the source of ignition is a result of human activity. For fires where human negligence or intent can be established, actions should be taken to recover the cost of suppression activities, land rehabilitation, and damages to the resources and improvements. Trespass actions serve the purposes both of cost recovery and an effective deterrent to prevent future damage to public lands.

Unplanned Fire Events – Any unintended ignition that will be termed a wildfire, as well as planned ignitions that are declared wildfires. The wildfire term is to be applied to all unplanned ignitions, including events formally termed Wildland Fire Use.

Watershed – The area of land bounded by a divide, that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel, or to a lake, reservoir, or other body of water; also called drainage basin or catchment.

Wildland – An area in which development is essentially non-existent, except for roads, railroads, powerlines, and similar transportation facilities; structures, if any, are widely scattered.

Wildland Fire for Resource Benefit—The management of naturally ignited wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas outlined in FMPs. Also called Wildland Fire Use.

Wildland Fire Implementation Plan – A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire being managed for resource benefits.

Wildland Fire Situation Analysis – A decision making process that evaluates alternative management strategies based on selected safety, environmental, social economic, political, and resource management objectives.

Wildland Fire Use (WFU)—see Wildland Fire for Resource Benefit.

Wildland-Urban Interface (WUI) – The line, area, or zone where structures or other human development meet or intermingle with undeveloped wildland or vegetative fuels.

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