

3 Access and Travel Patterns

This chapter discusses current and potential access issues in each of the Santa Fe National Forest Ranger Districts. The analysis considers current traffic patterns along major routes and future trends, including planned capital outlays, to identify potential limitations as well as expansions to future access.

The analysis is based wholly on secondary data, including information from the New Mexico Department of Transportation (NMDOT). The data on average annual daily traffic come from the Highway Performance Monitoring System (HPMS), maintained by the Federal Highway Administration (FHWA). These data can be accessed online at the Bureau of Transportation Statistics¹. Estimates of the projected growth of vehicle miles traveled for counties in the assessment area are provided by the Environmental Protection Agency (EPA) and are based on 1996 HPMS data.² Geographical data on national roads are obtained from the ESRI ArcGIS StreetMap USA 2004

3.1 Location of Major Transportation Routes

By examining transportation and traffic patterns, we may gain insight into where visitors are coming from, as well as identify any major barriers to access the Santa Fe NF. This section describes the transportation routes typical of visitors or others traveling to and from the forest. Because the Santa Fe NF is comprised of several contiguous land masses, there are multiple access points to various areas of the forest. Several areas of the forest, including campgrounds, are accessible via paved highways.

Figure 3.1 provides an illustration of the major transportation routes in the area. Interstate 25 runs through the forest, in a crescent connecting Santa Fe to Las Vegas, NM, and is the main route carrying travelers from Albuquerque and the southern part of the state. In the northwestern quadrant of the Forest a triangle of principal roadways surrounds the Chama Wilderness Area, providing access to most of the region. The point at which NM112 and US84 meet creates the apex of the triangle, where NM112 runs southwest from Tierra Amarilla through El Vado to an area near Gallina, NM (close to the Sandoval- Rio Arriba County border). Accordingly, US84 creates the opposite edge of the triangle, and runs southeast from Tierra Amarilla until it meets NM96 near the Abiquiu Reservoir. Finally, NM96 creates the bottom edge of the triangle between the point at which NM112 and NM96 meet just north of Regina, N.M. and the point where US84 and NM96 meet near the Abiquiu Reservoir.

¹ Bureau of Transportation Statistics: The Intermodal Transportation Database, TranStats. (2006). Highway Performance Monitoring System - Core Data. Retrieved from <http://www.transtats.bts.gov/databases>

² U.S. Environmental Protection Agency. (2000, March 24) VMT Growth Factors by State, Website: Technology Transfer Network Ozone Implementation. Retrieved from <http://www.epa.gov/ttn/naaqs/ozone/areas/vmt/stindex.htm>

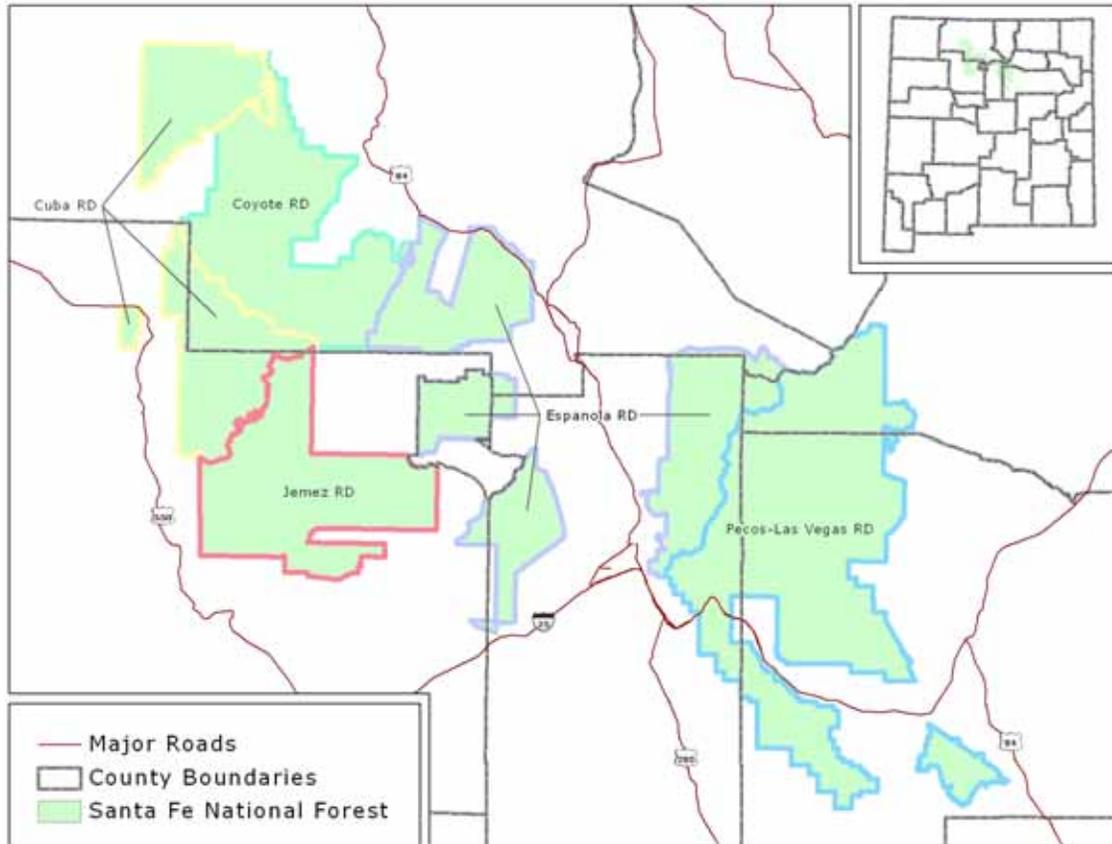


Figure 3.1: Map of Principal Highways in Region

In addition, the portion of NM4 that runs between the village of San Ysidro and Los Alamos, connecting the south central and northeast trails of the Jemez Mountain Trail National Scenic Byway, winds through the Jemez Mountains while passing the Valles Caldera National Preserve and Bandelier National Monument along the way. NM4 also passes Jemez Pueblo, Jemez Springs, and the Jemez State Monument, among several other recreational and historical sites (see Figure 3.2).



From <http://www.jemezmountaintrail.org/>, downloaded 1/28/07

Figure 3.2: Jemez Mountain Trail National Scenic Byway

The south central and northeast trails of the Jemez Mountain Trail National Scenic Byway meet at the town of La Cueva, N.M., where the northwest trail curves northwesterly along NM126 up to Cuba, N.M., then returns south along NM550 back to the village of San Ysidro. The northwest trail provides access to Fenton Lake State Park, the San Pedro Wilderness, and Cabezon Peak to name a few historical and recreational areas.



Figure 3.3 Access to the Santa Fe Ski Basin

As seen in Figure 3.3, the Santa Fe Ski Basin is accessible via NM475, which passes through the Little Tesuque Picnic Area and Big Tesuque Campground, and also provides access to Windsor Trail. NM63 runs from I-25 to Cowles, in the center of the eastern portion of the forest, with several campgrounds and easy access to the Pecos Wilderness.

Table 3.1 the major roadways surrounding the Santa Fe NF. The table shows which major roadways are most commonly used to travel to and through each of the ranger districts.

Table 3.1: Roadways Around Santa Fe National Forest

	Coyote	Cuba	Española	Jemez	Pecos/Las Vegas
Interstate				25	25
US Route	84	550	84 285	550	84 285
State Road	96 554	4 96 197	30 74 76 126 502 503	4 126 290 485	3 63 65 223 283

Table 3.2 shows the distance from major southwestern cities to the ranger districts in the Santa Fe NF. The nearest major population center is Santa Fe, NM. Santa Fe residents are closest to the Española RD and the Santa Fe Ski Area. Residents of the second closest population center, Albuquerque, are closer to areas of the Cibola NF, especially the Sandia RD which also has ski areas and abundant hiking trails.

Table 3.2: Distance in Miles from Major Cities to Santa Fe NF Ranger Districts

City	Coyote	Cuba	Española	Jemez	Pecos/Las Vegas
Albuquerque, NM	115	92	62	64	153
Amarillo, TX	357	375	299	364	267
Denver, CO	387	504	413	455	356
El Paso, TX	380	357	333	346	418
Farmington, NM	126	111	209	164	300
Las Cruces, NM	336	313	290	302	374
Lubbock, TX	391	409	333	398	301
Phoenix, AZ	578	555	531	544	616
Pueblo, CO	273	390	299	341	242
Roswell, NM	270	288	212	253	228
Santa Fe, NM	78	118	26	90	96
Tempe, AZ	591	568	545	557	629
Tucson, AZ	617	594	571	583	655

Source: <http://www.mapquest.com>

The Sonoran Institute found that the longer the drive between public lands and the nearest metropolitan area, the lower the potential for economic growth (particularly personal income).³ Public lands that are far away from metropolitan areas do not receive as many visitors as public lands near metropolitan areas (such as the Sandia RD in the Cibola NF).

Table 3.3 shows lane miles in each county in the assessment area by road classification. In all seven counties, there are about 2,200 miles of urban roads, compared to over 23,000 miles of rural roads. NMDOT defines rural areas as areas where the population is under 5,000 persons.⁴

³ R. Rasker, B. Alexander, J. van den Noort, and R. Carter (July 2004), "Prosperity in the 21st Century," The Sonoran Institute.

⁴ Bureau of Transportation Statistics, http://www.transstats.bts.gov/Tableinfo.asp?Table_ID=1102

Table 3.3: Lane Miles of Road by County and Classification

Rural					
County	Interstate	Other Principal			County Total
		Arterial	Minor Arterial	Collector & Local	
Los Alamos	0	3	6	2,319	2,328
Mora	154	0	0	982	1,136
Rio Arriba	0	84	490	7,254	7,828
Sandoval	103	388	94	4,280	4,865
San Miguel	237	53	0	2,703	2,993
Santa Fe	156	214	10	2,160	2,540
Taos	0	112	227	1,047	1,386
Total	649	853	827	20,747	23,076
Urban					
County	Interstate	Other Principal			County Total
		Arterial	Minor Arterial	Collector & Local	
Los Alamos	0	22	0	327	348
Mora	0	0	0	0	0
Rio Arriba	0	11	14	64	89
Sandoval	10	75	55	105	245
San Miguel	9	21	11	134	175
Santa Fe	33	201	62	1,076	1,374
Taos	0	0	0	11	11
Total	53	330	143	1,716	2,242

Source: US Department of Transportation HPMS Database

The vast majority of roads in the assessment area are collector and local roads. According to the NMDOT Strategic Plan, the primary function of collector and local roads is to provide access to homes and businesses. In contrast, the function of interstate and arterial roads is to move people and goods efficiently. With the exception of I-25 and US84, the roads near the Santa Fe NF are not designed to handle heavy traffic. In the Santa Fe NF, there are about 700 miles of interstate, of which 649 miles are classified as rural.

3.2 Airports

The largest airport in the vicinity of the Santa Fe NF is the Albuquerque International Sunport in Albuquerque, New Mexico. It is the largest and busiest airport in New Mexico with roughly six million travelers per.⁵ However, it is located over seventy miles away from any part of the Santa Fe NF.

Smaller airports, some with commercial flights, are located in the vicinity of the Santa Fe NF. The Taos Regional airport has about 35 aviation operations a day with about 11 percent as

⁵ City of Albuquerque, "Albuquerque International Sunport," <http://www.cabq.gov/airport/>

commercial flights. Most of the flights in this airport (65%) are private transient flights.⁶ The Santa Fe Municipal Airport is about nine miles southwest of Santa Fe and has over 200 aviation operations a day. About half of all flights are local general aviation and about forty percent are transient general aviation,⁷ meaning small commuter flights to mostly other parts of the state. This airport has six runways, although some are in disrepair with cracking asphalt. There are general aviation airports in Española, Los Alamos and Las Vegas, but each offers little or no commercial flights and each is primarily used for general aviation.

Research conducted by the Sonoran Institute found that rural counties that are within an hour's drive of a mid-sized airport reap more economic benefits from public lands,⁸ since visitors have more convenient access to the area. Airports that have the most influence are those with daily commercial flights to major hubs, and more than 25,000 passengers a year. The Albuquerque International Sunport is the only airport in New Mexico that qualifies.

3.3 Traffic Flows

Table 3.4 shows estimated daily vehicle miles traveled (VMT) and VMT per lane mile by county for all counties in the assessment area. VMTs are calculated by multiplying the Average Annual Daily Traffic (AADT)⁹ by road length in an area. VMT per lane-mile offers a useful measure of the intensity of road traffic, and is highly correlated with population density. The measure is also useful to compare traffic density among geographical areas.

Table 3.4: Daily Vehicle Miles Traveled

County	Estimated VMT	VMT per Lane-Mile
Los Alamos	179,861	67
Mora	387,063	341
Rio Arriba	1,251,928	158
Sandoval	2,575,967	504
San Miguel	886,649	280
Santa Fe	3,719,914	951
Taos	712,677	510

Note: VMT is calculated as AADT*Section_Length

Source: US Department of Transportation (2001), HPMS Database, Calculated by UNM-BBER

With the exception of Santa Fe, the assessment area is characterized by small populations and thus, light traffic. At the high end, Santa Fe has about 950 vehicles traveling any given stretch of road on a typical day. Los Alamos has the lightest traffic with only 67 VMT per lane mile. In

⁶ <http://www.airnav.com/airport/SKX>

⁷ <http://www.airnav.com/airport/SAF>

⁸ R. Rasker, B. Alexander, J. van den Noort, and R. Carter (July 2004), "Prosperity in the 21st Century," the Sonoran Institute.

⁹ The daily flow of motor traffic is averaged out over the year to give an AADT, a useful and simple measurement of how busy the road is.

comparison, the 2001 VMT for Bernalillo County was 11.9 million with a VMT per lane mile of over 2,000.

3.4 Capital Outlays and Transportation Infrastructure Improvements

As part of Governor Richardson's Investment Program (GRIP), money has been allocated for transportation infrastructure improvements throughout northern New Mexico. Many of the projects relevant to the Santa Fe NF are along US64, US84 and US285, all of which are major access routes, connecting northern New Mexico with much of the rest of the state. Below is a description of three GRIP projects near the Santa Fe NF.¹⁰

3.4.1 US64, Rio Arriba County Line - E. to US84 (\$23.1 million)

The project includes the reconstruction of lanes and the widening of shoulders of various sections along 20 miles of roadway. Improvements include bridge replacement, drainage structure replacement, and pavement replacement. This route serves as the primary route for tourism to Chama and Pagosa Springs from US550 and Dulce. The bridge joints are non-functioning with advanced section loss throughout. There is up to 20 ft. of exposed rebar on several girders. This project is in progress and ends December 2010.

3.4.2 US84, Pojoaque to Española (\$30.5 million)

This project includes new construction of a four-lane alternate route to bypass Española and reconstruction of US84 at tie-ins to the relief route. The US285 corridor is the gateway to north central New Mexico. This segment of the corridor has experienced rapid growth in residential and commercial enterprises. The result is a congested roadway with numerous access points. The NMDOT completed the initial study of the corridor to begin design development. The proposed plan is to complete the study process which will address improvements necessary to accommodate the through-traffic volume as well as the access needs of the developed areas. It is anticipated the final improvements will be consistent with those currently under construction within this corridor.

3.4.3 US285, Clines Corners to Lamy

US285 is the designated route for the Waste Isolation Pilot Project (WIPP) from Los Alamos to Carlsbad. This stretch is the only remaining two-lane segment of the entire corridor. The proposed improvements include reconstruction and widening to four-lanes. This will complete the 4-lane from Carlsbad to I-25. This segment also provides a link from I-25 to I-40 and carries a notable amount of commercial truck traffic. Reconstruction and rehabilitation of the existing northbound lanes to include replacement of drainage and pavement structures will also be completed. The northbound lanes in this section were not addressed on previous projects.

Outside of the GRIP projects, there are over 100 transportation infrastructure projects taking place in the assessment area. The largest capital outlay in the area is for the planning, design and

¹⁰ Information and descriptions obtained from the NMDOT Strategic Plan 2004-2005.

construction of a commuter rail system, the Rail Runner, which will run between Albuquerque and Santa Fe. Completion of the project isn't expected until 2008.

For an exhaustive list of capital improvement projects in the assessment area, refer to **Table A.4** in the appendix.

3.5 Forest Roads and Trails

Forest roads provide access for both forest users and FS officials and staff to areas within the Santa Fe NF. Access to the forest becomes critical in the event of a forest fire or other catastrophic event.

In all, the Santa Fe NF has almost 7,500 miles of forest road. Comparatively, the Carson NF has over 11,000 miles of forest road. However, according to the Forest Guardians, a self-described environmental protection organization, the Santa Fe NF has the highest road density of any forest in the Southwest Region and exceeds the recommended road density set by the Department of the Interior of 1.5 km/km² (2.5 mi/ mi²) for properly functioning watersheds.¹¹ Because roads have been shown to contribute significantly to impacts on soil, water quality, wildlife habitats and increased human fire ignitions, some groups, such as the Forest Guardians, have called for reducing road density. In the spring of 2005, under the Community Forest Restoration Act, the Forest Guardians proposed to collaborate with the Coyote RD to decommission any roads not essential for management of the district's resources or maintaining traditional uses, in order to bring the RD into compliance with the recommended road density in the USAD FS management plan.¹²

As part of a recent forest restoration agreement between environmental groups, such as Forest Guardians and Sierra Club, the USAD FS, other government agencies, and land managers will try to avoid a net increase in roads. Further, if a new road is absolutely necessary, an existing road would be closed as compensation.¹³

Table 3.5 shows the length and type of forest roads throughout the Santa Fe NF. About 65 percent of the forest's roads are in the western half of the forest, as the eastern half is largely comprised of the Pecos Wilderness.

¹¹ Forest Guardians. http://www.fguardians.org/sf/issue_santa-fe-national-forest.asp

¹² Ibid.

¹³ Tania Soussan. Albuquerque Journal. (May 17, 2006) "Restoration Agreement Reached."

Table 3.5: Length of Forest Roads and Road Types in The Santa Fe NF

Coyote	Surface Type	Segment Length Miles	Cuba	Surface Type	Segment Length Miles	Jemez	Surface Type	Segment Length Miles
	Asphalt	2		Asphalt	1		Asphalt	6
	Crushed Aggregate	130		Crushed Aggregate	153		Crushed Aggregate	55
	Bituminous Surface	1		Bituminous Surface	0		Bituminous Surface	0
	Improved Native	20		Improved Native	13		Improved Native	70
	Native Material	989		Native Material	1,240		Native Material	1,204
	Paved	0		Paved	0		Paved	0
	Other	8		Other	0		Other	0
TOTAL		1,150	TOTAL		1,407	TOTAL		1,335

Pecos-Las Vegas	Surface Type	Segment Length Miles	Espanola	Surface Type	Segment Length Miles	Other	Surface Type	Segment Length Miles
	Asphalt	11		Asphalt	3		Asphalt	34
	Crushed Aggregate	22		Crushed Aggregate	31		Crushed Aggregate	77
	Bituminous Surface	0		Bituminous Surface	0		Bituminous Surface	28
	Improved Native	61		Improved Native	27		Improved Native	91
	Native Material	1,261		Native Material	919		Native Material	1,082
	Paved	0		Paved	0		Paved	0
	Other	0		Other	0		Other	0
TOTAL		1,355	TOTAL		980	TOTAL		1,312

SF Forest Total	Surface Type	Segment Length Miles
	Asphalt	57
	Crushed Aggregate	468
	Bituminous Surface	29
	Improved Native	282
	Native Material	6,695
	Paved	0
	Other	8
TOTAL		7,539

Source: USDA Forest Service INFRA Roads Database. Calculations done by UNM-BBER.

According to data provided by the USAD FS, the Cuba RD has the most forest road miles (1,400) followed closely by Pecos-Las Vegas (1,355 miles) and Jemez (1,335). The roads make up an intricate web of access to the Santa Fe NF, especially in areas southwest of the Valles Caldera National Preserve. Forest Road (FR) 266 provides access to the Paliza and Paliza Group campgrounds and runs through a small portion of the Jemez Pueblo. Similarly, FRs 6, 7 and 8 crisscross the area just west of the Chama River Canyon Wilderness in the Coyote RD.

The FS maintains designated areas of forest wilderness as roadless areas, where roads cannot be constructed or reconstructed. These areas are the subject of national debates among environmental groups, forest resource interests and state and federal governments. This particular use of land is discussed further in Chapter 6, “**Special Areas.**”

Table 3.6 presents the number of miles of trails by each RD. In all, the Santa Fe NF has over 900 miles of trails, which is almost twice the amount of trails in the neighboring Carson NF. The Española RD has the greatest number of trail miles with over 360 miles, accounting for more than one third of the total trail miles in the forest. More than half of the forest’s trails are designated as hiking trails and nearly a third are suitable for pack and horseback.

Table 3.6: Length of Forest Trails and Trail Types in The Santa Fe NF

Coyote	Managed Use	Segment Length (in miles)	Cuba	Managed Use	Segment Length (in miles)	Jemez	Managed Use	Segment Length (in miles)
	Hike	131		Hike	59		Hike	52
	Pack/Saddle	0		Pack/Saddle	0		Pack/Saddle	0
	ATV	0		ATV	0		ATV	0
	Bicycle	13		Bicycle	0		Bicycle	0
	X/C Ski	0		X/C Ski	0		X/C Ski	0
	Other	29		Other	0		Other	0
Total		173	Total		59	Total		52

Pecos-Las Vegas	Managed Use	Segment Length (in miles)	Espanola	Managed Use	Segment Length (in miles)	Other	Managed Use	Segment Length (in miles)
	Hike	192		Hike	60		Hike	7
	Pack/Saddle	49		Pack/Saddle	243		Pack/Saddle	0
	ATV	0		ATV	7		ATV	0
	Bicycle	0		Bicycle	0		Bicycle	0
	X/C Ski	0		X/C Ski	34		X/C Ski	0
	Other	7		Other	23		Other	0
Total		248	Total		367	Total		7

SF Forest Total	Managed Use	Segment Length (in miles)
	Hike	501
	Pack/Saddle	292
	ATV	7
	Bicycle	13
	X/C Ski	34
	Other	59
Total		906

Source: USDA Forest Service Infra Trails Database. Calculations by UNM-BBER.

Cuba and Jemez have the fewest miles of trails with a combined total of 111 miles. A complete list of all trails in the Santa Fe NF is provided in the appendix (**Table A.3**).

One issue regarding roads and trails relates to the access. Private property owners within or along the boundary of the forest may decide to put up a fence, lock a gate, and/or post no trespassing signs to curtail public access through their property. Securing a permanent public right of way may be time-consuming and expensive.

The roads and trails catalogued above do not include all the roads and trails that have been created in the forest by people taking their motorized vehicles, including off-highway vehicles (OHVs) "off road". In part to address the problem of OHVs, the National Forest Service has promulgated a new management directive, the Travel Management Rule, requiring each of the NF's to designate those roads, trails, and areas that are open to motor vehicle use.¹⁴ (See discussion in the next section.)

¹⁴ USDA FS. (2005, November 9). Travel Management; Designated Routes and Areas for Motor Vehicle Use. The Federal Register / Vol. 70, No. 216/ Wednesday, November 9, 2005/ Rules and Regulations, P. 68264. Retrieved March 18, 2006, from <http://www.fs.fed.us/recreation/programs/ohv/final.pdf>

3.6 Right-of-Way and Other Access Issues

Specific problems facing the FS regarding right-of-way and other access issues date back more than one hundred years. Most of the problems stem from incomplete and incorrect land records. Mostly, the FS has adopted a “let it ride” approach to handling access issues, as they do not have the time or the resources to invest in time-consuming investigations. FS personnel react only to major problems brought up by landowners.

As an example, FS staff described a situation where a landowner died and an heir approached the FS requesting easements and other accommodations. This process is often difficult because the deeds are unregistered or maps are incorrect further complicating any sort of transaction. Short term effects of property conflicts may include the erection of fences or blocking access to visitors. In most cases, private landowners do allow access, but with changes in property ownership that could easily change.

Right-of-way and access conflicts often result in owners erecting fences to block access of visitors and visitors tearing down those fences. Forest visitors may be unpleasantly surprised when they encounter a locked gate or sign denying them access to the public forest. The Santa Fe NF officials describe this as the most common problem concerning access and right-of-way.

The FS is mobilizing to establish a protocol that will allow them to handle new requests (easements, etc) while still addressing long-term problems. The Santa Fe NF is forming a committee to create a protocol that will identify and prioritize access issues so that they can be addressed in a way that is consistent and systematic.

3.7 Off-Highway Vehicles and the Travel Management Rule

One of the most heated multiple-use debates is over the use of OHVs. The FS acknowledges that unmanaged recreation, primarily OHV use, is one of the four largest threats facing the National Forest System. According to the National Forest Service, OHV ownership has grown from 5 million in 1972 to 36 million in 2002.¹⁵ On November 2, 2005, the FS announced its Travel Management Rule on OHV use in National Forests and Grasslands.¹⁶ New guidelines provide different strategies to deal with the growing consequences of OHV use in the forests. The new rules went into effect on December 9, 2005.¹⁷ Overall, these policy revisions call for the re-designation of trails and routes, including creating designated route maps to show which trails are designated for different types of uses.

Responses to the legislation, however, are mixed. OHV advocates, such as the Southwest Four Wheel Drive Association, believe the regulations leave too many unanswered questions about OHV use.

¹⁵ Jeffers, A., (2006). *Four Threats to the Health of the Nation's Forests and Grasslands*, USDA FS Website: Four Threats. Retrieved November 2006, from <http://www.fs.fed.us/projects/four-threats/>

¹⁶ USDA FS. (2005, November 2). USDA Forest Service Releases Final Rule for Motorized Recreation in National Forests & Grasslands, US Forest Service Press Release. Retrieved November 11, 2006, from <http://www.fs.fed.us/news/2005/releases/11/travel-management.shtml>

¹⁷ USDA FS. (2005) Travel Management; Designated Routes and Areas for Motor Vehicle Use. The Federal Register / Vol. 70, No. 216/ Wednesday, November 9, 2005/ Rules and Regulations, P. 68264. Retrieved March 18, 2006, from <http://www.fs.fed.us/recreation/programs/ohv/final.pdf>

*Our major concerns ... include failure to provide a time period for which emergency closures can be effective; confusion over the use of the term OHV, 4-wheel drive vehicle, and SUV; lack of clarity that a "trail" can be used for 4-wheel drives and other vehicles over 50" in width; lack of clarity that non-street legal vehicles may be used on "roads" where appropriate; and lack of certainty that the agency will conduct a robust route inventory.*¹⁸

Aside from recreational vehicle users, ranchers are concerned the rules do not go far enough in limiting the use of recreational vehicles. Adams and Russell-Adams described the concerns of ranchers who graze livestock.¹⁹ The ranchers wanted stricter limits on OHV use, including use permits, speed limits and enforcement of rules. They were concerned that remapping is not enough to curtail what they see as dangerous behavior. OHVs have practical uses, and many ranchers use them in their own work. Local residents, however, perceive non-resident OHV users as a problem and want to promote "responsible use."²⁰

In another study by Adams and Russell-Adams, representatives from New Mexico's indigenous populations raised other concerns about OHV use.²¹ Native American representatives said they felt left out of the decision-making process on OHV use. They perceived the FS as opening and creating trails that would increase access to lands adjacent to tribal lands and to sacred areas within the forest. They claim "first-among equals" as a right to "more authority" in guiding the decision-making process.²²

Environmental groups have posed the strongest opposition saying that the new maps legitimize user-created trails.²³ In a 2004 article in the *Albuquerque Journal*, an environmental activist is quoted "it's a great first step ... what needs to come with it is some ... enforcement capability."²⁴

Since legislation was finalized so recently, all interested parties are waiting to see the results before issuing formal statements on the new laws. OHV remains a volatile debate among users in the National Forest.

3.8 Opportunities, Risks and Special Circumstances

Northern New Mexico is considerably distant from the largest and most-connected airport in the state which is more than 70 miles from any RD. There are a number of smaller, municipal airports in the area (Taos, Santa Fe, Los Alamos, etc), but their flight schedules may be too

¹⁸ Southwest Four Wheel Drive Association. (2004). Land Use Issues. SFWDA Website. Retrieved October 2006, from <http://www.swfwda.org/index.php?des=landuseinfo>

¹⁹ Russell, J. C., & Adams-Russell, P. A. (2005a). Values, Attitudes and Beliefs Toward National Forest System Lands: The Cibola National Forest (Issue Brief). Placerville, CA: Adams-Russell Consulting, September 23, 2005, p. 27.

²⁰ Ibid

²¹ Russell, J. C., & Adams-Russell, P. A. (2005b). Values, Attitudes and Beliefs Toward National Forest System Lands: The New Mexico Tribal People (Issue Brief). Placerville, CA: Adams-Russell Consulting, September 11, 2005, p. 24, 41.

²² Ibid., p. 21.

²³ Associated Press. (2005, November 3). Forest Service to corral off-road vehicles: Regulation aims to stop proliferation of illegal trails by motor enthusiasts. MSNBC. Washington. Retrieved from <http://www.msnbc.msn.com/id/9899401>

²⁴ Soussan, T. (2004, September 9). U.S. Plans To Limit Off-Highway Vehicles. *Albuquerque Journal*, p. 1.

limited for tourist use. Distance from a large airport and the distance from the state's major population center make attracting visitors to the area more difficult for the Santa Fe NF. However, forest lands that lack access to larger markets typically have greater influence on economic growth in rural counties,²⁵ because forest lands become one of the few substantial economic forces in the area, including FS operations.

Major highways near the Santa Fe NF are mostly around the perimeter of the forest. Local and collector roads and an extensive network of forest roads provide most access through the forest. Forest officials and local residents use forest roads as the primary way of accessing various points of interest within the forest. As such, it is imperative that these roads are kept in good condition. Many forest roads, especially near the Sangre de Cristo range, are often closed during the winter months because they are not plowed or maintained in the winter. In addition to the major highways and local roads, the forest has an abundance of forest roads.

Since the population in the area, outside of Santa Fe, is quite small, traffic is fairly light. Together, population and traffic predictions indicate that it is unlikely that there will be any significant increases in traffic through the area. The forest itself is divided into several contiguous areas with major highways running through them.

The key concerns regarding access and right-of-way to forest land are systemic in nature and require a coordinated policy to bring resolution. As it stands, the FS is only able to address problems when they become dire (lawsuits, and so on.). Conflicts over access and right-of-way are long-standing problems and may require the efforts of more than district staff, especially if resolution involves conflicting land records. In some areas, the Santa Fe NF should attempt to increase the number of visitors to the area by marketing recreational and cultural sites and increasing access, especially in the more rural regions. However, increasing access in the Santa Fe NF is a proposition that should be approached carefully. Increasing access to areas in the forest may be viewed with disapproval by tribal groups (and other traditional users) that desire to preserve the privacy and sanctity of their religious and cultural sites and practices. A study of tribal peoples' attitudes, beliefs, and values toward the land found that as long as land management policies are significantly influenced by economics, they are going to create conflict with native groups. Native American communities have attachments to the land that pre-date the FS and considering their needs and expectations regarding land use is essential to finding an appropriate balance.

²⁵ Rasker, Ray, Ben Alexander, Jeff van den Noort and Rebecca Carter, "Prosperity in the 21st Century West: The Role of Protected Public Lands," The Sonoran Institute, July 2004.

4 Land Cover and Ownership

This chapter examines issues related to land cover and land ownership in the Santa Fe NF. The first section examines the various types of land cover in each of the ranger districts. The second section discusses recent land exchanges and the policy environment for future conveyances. The third and fourth sections discuss specific forest issues relating to land cover: invasive species and forest fires.

The geographic data for this section is taken from the United States Geological Survey National Land Coverage Data set (NLCD), a raster based Landsat imagery. The data is obtained for each county with a 30 meter resolution making the data fairly accurate. The Arc Info Geographic Information Systems software is used to extract the necessary data for each contextual geographic area. The USAD FS provided land exchange and conveyance data and invasive species and fire information was obtained from discussions with forest officials and archival sources.

4.1 Land Cover on Santa Fe National Forest

Table 4.1 provides land cover classifications for each ranger district based on data compiled in the NLCD. About two thirds of the Santa Fe NF (1,282,151 acres) is covered with evergreen forest. Another 15 percent (252,759 acres) is covered by grasslands. **Figure 4.1** is a map illustrating land cover types on the Santa Fe NF.

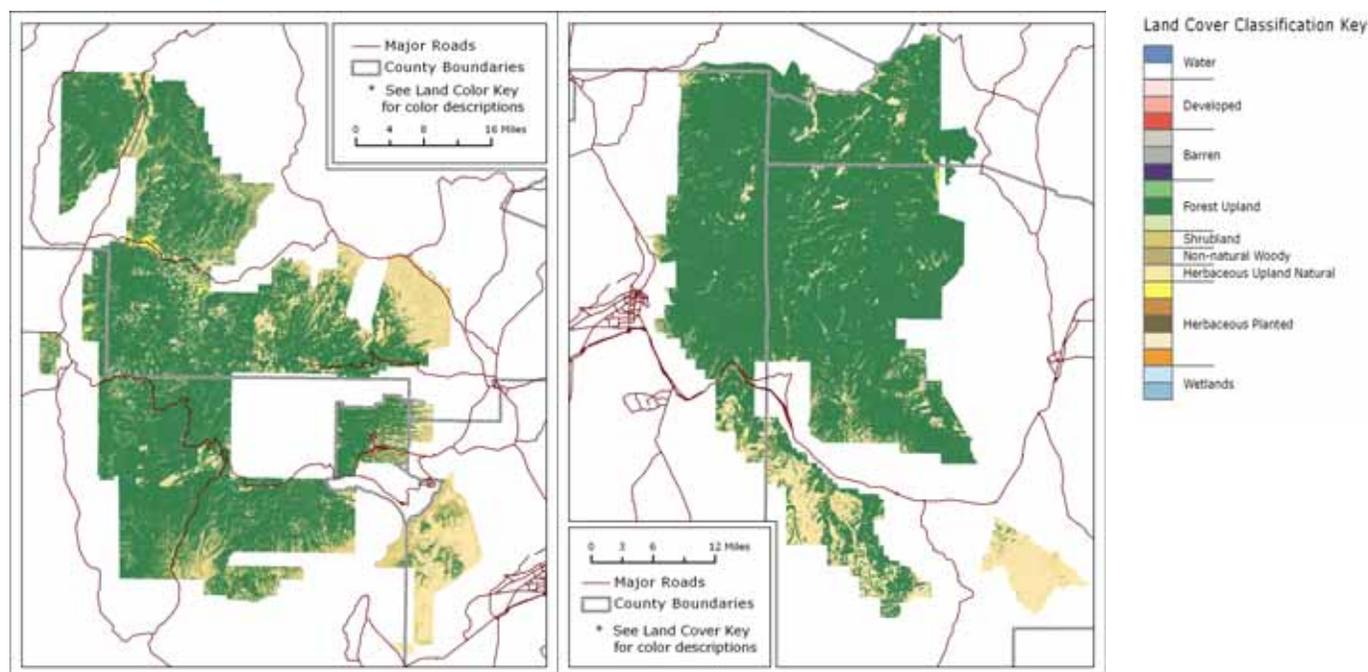


Figure 4.1: Land Cover on The Santa Fe National Forest (East and West)

The largest RD, Pecos-Las Vegas, makes up about a third (544,956 acres) of the whole forest. About 81 percent (439,808 acres) of the district is covered with evergreen forest and another 15 percent (80,274 acres) by grasslands. The Pecos-Las Vegas RD also includes a long strip of land just south of Interstate 25. This area's landcover is a mixture of evergreen forest and grasslands. The RD also includes a small area of grassland and shrub land located south of I-25 and east of NM3.

4 Land Cover and Ownership

The Española RD is divided into four separate sections; in total the district covers 376,399 acres, or about 22 percent of the forest. The RD spans both sides of US84. On the east side, the district includes a portion of the Pecos Wilderness and the Santa Fe Municipal Watershed, which is closed to all human occupancy to protect the drinking water of Santa Fe residents. On the west side, three sections are separated by Santa Clara Pueblo and the Bandelier National Monument. The Española RD is separated from the Jemez RD by the Valles Caldera National Preserve. The Preserve is shown by the white box in the left panel of Figure 4.1.

The Española RD has the largest number of grassland acres, (89,376 acres), accounting for about 35 percent of the forest's grasslands. About 4,200 acres are owned by entities other than the FS. Much of the grassland is located in the region surrounding the Town of Abiquiu Land Grant, just south of US84. Another section of the district covered by grassland is the area southeast of the Bandelier National Monument and south of White Rock Canyon. This area borders Cochiti Pueblo, to the west. The grassland and shrub lands are characterized in Figure 4.1 with light-brown shading.

The Cuba RD is divided into two large sections and one small section. In the large southern portion, the border of the Cuba RD travels through the San Pedro Parks Wilderness. The region of the district just south of the wilderness area is crisscrossed with forest roads, traveling through Sierra Nacamiento. The small portion of the Cuba RD is separated from the other two sections by US550

In the middle of the two large sections of the Cuba RD, is the Coyote RD, covering 267,688 acres (about 16% of the whole forest). The Coyote RD contains the entirety of the Chama River Canyon Wilderness. The Chama Scenic River runs through the Wilderness. On the northeast side of the Wilderness area is the Santa Fe NF's border with the Carson NF.

Table 4.1: Land Cover on Santa Fe National Forest (Acres)

	Coyote	Cuba	Espanola	Jemez	Pecos-Las Vegas	Total Santa Fe
Bare Rock/Sand/Clay	68	57	574	54	644	1,418
Commercial/Industrial/Trans	2	3	1,022	73	87	1,187
Deciduous Forest	144	0	1,383	641	6,729	8,896
Emergent Herbaceous Wetlands	1	1	0	0	0	2
Evergreen Forest	201,042	215,968	224,294	201,014	439,808	1,282,151
Fallow	0	0	1	0	1	2
Grasslands Herbaceous	40,139	23,058	89,376	19,835	80,274	252,759
High Intensity Residential	0	0	25	0	0	25
Low Intensity Residential	2	7	778	39	26	850
Mixed Forest	1,631	2,574	0	867	0	5,069
Open Water	266	37	458	56	37	779
Orchards/Vineyards/Others	25	0	0	0	0	25
Pasture/Hay	3,109	645	158	219	627	4,751
Quarries/Strip Mines/Gravel Pits	7	160	489	76	0	732
Row Crops	4	0	346	100	0	450
Shrubland	21,217	11,900	57,272	27,929	16,722	135,041
Small Grains	25	1	0	8	0	33
Urban/Recreational/Grasses	0	0	163	0	0	164
Woody Wetlands	5	0	0	0	0	5
Total	267,688	254,410	376,339	250,912	544,956	1,694,340

In addition to land cover, land ownership is an important consideration in land use and planning policies.

4.2 Land Ownership

Overall, there are 137,964 acres within the Santa Fe NF which are privately owned, making up only about eight percent of the entire forest. This proportion is similar to the seven percent of privately owned land in the neighboring Carson NF. In the Cibola and Carson NFs, the two most common land covers, evergreen forest and grasslands, have differing proportions of land owned by private interests. For example, in the Carson NF, only four percent of evergreen forest acres are owned by private landowners, whereas 12 percent of the grasslands are owned by private interests. Generally, economically viable land outside of tourist attractions, particularly grazing land, is more likely to be owned by private interests. This was also the case in the National Grasslands. However, this was not the case for the Santa Fe NF. About eight percent of all evergreen forest, grassland and shrubland are owned by private landowners, indicating no variance in land ownership and land cover. **Table 4.2** shows, in great detail, the breakout of publicly and privately owned land in the Santa Fe NF.

Table 4.2: Land Cover of Publicly and Privately Owned Land in Santa Fe NF

	Coyote			Cuba			Española		
	NFS	Private	Total	NFS	Private	Total	NFS	Private	Total
Bare Rock/Sand/Clay	59	9	69	38	19	57	574	0	574
Commercial/Industrial/Trans	1	1	2	2	0	3	170	854	1,023
Deciduous Forest	74	70	143	0	0	0	1,294	92	1,386
Emergent Herbaceous Wetlands	1	0	1	1	0	1	0	0	0
Evergreen Forest	194,459	6,582	201,041	210,602	5,374	215,976	212,902	11,383	224,285
Fallow	0	0	0	0	0	0	1	0	1
Grasslands Herbaceous	36,332	3,835	40,167	193	3,388	3,581	85,095	4,279	89,374
High Intensity Residential	0	0	0	0	0	0	0	25	25
Low Intensity Residential	0	1	2	0	7	7	2	776	778
Mixed Forest	1,553	77	1,630	2,494	80	2,574	0	0	0
Open Water	251	13	264	35	2	37	359	93	452
Orchards/Vineyards/Others	0	24	25	19,668	0	19,668	0	0	0
Pasture/Hay	305	2,811	3,116	1	449	450	158	0	158
Quarries/Strip Mines/Gravel Pits	7	7	7	148	13	161	365	127	492
Row Crops	0	4	4	0	0	0	346	0	346
Shrubland	19,552	1,666	21,218	10,846	1,055	11,901	54,031	3,251	57,282
Small Grains	0	25	25	0	0	0	0	0	0
Urban/Recreational/Grasses	0	0	0	0	0	0	24	139	163
Woody Wetlands	0	5	5	0	0	0	0	0	0
Total	252,595	15,123	267,719	244,029	10,388	254,417	355,322	21,017	376,339
	Jemez			Pecos/ Las Vegas			Santa Fe Total		
	NFS	Private	Total	NFS	Private	Total	NFS	Private	Total
Bare Rock/Sand/Clay	51	3	54	644	1	644	1,367	32	1,399
Commercial/Industrial/Trans	32	41	73	8	79	87	213	974	1,187
Deciduous Forest	582	60	642	4,997	1,731	6,728	5,652	1,953	7,605
Emergent Herbaceous Wetlands	0	0	0	0	0	0	2	0	2
Evergreen Forest	189,248	11,758	201,006	379,227	60,586	439,813	1,186,539	95,685	1,282,224
Fallow	0	0	0	0	2	2	1	1	2
Grasslands Herbaceous	17,552	2,286	19,837	71,501	8,771	80,272	230,236	22,524	252,760
High Intensity Residential	0	0	0	0	0	0	0	25	25
Low Intensity Residential	4	35	39	1	25	25	7	844	851
Mixed Forest	751	117	867	0	0	0	4,797	273	5,069
Open Water	2	54	56	30	7	37	677	169	846
Orchards/Vineyards/Other	0	0	0	0	0	0	0	24	25
Pasture/Hay	6	212	219	0	627	627	655	4,098	4,753
Quarries/Strip Mines/Gravel Pits	72	4	76	0	0	0	591	143	734
Row Crops	0	100	100	0	0	0	346	103	450
Shrubland	25,635	2,297	27,932	14,046	2,677	16,724	124,119	10,937	135,056
Small Grains	0	8	8	0	0	0	1	32	33
Urban/Recreational/Grasses	0	0	0	0	0	0	24	139	164
Woody Wetlands	0	0	0	0	0	0	0	5	5
Total	233,935	16,975	250,910	470,453	74,506	544,959	1,555,226	137,964	1,694,344

Note: Small errors in calculations are the result of 'edge rounding' associated with the use RASTER based NLCD.

Source: USGS EROS, National Land Cover Data (NLCD), Date 1992 (New Mexico). Calculations by UNM-BBER.

The Pecos-Las Vegas RD has the highest percentage of privately owned land (about 14%). About 16 percent of the district’s shrubland is privately owned, but it is insignificant compared to the rest of the forest.

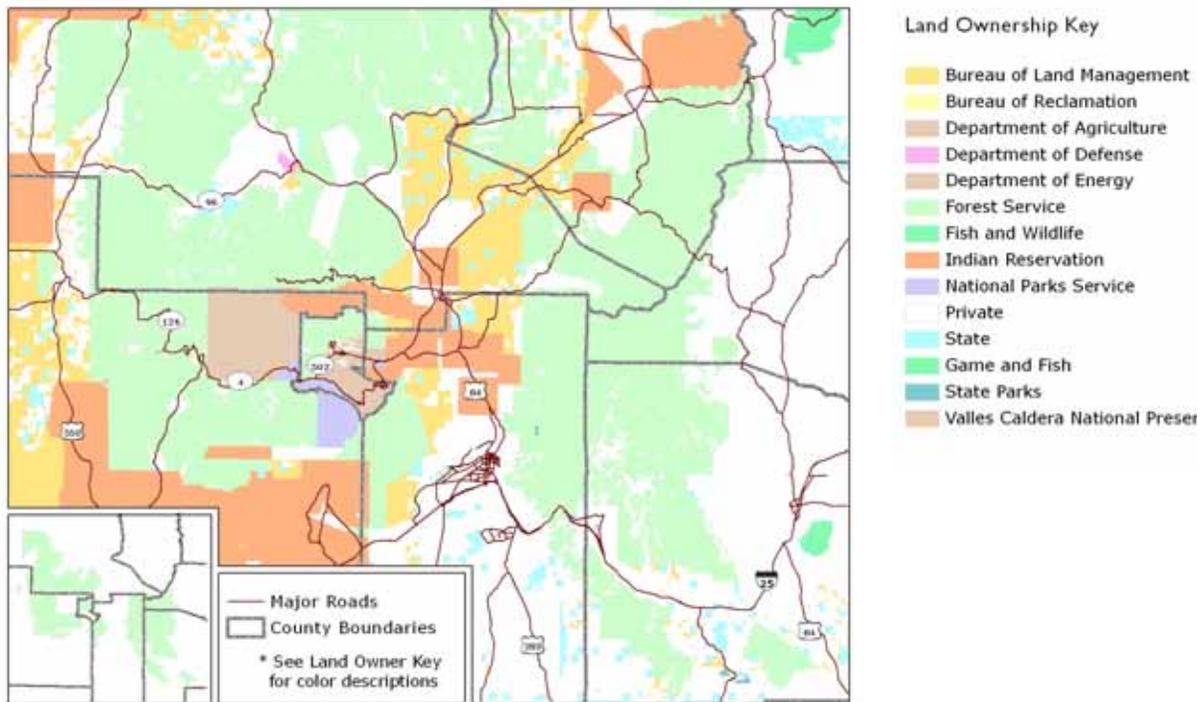


Figure 4.2: Land Ownership on Santa Fe National Forest

4.3 Land Conveyance and Exchanges

The Forest Service provided BBER with data concerning land conveyances and exchanges in the Santa Fe NF. Generally speaking, isolated parcels of forest land scattered around the boundaries of the Forest are often costly and difficult to manage and pose significant right-of-way issues. However, these parcels can still hold leverage. FS officials have often expanded contiguous forest areas by trading isolated parcels for land more desirable to the FS on the edge of or inside FS boundaries.

The last major land exchange related effort began in January 2005, when the Pecos National Historical Park Land Exchange Act of 2005 was introduced to the Senate. In July 2005, the bill was referred to the House Subcommittees on Forest and Forest Health and on National Parks where no action was taken. The bill was reintroduced in January 2007, was passed out of the Senate Energy and Natural Resources Committee and is awaiting action by the full Senate²⁶ It has not been scheduled for a vote and there is no companion bill in the House of Representatives.²⁷

In 2004, after a few years of negotiations, the Santa Fe NF acquired 1,600 acres of private land adjacent to the northeast side of the Pecos Wilderness. The land was bought with \$4.7 million from the Federal Land and Water Conservation Fund, with support from a non-profit and the United States Congress. The USAD FS wanted to purchase the land to create an eastern access to

²⁶ [http://thomas.loc.gov/cgi-bin/bdquery/z?d110:S.216:](http://thomas.loc.gov/cgi-bin/bdquery/z?d110:S.216)

²⁷ Information provided by Sen. Jeff Bingaman's Albuquerque office, June 27, 2007.

the Gascon Trail.²⁸ Before the purchase, there was no road to the trail, but the FS had an easement to the trail. Before the road is built, the FS must complete an environmental impact study, including a public comment period.

Data provided by the Forest Service describes other examples of land exchange in the past. For example, land was exchanged under the auspices of the Weeks Act in fiscal year 1994. The FS exchanged 111 acres and \$32,000 for about 640 acres of non-federal land. President William Howard Taft signed the Weeks Act into law on March 1, 1911. The law authorizes the federal government to purchase lands for stream-flow protection, and to maintain the acquired lands as national forests. Initially, the law was used to acquire eastern lands along navigable watersheds. As the years progressed however, the Forest Service acquired select western lands under the aegis of the Weeks Law.²⁹

According to forest historians, transfers of land *from* national forests, even for public purpose, have been viewed as disappointments by land administrators in Region 3.³⁰ They view the transfer of public lands, which are available for the general public's use and enjoyment, to exclusive use of a certain segment of the population (without suitable recompense to the public), as contrary to the general public interest. This was the underlying issue in the transfer of two areas from the Santa Fe NF to Taos Pueblo; the Blue Lake area during the Kennedy administration and the Rio Pueblo Drainage during the Nixon administration.³¹

4.4 Forest Health

Forest health is a central concern the FS and forest users. Healthy forests provide important resources, such as clean water and air to villages, towns and cities. FS research shows that 80 percent of fresh groundwater in the United States originates from federal forest lands. The role of forests in absorbing carbon from the air is also well documented.³² Forests also provide safe refuge for wildlife and some of the most endangered species of plants and animals. However, the strategies implemented to protect forest health are often at the center of conflicts. For example, environmental groups heavily advocated for the end of logging in order to protect endangered wildlife, such as the Mexican Spotted Owl. After the reduction of heavy logging, other forest users became concerned with the resulting overgrowth and fire danger.

At the national level, the USDA FS has indicated four areas of major concern that are overarching issues for all NF lands. Presented as the "Four Threats," these areas are: fire and fuels, invasive species, loss of open space and unmanaged recreation. Growing populations and increased use adds to the difficulty of reducing these threats on public lands. All of these critical management issues are relevant to the Santa Fe NF, and some are discussed in more detail in other chapters. The specific threats and possible impacts in the Santa Fe NF are briefly described below.

²⁸ Staci Matlock. Santa Fe National Forest Expands. Staci Matlock. The New Mexican. December 4, 2004.

²⁹ The Forest History Society. <http://www.lib.duke.edu/forest/> Accessed June 5, 2006.

³⁰ Robert D. Daker, Robert Maxwell, Victor Treat, and Henry Dethloff. *Timeless Heritage: A History of the Forest Service in the Southwest*. (College Station, TX: USDA Forest Service, 1988).

³¹ Ibid.

³² R. K Monson, A. A Turnipseed, J. P Sparks, P. C Harley, L. E Scott-Denton, K Sparks, T. E Huxman (2002) Carbon sequestration in a high-elevation, subalpine forest *Global Change Biology* 8 (5), 459–478.

4.4.1 Fire and Fuels

Much of the West has been under drought conditions over the last several years. Continued drought conditions combined with high fuel loadings have created dangerous conditions for much of the West.³³ Some 26 million acres in the West have been identified as fuels treatment “hot spots” or high priority areas. Many of these areas are classified as FRCC3, “significantly altered from the normal range.” These are areas that have missed multiple cleansing fires. FRCC3 areas where there is a high risk of large and destructive fires that can be dangerous and difficult to control.

Uncontrolled fires can result in substantial environmental and economic impacts. Wildfire devastation impacts lives, property, wildlife habitat, fragile ecosystems, water, and soils, and timber resources.³⁴ Fires and the corresponding reduction of tree cover can result in deterioration of fresh water supplies and collateral damage because of increased runoff, increased flooding and aquifer depletion.³⁵

Of the 21 acres of National Forest lands in the Southwestern Region, more than 80 percent is at moderate to high risk of “uncharacteristic” wildfire. These fires are larger and more intense than naturally occurring wildfires. They can alter soils, reducing their ability to retain moisture, accelerate erosion and compromise water quality. Further, wildlife habitats and the forests’ aesthetic quality are damaged. Prevention strategies are not inexpensive and are not always well received by the public. An article in the Albuquerque Journal in September 2005 describes a scaling back of a thinning project because of community resistance.³⁶ However, others are concerned with the heavy undergrowth and dry brush which are major fuels.

Treatments to reduce fuels and restore ecosystems involve various techniques, including thinning, prescribed burning, and clearing the forest of debris. Treatments can be biological, mechanical or chemical.³⁷ Costs for treatment in 2004 were roughly \$120 per acre although estimates of costs using mechanical means are cited in a range of \$500 to \$1,000 per acre (USDA FS, 2003).

In 2007, due to high levels of precipitation in the winter and spring, fire restrictions in the Santa Fe NF did not go into effect until late June. This is a change from the previous year when fire restrictions were put in place for much of the Santa Fe NF in April due to the lack of precipitation during the winter.³⁸ Beyond closing the forest to recreational visitors, forest closures can have economic impacts as well. Outfitters, rafting companies and other businesses that rely on forest recreation were hurt by a major forest closure in 2002.³⁹

³³ USDA FS. (2004, June). *Fire and fuels*. Retrieved from <http://www.fs.fed.us/projects/four-threats/documents/firefuels.fs.pdf>

³⁴ USDA FS. (2006, October). Fire and fuels: Quick facts. USDA FS Website: Four Threats. Retrieved Novem16, 2006, from <http://www.fs.fed.us/projects/four-threats/facts/fire-fuels.shtml>

³⁵ Sedell, J., Sharpe, M., Apple, D.D., Copenhagen, M., & Furniss, M. (2000, January). Water and the forest service. USDA FS Document FS-660. Retrieved from <http://www.fs.fed.us/publications/policy-analysis/water.pdf>

³⁶ Journal Staff. (2005, September 15). Cibola Forest Trims Thinning Project Near Tajiue. Albuquerque Journal.

³⁷ USDA FS. (2003). Position paper: Fire and fuels build up. Retrieved from <http://www.fs.fed.us/publications/policy-analysis/fire-and-fuels-position-paper.pdf>

³⁸ The Associated Press. Entire Santa Fe Forest to be under Fire Restrictions.” April 26, 2006.

³⁹ John Arnold “Fire Restrictions Likely Despite Snowfall, Precipitation has Delayed Action.” Albuquerque Journal, March 22, 2006.

Restoring fire-adapted ecosystems is of utmost priority in Region 3. The urgency is felt statewide, but there are conflicts over how to thin the forests – using fire, mechanical means or not intervening at all. The FS has the task of considering impacts on wildlife, habitat, effects on visual quality, and tribal concerns.

Wildfires in the Santa Fe NF pose a special threat to the watersheds in the region. Some officials are worried because a written comprehensive strategy to address the watersheds in case of a fire does not exist.⁴⁰ For some time after a fire, water would be unusable for drinking because of the ash and sediment that would accumulate in it.

4.4.2 Invasive Species

Invasive species have been characterized as a “catastrophic wildfire in slow motion.”⁴¹ Non-native, invasive plants and insects can cause major disruptions in ecosystem function. Invasive species can reduce biodiversity and degrade ecosystem health in forest areas. The damage caused by invasive organisms affect the health of not only the forests and rangelands but also of wildlife, livestock, fish, and humans.⁴²

Invasive plant life, such as bull thistle, bindweed and salt cedar, is a concern complicating forest management all over New Mexico. However, some forest managers have come under heated criticism for the use herbicides to kill these noxious weeds.⁴³ Critics argue that herbicides pose risks to fragile aquatic life and sensitive wildlife pollinators, such as butterflies.

Salt cedar (tamarisk) is a tree that grows along rivers and streams, absorbing and transpiring large amounts of water making it an invasive species that greatly impacts watersheds and riparian systems. FS personnel mechanically remove the tamarisk in sensitive areas or where infestations are small. However, mechanical removal is considered unpractical for infested areas with many miles of stream or covering hundreds of acres. Unfortunately, the use of herbicides over large areas means more herbicides in the watershed. Tribal and pueblo peoples have also expressed concern over the use of herbicides that can make their way onto their lands.⁴⁴

The fire danger in the Cibola NF is often times intrinsically linked to the bark beetle. Forests are at risk of beetle infestations due to recent drought conditions in the area.⁴⁵ Bark beetles infest piñon and other pine varieties distressed from already existing drought conditions. The result is rapid mortality of large stands of trees, resulting in higher fuel levels. The beetles typically have a two-year life cycle and regulate their own population. However, they can cause extensive damage to forests. Traditional wisdom dictates “once you see the beetles, it’s already too late.”

⁴⁰ Martin Salazar. Severe Fire Danger: Officials search for water, evacuation plans to prepare for a dry summer.” Albuquerque Journal. May 7, 2006.

⁴¹ Fred Norbury, Assoc. Deputy Chief, FS. (2005). Statement before the Subcommittee on Public Lands and For Committee on Energy and Natural Resources. Retrieved from http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=1500&Witness_ID=4269

⁴² USDA FS (2006, March 24). Invasive Species Program. USDA FS Website. Retrieved October 2006, from <http://www.fs.fed.us/invasivespecies/definition.shtml>

⁴³ Berdie, J. (2006, January 14). Letter to Editor. Santa Fe New Mexican.

⁴⁴ Russell, J. C., & Adams-Russell, P. A. (2005). Values, Attitudes and Beliefs Toward National Forest System Lands: The New Mexico Tribal People (Issue Brief). Placerville, CA: Adams-Russell Consulting.

⁴⁵ Sharpe, T. (2006, February 21). Preparing for the worst. *The Santa Fe New Mexican*.

4.4.3 Loss of Open Space and Pristine Areas

Forest areas located at the edges of growing towns and cities, or in prime recreation areas popular for second-home development are the most at-risk of losing open space. Increases in housing density and associated development (such as power lines, septic and sewer systems, and shopping centers) can result in changes in wildlife habitats, changes in forest health, reduced opportunities for outdoor recreation and greater loss of life and property to wildfire. The development of private lands in and surrounding the Santa Fe NF can result in a decrease in open space. As houses are built closer to the base of mountains access to trails and forest lands may be limited. Also at risk are the traditional uses of forest land as newcomers have different interests in the land as compared to local residents who depend on the land for their livelihood.

Road construction in wilderness areas is a potential threat to pristine forest areas. The debate over the preservation of inventoried roadless areas (IRAs) and the wilderness areas represents active and current struggles over the conservation of pristine areas. Community and activist groups advocate for the preservation of “pristine” forest areas that are not permanently altered by human interference. Other stakeholders argue that roads are needed to provide access for resource extraction as well as for fire prevention and control.

4.4.4 Unmanaged Recreation

Off-highway vehicle (OHV) use is the primary form of unmanaged recreation in the Santa Fe NF. The growing use of OHVs has major implications for forest planning and management. The effects of OHV use include miles of unplanned trails and roads, erosion, recreational use conflicts, spread of invasive species, damage to cultural resources and historical sites, disturbance to wildlife, destruction of habitats, and risk to public safety.

As discussed in Chapter 3, the FS implemented the Travel Management Rule for OHV use in National Forests and Grasslands which went into effect in December of 2005.⁴⁶ New guidelines provide re-designation of trails and routes for different types of uses. Response to the plan has been mixed, and it has been suggested that there may be a need for more clarity in the designations.

4.5 Opportunities, Risks and Special Circumstances

The most pressing issues facing the Santa Fe NF regarding land cover and land ownership is directly related to forest health, namely fire danger. Drought conditions have left much of the southwestern region of the United States a tinderbox waiting for a spark. The danger is exacerbated by invasions of bark beetles, noxious weeds and the lack of adequate tree thinning.

Even though the danger is imminent, various land interests have yet to agree on methods in restoring forest health. It is a difficult position for the FS, its attempts to mechanically thin the forest have met with opposition from some outside groups, but attempts to use herbicides also have been met with opposition from other groups. While the conflict goes on, conditions in the forest become more and more dire.

⁴⁶ USDA FS. (2005). USDA Forest Service Releases Final Rule for Motorized Recreations in National Forests & Grasslands. FS Press Release. Retrieved November 10, 2006, from <http://www.fs.fed.us/news/2005/releases/11/travel-management.shtml>

Federal and private land managers must work together to eradicate invasive plant species. Otherwise, efforts on one side will prove ineffective. In the case of local businesses, such as the raising of organic beef or organically grown herbs, the businesses and FS should collaborate on an effective treatment and prevention plan. Local residents should be educated on how to keep invasive plant species under control on their property.

These problems and the FS's limited options in resolving the situation could erode public confidence in the Forest Service's ability to manage forest resources. Since the FS manages a significant portion of forested lands in the Southwest, the public expects the agency to take action to resolve the beetle situation, especially since tree mortality increases the risk of wildfire. Many expect that the FS will remove dead trees from around communities and adjacent to private lands. Where dead trees become a threat to people and or property, removing the problematic trees becomes a major expenditure for both the agency and the public. The results have the potential for far-reaching impacts on forests, communities and private lands in New Mexico.

5 Forest Uses and Users

The purpose of this chapter is to describe how different parts of the forest are used and by whom they are used. The USAD FS allows land to be accessed for a variety of uses including: recreation, tourism, subsistence, and grazing, as well as providing scenic resources for the surrounding communities and forest visitors. It is a group of diverse individuals and groups which use forest resources, manage and plan the forest, and own forest dependent businesses. Each of these people use and interact with the forest environment in a broad assortment of ways that have significant consequences for forest ecosystems and the people who depend on them.⁴⁷

When asked, officials with the Santa Fe NF had a difficult time identifying a primary land use, or “niche,” for the forest, noting that its users are extremely diverse and various uses are concentrated in different areas of the forest. In some areas, grazing is the primary use, whereas recreation and non-traditional timber products are common in others. Without a common “vision” or “identity” for the forest, it can be difficult to identify guiding principles which assist in formulating land use policies and help direct decision-making. In late June 2006, the Santa Fe NF staff gathered to discuss what the “vision” of the Santa Fe NF is in an attempt to gain a better understating of what the forest is “all about.”⁴⁸

Historically, the identification and implementation of principles to guide land management policies have been successful in the Santa Fe NF. For example, the Santa Fe NF has established guidelines regarding acceptable methods and circumstances for forest thinning. Forest thinning projects have often been a point of contention among the FS and outside groups. On one hand, there are the self-named environmental groups which argue that thinning threatens wildlife habitats and jeopardizes endangered species. On the other hand, forest managers are worried that an overgrown forest increases the risk for catastrophic fire. The guidelines established by the FS are the product of collaboration and compromise among a variety of groups with different interests. Also, the guidelines have the support of environmental preservation groups and other interests which can greatly reduce the threat of lawsuits and conflicts over thinning and other timber projects that impede any action to improve forest health.

This chapter explores some of the major issues facing the Santa Fe NF and its users. The following sections discuss the forest’s multiple use mandate and current conflicts among users. It also outlines the predominant uses of the forest currently.

5.1 Forest Use and Users

This chapter discusses how different parts of the forest are used, in terms of land cover and land use, as well as the users themselves. The Forest Service manages the land for a variety of purposes from recreation and tourism to grazing and resource extraction. The Forest Service also manages scenic resources for the neighboring communities and visitors. Many diverse individuals and groups own, manage, and use forest resources, and they interact with the forest environment

⁴⁷ J. F. Dwyer, “Integrating social sciences in ecosystem management: People-forest interactions in the urban forest,” in H.K. Cordell (Ed.), *Integrating social sciences and ecosystem management: A National Challenge*: Athens, GA: USDA, Forest Service, Southern Research Station, 1995).

⁴⁸ Personal Communication. June 5, 2006.

in a broad assortment of ways that have significant consequences for forest ecosystems and the people who depend on them.⁴⁹

While traditionally the national forests supported resource-based industries, like wood-products, mining, and grazing, recreational use of the forest is growing. Recreational uses include activities such as hiking, picnicking, camping, skiing, bird-watching, hunting, OHV use, and rock climbing. Spending by recreational users is estimated to have the largest economic impact on the Santa Fe NF assessment area. (See Chapter 7) Moreover, these estimates do not include the substantial economic benefit derived by the individual recreational user.⁵⁰

The FS is guided by a multiple-use mandate to administer lands for the purpose of recreation, grazing, timber, watershed, fish and wildlife.⁵¹ However, the multiple-use principle is not without challenges. With increased usage from growing populations, an inherent dilemma in the multiple-use rule is clear. Inevitably, there is an increased likelihood that one type of use will impinge on another, creating the potential for conflict. Land-use conflict is a major challenge for FS officials because it is inherent in practically every forest planning decision. While many forest users are hesitant to suggest limiting access, increasing attention is being given to how some users, like those using recreational Off Highway Vehicles (OHVs), are degrading the land and the experiences of others.⁵² See discussion on Off Highway Vehicles in Section 2.6 of the chapter on Travel and Access.

Multiple-use issues are especially sensitive when they involve Native American communities. FS managed lands are used by tribes for religious and cultural purposes. The Cibola NF contains archaeological sites, lands of cultural significance, traditional hunting grounds, and sacred sites, which are unequivocally important to tribes. Tribal communities are concerned with protecting sacred sites and with limiting outsider knowledge both of their special areas and of how these areas are used by the tribes.

Officials with the Santa Fe NF provided descriptions of common conflicts between forest users. For example, the relationship between tribal groups and the FS is often strained as forest officials attempt to plan forest maintenance and restoration efforts while preserving the integrity of cultural sites. However, many of the most significant cultural sites are not known to the FS making it difficult, if not impossible, to make adequate allowances. Still, tribal groups are reluctant to disclose their special sites and expect the FS to be sensitive to their cultural practices and requirements.⁵³ Recently, the most significant battle between tribal groups and the Santa Fe

⁴⁹ Dwyer, J.F. (1995). Integrating social sciences in ecosystem management: People-forest interactions in the urban forest. In H.K. Cordell (Ed.), *Integrating social sciences and ecosystem management: A national challenge*. Athens, GA: USDA Forest Service, Southern Research Station.

⁵⁰ See, for example Fix, P and J. Loomis (1997) *Journal of Leisure Research*. 23(3). P. 342-352. These researchers found that the economic benefit, as measured in terms of consumer surplus, for mountain bikers in Moab, Utah, was upwards of \$200 per visit. This means that mountain bikers would pay up to \$200 over and beyond actual travel expenses to ride the mountain trails, because of the benefits they gain from their recreation.

⁵¹ Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. §§ 528-531, June 12, 1960.

⁵² Russell, J. C., & Adams-Russell, P. A. (2005a). *Values, Attitudes and Beliefs Toward National Forest System Lands: The Cibola National Forest (Issue Brief)*. Placerville, CA: Adams-Russell Consulting, September 23, 2005, p. 27.

⁵³ J. C. Russell and P. A. Adams-Russell, *Values, Attitudes and Beliefs Toward National Forest System Lands: The New Mexico Tribal Peoples* (Placerville, CA: USDA Forest Service, 2005).

NF is a lawsuit filed by the Tesuque Pueblo to halt the construction and operation of a ski lift in the Santa Fe Ski Basin. The Pueblo claims that the chair lift risks damage to culturally significant sites located in the area. The details of this conflict are discussed in a later section of this chapter.

In addition to recent developments in recreation, the history of the northern New Mexico region has had an influence on how land is used and shapes the debate in many of the current land-use conflicts. Changes in the economy have contributed to changes in the roles of the forests' stakeholders. Russell succinctly described how the stakeholders were once dominated by the interest of ranchers, farmers and extractive industries, but now it is the recreation and tourism industries that have a larger stake in decisions regarding forest land use.⁵⁴ This shift from traditional to recreational uses has also created a distinction between the **types** of users that access the forest.

There is difference in usage between newcomers to the area and those whose families have lived in the area for generations. The conflict between newcomers and longer term residents often deal with disagreements on the appropriate use of the land and natural resources. New arrivals are often perceived as not appreciating or not tolerating traditional uses, such as grazing. A anecdote told by long-time ranchers described affluent newcomers as complaining about, "cows on their Kentucky blue grass lawns."⁵⁵

5.2 Recreation

In many of the national forests in New Mexico, including the Cibola and Carson NF, dollars spent by recreational visitors provide the forests' most significant economic impact in their surrounding areas. The Santa Fe NF is no exception. When compared to other economic activities such as timber and oil extraction, visitor spending has by far the greatest economic impact. Typically, visitors are attracted to the areas within the Santa Fe NF for skiing, hiking, and camping. The Santa Fe NF has over 100 designated recreational sites, including 34 developed campgrounds and 25 trail heads. However, it is the ski areas that have the greatest annual impact.

Table 5.1 provides an estimate of how many people visit the forest for recreation and wildlife related purposes. Data collected by the Forest Service indicates that at least 1.3 million people have visited the Santa Fe NF in 2002-2003. Recreational visitors access the forest for purposes such as hiking, camping, backpacking, and picnicking. The wildlife data includes hunters, anglers, and wildlife "watchers" (photographers, birdwatchers, etc). Unfortunately, the data is limited in that BBER is unable to determine the number of visitors for each ranger district or to identify where visitors are coming from. The data do show, however, that more than half of all visitors (822,046 visitors) are local residents who travel to the forest on a day trip. It can be assumed that these visitors come from the nearby towns of Santa Fe, Los Alamos and Española. Residents of areas further south (Albuquerque, Bernalillo) may be more likely to visit the Cibola NF, as it is closer.

Accessed June 8, 2006

⁵⁴ Ibid.

⁵⁵ Ibid.

Table 5.1: Number of Recreational & Wildlife Forest Visitors of Santa Fe NF

Type of Visit	Recreation	Wildlife
Non-local Day Travel to Forest	233,176	10,393
Non-local Overnight Stay on Forest Land	102,015	4,547
Non--Local Overnight Without Stay on Forest Land	160,309	7,145
Local Day Travel to Forest	786,970	35,076
Local Overnight with Stay on Forest Land	58,294	2,598
Local Overnight Without Stay on Forest Land	0	0
Total Santa Fe Forest Users	1,340,763	59,760

Source: NVUM Santa Fe 2003. UNM-BBER

As mentioned earlier, it is the skiers that have the most economic impact in the Santa Fe NF. BBER estimates that 182,076 skiers visited the forest in 2003. This will be discussed in full detail in Chapter 7, “**Economic Impacts.**” The Pajarito Ski Area, a private ski area within the Santa Fe NF and the Santa Fe Ski Basin are located in the Española RD. The Pajarito Ski Area is the smaller of the two, with 290 acres cleared for skiing. It is located on the eastern edge of the Jemez Mountains, near where the Valles Caldera National Preserve and the Bandelier National Monument meet. The area is owned by Los Alamos Ski Club Inc, a non-profit organization. There is a small paid staff that runs the facility, as most work is performed by volunteers. Also, the Pajarito Mountain Ski Patrol is the only all-volunteer ski patrol in the state, with about 60 volunteers. There are about 40 runs in the area.

Ski Santa Fe opened in 1948 and began operating under a special use permit from the FS in 1978. In 1997, the FS issued a new 40-year special use permit to the ski company allowing it to pursue expansion plans. The Ski Basin has about 67 trails on 660 acres. The ski basin is owned by the Abruzzo family and is operated as a private business. Currently, there are seven chair lifts in the ski area, in addition to the new “Millennium Triple” chair lift scheduled to begin operation in Winter 2006. The new chair lift was originally scheduled to open in late 2005, but a lack of snowfall kept it idle. The chair lifts have the capacity to transport more than 10,000 skiers per hour.⁵⁶ Since the ski area attracts so many visitors, communities are concerned about the impacts of heavy traffic on special areas, especially culturally significant sites., Located near the ski area is the Tesuque Pueblo, which has filed a lawsuit against the Forest Service, claiming the new chair lift will allow unlimited access to the tribe’s holiest shrines and most revered religious ceremonies. This is discussed in further detail in the next section.

5.2.1 Santa Fe Ski Basin and the Tesuque Pueblo

According to Ski Santa Fe, skiers and snowboarders are pleased by the area’s newest expansion, which includes a new lift to the upper ski-basin trails at Deception Peak. However, groups such as Tesuque Pueblo and the Sierra Club have fought against the expansion for cultural and environmental reasons.⁵⁷ The Tesuque Pueblo sued the FS in August 2005 and the Nambé Pueblo joined the suit in November of the same year.⁵⁸ Tesuque Pueblo agreed to dismiss its claims in the lawsuit in March 2007. Nambé Pueblo dropped four of its six claims and is working on a

⁵⁶ Ski Santa Fe. <http://www.skisantafe.com/facts/html> . Accessed May 10, 2006.

⁵⁷ Staci Matlock. “Making Way for New Lift.” The Santa Fe New Mexican. October 13, 2005.

⁵⁸ John Arnold. “Chairlift Future Up in the Air.” Albuquerque Journal. November 25, 2005.

memorandum of agreement with the Forest Service that would enforce a similar memorandum of agreement signed nearly a decade earlier.⁵⁹

The new chair, “The Millennium Chairlift”, opened in late 2006. It is the eighth lift at Ski Santa Fe and is over one mile long on the north side of the ski basin with a vertical rise of 1,530 feet and is 12,075 feet at its highest point. The chairlift is estimated to boost the number of riders by up to 1,500 per hour in addition to the area’s previous capacity of 9,350 riders per hour.⁶⁰

5.2.2 Hunting and Wildlife

The wildlife in the Santa Fe NF attracts visitors ranging from hunters to wildlife watchers. In 2001, 595,000 New Mexico residents participated in hunting, fishing, or wildlife watching, contributing about \$1 billion to the state’s economy.⁶¹ NVUM data show that almost 60,000 people visited the Santa Fe NF to see or hunt wildlife in 2003. Refer back to **Table 5.1**. Many game animals roam the Santa Fe NF, including mule deer, elk, turkey, black bear, mountain lion, and bighorn sheep. Elk is a premier game animal in the state. Additionally, the Santa Fe NF has ample fishing opportunities. The forest has more than 620 miles of streams and lakes. Many of these areas are stocked with Rainbow Trout and the native Cutthroat Trout.⁶²

Under federal mandate, hunting is regulated by the states which are responsible for issuing permits and licenses. In New Mexico, permits for elk, deer, and antelope are issued on a lottery basis to New Mexico residents and non-residents. The seasons and hunting dates are highly regulated on the Santa Fe NF. A full description of elk and deer hunting regulations can be found in the appendix, **Table A.6**.

In New Mexico, small geographical areas in the national forest are designated as hunting management “units,” by the state. The units are used to designate hunting areas, as regulations regarding hunting dates and limits are set at the unit-level. Elk is a popular game animal and Elk hunts are popular in Units 6 (Sandoval County, near Jemez Pueblo), 44 and 45 (in the Pecos Wilderness). Hunting opportunities are also available on private land in Mora County, east of US85 (Unit 46). Deer hunts often take place in Mora County, north of NM120 (Unit 48).

Elk hunting is popular in the Valles Caldera National Preserve in September and October, but the area’s elk population is causing concern. Approximately 4,500 elk populate the Jemez Mountains and about two-thirds of that herd spends 6-8 months in the Valles Caldera National Preserve.⁶³ The population is half the size of what it was in the late 1990s and the calf to cow ratio is alarmingly low⁶⁴. Further, the number of elk calves that live to adulthood is half of what it is

⁵⁹ Mark Oswald. “Pueblos Agree to Abandon Suits.” *Journal Santa Fe*. March 13 2007.

⁶⁰ Staci Matlock. “Making Way for New Lift.” *The Santa Fe New Mexican*. October 13, 2005.

⁶¹ U.S. Department of the Interior, Fish and Wildlife Service, 50 State Reports, 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, <http://fa.r9.fws>.

⁶³ John Arnold, “Possible Elk Decline Studied, Animals could be Changing behavior,” *Albuquerque Journal*, December 30, 2005.

⁶⁴ Staci Matlock, “Form Water to Elks, Lead Scientist Coordinating Projects,” *The Santa Fe New Mexican*, December 11, 2005.

elsewhere.⁶⁵ Research is currently being conducted to investigate the role of coyotes in the decreasing elk population.⁶⁶

5.3 Grazing

Approximately 95 million acres, accounting for 65 percent of the entire National Forest System, are used for grazing in the western states. Twenty-two percent of all grazing on public land occurs in the southwest region of the NF system. In the Santa Fe NF grazing is an activity that is embedded in the culture and history of the local residents. Even though it is not a major economic force, ranchers engage in this traditional activity because it is part of their heritage. Livestock animals are important components of household economies, but most of the small ranchers no longer depend on their crops and animals as their sole source of income. Many ranchers in northern New Mexico have a different profit orientation than ranchers in other parts of the state. They do not do it to improve economic conditions, but do it in spite of them. Local ranchers have maintained their way of life over generations even when it would make more economic sense to sell their land to developers or subdivide.⁶⁷ The animals are typically used as a partial subsistence and as a means for special expenses or emergencies. Despite the fact that livestock are not the primary means of support for most ranching families, they do make a substantial contribution to the household economy.⁶⁸

The majority of ranches in New Mexico are small, cow-calf operations with between one and ninety-nine head of cattle. Ranches of this size constituted 70 percent of the state's 8,313 ranches in 1996. That same year, in the north-central region of the state, small operations (less than 99 head) made up 82 percent of the 1,804 ranches. Large ranches in the north central region make up three percent of the total ranches, whereas statewide, large ranches account for seven percent of the total.⁶⁹

In the context of the Santa Fe NF, **Table 5.2** shows the number of permits and allotments that are currently active. There are about 300 current permits and 75 active grazing allotments. About a third of the active permits are on the Coyote RD, but the Cuba RD has the greatest number of grazing allotments.

⁶⁵ Ibid.

⁶⁶ Staci Matlock, "From Water to Elks, Lead Scientist Coordinating Projects," *The Santa Fe New Mexican*, December 11, 2005.

⁶⁷ Jack Ward Thomas and Stephanie Lynn Gripne, "Maintaining Viable Farms and Ranches Adjacent to National Forests for Future of Wildlife and Open Space," *Rangelands*, 24(1), 2002.

⁶⁸ Carol Raish and Alice McSweeney, "Livestock Ranching and Traditional Culture in Northern New Mexico," *Natural Resources Journal*, vol. 41 (2001): 713.

⁶⁹ Ibid.

Table 5.2: Number of Grazing Permits and Allotments on Santa Fe National Forest

Ranger District	# Permits	# Allotments		
		Active	Closed	Vacant
Coyote	101	11	0	0
Cuba	41	19	0	0
Española	60	9	3	0
Jemez	16	11	0	1
Pecos- Las Vegas	75	25	2	2
Forest Total	293	75	5	3

Source: USDA Forest Service Grazing Permits and Grazing Allotment Databases

The cost of permits to graze on public land is subject to change and to considerable public scrutiny. There are those who believe that ranchers are paying less than fair market value for grazing fees. Comparisons are frequently drawn between the fees for grazing on private land versus the fees for grazing on federal land. According to a study of ranchers in the Santa Fe NF, the permittee is sometimes criticized as being “subsidized” by the federal government. Others argue, to the contrary, that the additional costs associated with a grazing permit, such as maintenance and improvements make up for the difference in fees. Expenses associated with grazing on public land due to public access (theft, vandalism and disruption of ranching operations) also increase operational costs for public land ranchers. As populations and recreation visits to public lands increase, such costs are expected to rise.⁷⁰

Grazing fees are charged per animal-unit-month (AUM). The AUM is the amount of forage needed to sustain one cow and her calf, one horse or five sheep or five goats for a month. The grazing fee for Western public lands was raised to \$1.43 per AUM from \$1.35 in 2003.⁷¹ The 2005 fee is \$1.79 per AUM.⁷² The INFRA database had substantial amounts of missing grazing fees data, so BBER was unable to calculate the total permit value.⁷³ **Table 5.3** shows the AUMS present in the Santa Fe NF over the last 15 years.

⁷⁰ Carol Raish and Alice McSweeney, “Economic, Social, and Cultural Aspects of Livestock Ranching on the Española and Canjilon Ranger Districts of the Santa Fe and Santa Fe National Forests: A Pilot Study,” USDA Forest Service, September 2003.

⁷¹ USDA Forest Service News Release: FS-0406, February 20, 2004.

⁷² <http://www.blm.gov/nhp/efoia/wo/fy05/im2005-067.htm>

⁷³ The INFRA database also contained data indicating the acreage of grazing allotments. However, BBER staff was informed that the data represented “ballpark estimates” of acreage and the figures may include additional acreage such as BLM, private land and in-holdings. BBER was unable to determine how many acres of grazing were in each RD.

Table 5.3: Animal Unit Months on Santa Fe National Forest, 1985-2002⁷⁴

Year	Santa Fe AUM
1985	NA
1986	NA
1987	100,865
1988	121,406
1989	92,183
1990	93,105
1991	100,484
1992	85,805
1993	93,828
1994	96,272
1995	92,811
1996	91,058
1997	89,079
1998	90,247
1999	NA
2000	88,906
2001	81,801
2002	76,961

The data show that the AUMs have been on a steady decline since 1994. One of the greatest concerns for ranchers is the tendency for ranch land to be sold and subdivided rather than continuing as agricultural land. When farms and ranches located near the NF are no longer economically viable, ranchers may be more likely to sell or subdivide their land to developers and new-comers. It is usually sheer determination to hold on to traditions that often keeps them from selling. An article by forest researchers described the importance of keeping farms and ranches viable, or the open spaces near the forest will be in jeopardy.⁷⁵ A common element in the studies cited in this report was the ranchers' frustration with newcomers and visitors who want to recreate the land to suit their own notions of civilization rather than adapting to their surroundings.

5.4 Timber

Timber has long been a traditional use of the Santa Fe NF, but is not a significant economic presence. **Table 5.4** shows the value of timber sales from 2000 to 2004. The "Sales" column shows the amount collected by the USFS for rights to harvest the forest, such as permits and other fees. The "Cut" column indicates how much was collected from the sales of the cut timber. The data show that cut timber brought in about \$200,000 each year between 2000 and 2004.

⁷⁴ Note: Data obtained from forest-level hard copy records. Reliability of the data is unknown as only available records were utilized. Records may be missing for any given year. Cells with data missing indicate data is not available. Reliability of the data is unknown as only available records were utilized. Records may be missing for any given year.

⁷⁵ Jack Ward Thomas and Stephanie Lynn Gripne, "Maintaining Viable Farms and Ranches Adjacent to national Forests for Future of Wildlife and Open Space," *Rangelands* 24(1), 2002.

Table 5.4: Timber Sales on Santa Fe National Forest, 2000-2004

Year	Sales	Cut
2000	\$244,036.44	\$267,933.43
2001	\$215,844.60	\$197,195.58
2002	\$191,273.77	\$164,317.05
2003	\$220,430.93	\$283,081.13
2004	\$207,757.57	\$150,395.55
Total	\$1,079,343.31	\$1,062,922.74

Source: TIMS Database, USFS.

According to the TIMS database, the most profitable forest product was soft sawtimber, with about \$57,000 in sales. Soft sawtimber accounts for 27 percent of the total timber cut value for 2004. Fuelwood accounted for about 22 percent of the total timber cut value with about \$45,860 in 2004. This is different from findings in the Carson and Cibola NFs where fuelwood accounted for more than 85 percent of the total timber cut value. The timber industry is not a major economic force in the area, nor does it provide many jobs, as Chapter 7 will show.

Currently, efforts are underway to devise a plan to supply a steady source of fuel for a new 35-mega watt biomass plant being operated by Public Service Company of New Mexico (PNM). The plant will need about 735 tons of woody material a day. Supplying the plant with a steady source of fuel will be part of a larger forest restoration project; thinning out small-diameter trees without risking wildlife habitats.⁷⁶

5.5 Oil and Gas

In the Santa Fe NF, there were 12 active oil and 24 active gas wells, plus numerous inactive wells. The data show that many revenues produced by oil and gas development are not integrated back into the local economy, as many of the extraction companies are not local. Additionally, oil and gas extraction does not require many employees and often outside labor is used to maintain equipment. Although there is unlikely to be any significant economic impact directly from the extraction of oil and gas, the local region does receive benefit in the form of state and local taxes and forest service tax disbursements for transportation and road costs. Chapter 7, “**Economic Impacts,**” discusses oil and gas exploration in full detail.

5.6 Special Use Permits

The Santa Fe NF sanctions use of the national forest lands by issuing special use permits. Permits authorize occupancy, usage, rights to and privileges on the forest lands. The permits allow for a wide range of activity on the forest as a whole, but each district is utilized for only a few purposes. As **Table 5.5** shows, each RD appears to have a different concentration of special uses. Also reported below is the amount of “rent” collected for each permit category.

There are currently 425 active special use permits on the forest, with a total of \$186,570 collected in rent. About 45 percent of the total active permits are issued for recreational purposes. The rent

⁷⁶ Tania Soussan. Restoration Agreement Reached. Albuquerque Journal. May 17, 2006.

5 Forest Uses and Users

collected from recreational permits, \$114,305, accounts for about 60 percent of all rent collected in the forest. Similar results were found in the Cibola and Carson NFs, where recreation-related permits accounted for the majority of special uses. This reflects the shift in the FS's mission, from extractive uses to recreational uses.⁷⁷ Three fourths of all active recreation permits (114) were issued in the Pecos-Las Vegas RD.

It is also interesting to note that many of the recreational permits were issued to outfitter and guide operations. About a fourth of the active recreational permits are for outfitters and guides, also accounting for about 18 percent of all rent (\$20,392) collected on recreation permits.

About half of all active communications permits are located on the Española RD.

⁷⁷ Paul Sutter. A Blank Spot on the Map: Aldo Leopold, Wilderness and US Forest Service Recreational Policy, 1909-1924. *The Western Historical Quarterly*, Vol. 29(2). 1998.

Table 5.5: Special Use Permits on Santa Fe National Forest (1949-2005)

Permit Category	Coyote			Cuba			Española		
	# Active	# Closed	Rent Total	# Active	# Closed	Rent Total	# Active	# Closed	Rent Total
Recreation	6	3	\$4,128	9	3	\$8,471	19	19	\$36,971
Agriculture	4	0	\$121	0	0	\$0	1	0	\$0
Community/Public Information	1	0	\$0	0	0	\$0	1	0	\$0
Feasibility, Research, Training, Cultural Resources, & Historical Industry	0	0	\$0	0	0	\$0	5	0	\$0
Energy Generation/Transmission	0	0	\$0	1	0	\$0	1	1	\$150
Transportation	1	0	\$0	2	0	\$5,013	7	0	\$8,874
Communications	4	1	\$61	10	0	\$303	6	0	\$0
Water (Non-Power Generating)	3	1	\$61	5	0	\$7,161	21	0	\$11,709
TOTAL	5	1	\$120	10	0	\$471	10	0	\$7,113
TOTAL	24	6	\$4,430	37	3	\$21,419	71	20	\$64,817

Permit Category	Jemez			Pecos-Las Vegas			Unknown		
	# Active	# Closed	Rent Total	# Active	# Closed	Rent Total	# Active	# Closed	Rent Total
Recreation	12	9	\$1,352	144	8	\$63,383	0	0	\$0
Agriculture	0	0	\$0	2	0	\$196	0	0	\$0
Community/Public Information	3	3	\$61	1	0	\$0	0	0	\$0
Feasibility, Research, Training, Cultural Resources, & Historical Industry	4	2	\$0	2	3	\$0	20	5	\$1,186
Energy Generation/Transmission	1	0	\$50	0	0	\$0	0	0	\$0
Transportation	0	0	\$0	2	0	\$0	1	0	\$1,743
Communications	18	0	\$573	50	0	\$2,712	0	0	\$0
Water (Non-Power Generating)	4	0	\$12,940	6	0	\$8,627	3	0	\$2,596
TOTAL	10	0	\$0	9	1	\$486	1	0	\$0
TOTAL	52	14	\$14,975	216	12	\$75,404	25	5	\$5,525

Permit Category	Total		
	# Active	# Closed	Rent Total
Recreation	190	42	\$114,305
Agriculture	7	0	\$317
Community/Public Information	6	3	\$61
Feasibility, Research, Training, Cultural Resources, & Historical Industry	31	10	\$1,186
Energy Generation/Transmission	3	1	\$200
Transportation	13	0	\$15,631
Communications	88	1	\$3,649
Water (Non-Power Generating)	42	1	\$43,032
TOTAL	45	2	\$8,189
TOTAL	425	60	\$186,570

Source: USDA Forest Service 2005 Special Use Permit Database (SUDS). Calculations by UNM-BBER..

5.7 Illegal Uses

Table 5.6 lists the most common violations on the Santa Fe NF. In 2005, the FS recorded less than 60 violations in their LEIMARS⁷⁸ database. The Carson NF also recorded less than 60 violations for the same year. In forests, illegally taking timber and forest products was the most common offense. Improper occupancy and use of fires are also common offenses.

⁷⁸ Law Enforcement and Investigations Management Attainment Reporting System.

Table 5.6: Violations on Santa Fe National Forest

Code	# Incidents	Violation Description
36CFR261.6	19	Timber and other forest products
Unknown	12	
36CFR261.10	5	Occupancy and use
36CFR261.5	4	Fire
36CFR261.9	4	Property
36CFR261.11	2	Sanitation
36CFR261.54	2	Forest development roads
18USC1361	1	Government property or contracts
18USC1856	1	Fires left unattended and unextinguished
21USC841	1	Prohibited Acts
Total	51	

Source: USDA Forest Service, LEIMARS, 2005

A qualitative study of the nearby Carson NF users found that local residents perceive increased enforcement and education to be the best way to address several problems that can adversely affect forest resources and user experiences: growing vandalism, litter, off-trail riding by OHV and mountain biker riders, and tree and wildlife poaching. Most interestingly, many residents believe the problematic behavior is more common among visitors and recreational users.⁷⁹

5.8 Opportunities, Risks and Special Circumstances

The Multiple-Use Sustained Yield Act ended the traditional forest service role of concentrating on the production and preservation of forest products and imposed upon the service the obligation to balance the many competing interests to each other. Key issues for forest planning and management regarding land use are deeply entrenched in the conflicts among forest users, especially between long-term traditional residents, new-comers and visitors. Each group of users carries with it a collection of different expectations, values and attitudes regarding the public land and the Forest Service. In extreme cases, a group of users may initiate a lawsuit against the forest service, as can be seen in the case of the Tesuque Pueblo.

Collaboration can be used as a way diffuse conflicts. The collaborative arrangement between the Santa Fe FS, Forest Guardians and others regarding the tree thinning project offers hope that collaborative agreements are possible. However, collaboration and cooperation often involves compromise on all sides. In the case of the Santa Fe NF, many traditional users feel their attachments to the land have priority over visitors and newcomers and therefore, they should not have to compromise.

While grazing is not the primary economic activity on the Santa Fe NF, it is still one of the most culturally significant uses. Conflicts between ranchers and environmentalists (among others) are causing the public and the FS to evaluate the impacts of grazing on public land. Environmental groups (and even FS staff⁸⁰) argue that grazing causes soil compaction, reducing the absorption of rainfall and also the recharge of aquifers and water tables. Others will argue that grazing allows livestock to trample much of the overgrown brush that has become a fire danger. Ranching

⁷⁹ J. C. Russell and P. A. Adams-Russell, Values, Attitudes and Beliefs Toward National Forest System Lands: The Santa Fe National Forest (Placerville, CA: USDA Forest Service, 2005).

⁸⁰ See Letter to Editor by ex FS Biologist Leon Fager in Albuquerque Journal 07/10/98.

interests often perceive environmental groups as ‘non-local’ entities who do not understand the land and its condition as well as those who depend on it for their livelihood. Traditional users often have a sense of entitlement to the use of forest resources because of traditional and long-standing ties to the land and agreements with the FS.⁸¹ Further, they are often critical of FS plans, and believe the agency is letting the political agenda of a few drive decisions that will have long term effects, and only for short term gain. Rather, the residents believe that their traditional use has resulted in a body of knowledge and beliefs about forest conditions and health, which is better suited to inform decision making.

Changes in land uses follow a shift in the economy. As principal economic activities shift from traditional uses such as grazing and timber to service-based uses such as recreation and tourism there is a change in stakeholders that results. Stakeholders were once the ranchers, farmers, loggers and others who worked to extract natural resources from the forest. Now, recreation and tourist-based industries have a more vested interest in the decision making and planning of forest uses. Much of the debate over the use of federal lands are based on a perception that land management agencies have not adequately accounted for socio-cultural values and attitudes toward land valuation and use.

⁸¹ J. C. Russell and P. A. Adams-Russell, *Values, Attitudes and Beliefs Toward National Forest System Lands: The Santa Fe National Forest* (Placerville, CA: USDA Forest Service, 2005).

6 Special Management Areas, Recreational Sites, Heritage and Cultural Resources

This chapter describes the National Forest system's abundant offerings in the way of unique places for recreation, education, research, preservation, and quality outdoor experiences. The Forest Service inventories and manages sites as Special Areas, Recreational Sites, and as Heritage Resources. This section will discuss Special Areas and Recreational Sites and their benefits to visitors, researchers, educators, and to local communities.

6.1 Special Areas, Wilderness and IRAs

Special Areas are places designated by Congress or by top level administration within the National Forest Service, as unique because of the special characteristics and the opportunities they provide. The designations include Wilderness, National Historic Landmark (NHL), National Scenic Area (NSA), and National Monument (NM). Other Special Areas include Inventoried Roadless Areas (IRAs), Research Natural Areas, Wild and Scenic Rivers, National Recreation Trails, and National Scenic Byways, of which one example is the Santa Fe NF National Scenic Byway in the Española RD.⁸²

Wilderness areas, established by the Wilderness Act of 1964, are part of a system of wild lands that contribute significantly to the ecological, educational, and social health of its users and surrounding communities. The Wilderness Area designation protects water and other natural resources and culturally significant sites; as well as providing shelter for endangered species and offering a living laboratory for research. Beyond community benefits, Wilderness areas provide unique resources for individuals, such as an opportunity to explore personal values while experiencing risk, reward, and self-reliance.⁸³ The Act describes a wilderness as *"an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain."*⁸⁴ Within the Santa Fe NF there are over 314,000 acres of wilderness. The Wilderness areas are: Chama River Canyon, Dome, Pecos and San Pedro Parks. A small portion of the Pecos Wilderness is co-managed with the Carson NF. For specific information on each of the wilderness areas, refer back to Chapter 1.4.]

Figure 6.1 shows the special management areas, including the wilderness areas.

⁸² USDA FS (2004, February 4). Congressionally Designated Special Areas. USDA FS Website: *Recreational Activities*. Retrieved October 2006, from http://www.fs.fed.us/recreation/programs/facts/special_areas.shtml

⁸³ Recreation.gov. (2004, May 1). USDA FS Website, Apache Kid Wilderness. Retrieved from <http://www.recreation.gov/detail.cfm?ID=4476>

⁸⁴ US Congress, Wilderness Act of 1964, Public Law 88-577 (16.S. C. 1131-1136), 88th Congress, Second Session. (1964, September 3).

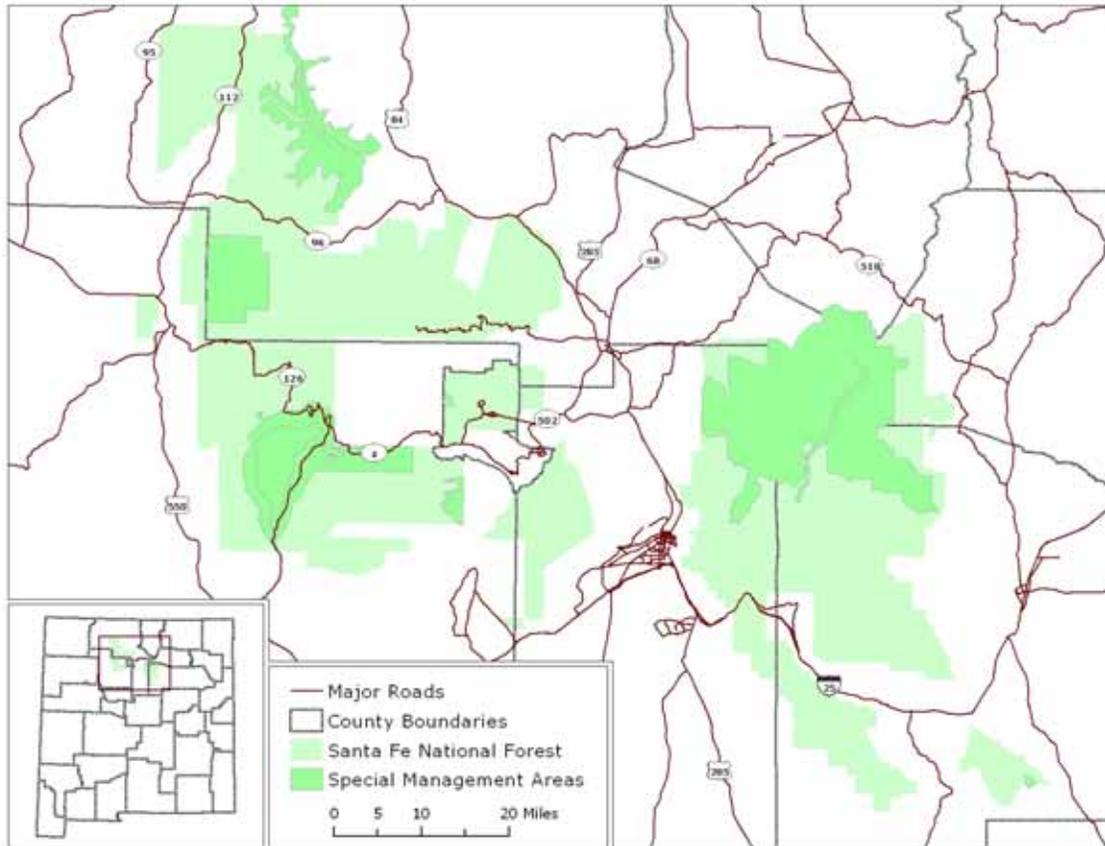


Figure 6.1: Special Management Areas

In January 2001, the Clinton administration enacted the Roadless Area Conservation Rule (“The Roadless Rule”), protecting 58.5 million acres of wild national forest land from most commercial logging and road building.^{85,86} Since that time, The Roadless Rule has been challenged by nine lawsuits in U.S. Federal District Courts in Idaho, Utah, North Dakota, Wyoming, Alaska, and the District of Columbia, and it’s implementation has been delayed by the Bush Administration.⁸⁷ In July of 2003, The Roadless Rule was deemed in violation of the National Environmental Policy Act and the Wilderness Act by the U.S. District Court. Consequently, in 2005, the USDA Forest Service announced a national Advisory Committee to help implement a “new” roadless rule.⁸⁸

⁸⁵ NMPIRG. (2006). Battle Over Roadless Areas Goes to States. *NMPIRG Citizen Update*. Retrieved November 2006, from <http://nmpirg.org/newsletters/summer06/story4.html>

⁸⁶ USDA FS (2005, May). Roadless Area Conservation Rule – Timeline. Available from <http://roadless.fs.fed.us/xdocuments.shtml> and http://roadless.fs.fed.us/documents/m-05/04_26_05_roadless_rule_timeline.html

⁸⁷ Wilderness Society, The. (n.d.). *National Forest Roadless Areas: Background and History*. Retrieved October 10, 2006, from <http://www.wilderness.org/OurIssues/Roadless/background.cfm?TopLevel=Background>

⁸⁸ USDA (2005, May 13). USDA Forest Service Acts to Conserve Roadless Areas in National Forests. USDA Newsroom, *News Release*. Release No. 0148.05. Retrieved October 10, 2006, from http://www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_1OB?contentidonly=true&contentid=2005/05/0148.xml

This new rule, supported by the Bush Administration, was aimed to create a collaborative process with states on regulations specific to the needs and requirements of each state. This new rule created a petition process allowing governors to determine which areas would continue to be protected. Governors could also petition to open IRAs to mining and logging. If a governor chose not to petition, the area could be opened to development. Critics argued the bureaucratic requirements involved in the petition process provided little incentive for governors to participate, which could result in the opening of IRA lands to commercial interests. In May of 2006, New Mexico Governor Bill Richardson submitted the first western state petition, requesting protection of all IRAs within New Mexico. On September 20, 2006, a federal judge in California struck down the Bush Administration rules and reinstated The Roadless Rule established by the Clinton Administration.⁸⁹ It is unknown at this time whether this decision will be appealed by the current administration.

In New Mexico, there are 1,102,000 acres of IRAs which do not allow road construction or reconstruction), making up about 12% of the National Forest System land in the state.⁹⁰ In addition, there are 66,000 acres of IRA that do not allow road construction and reconstruction that the FS Forest Plan recommends as wilderness.⁹¹ In the Santa Fe NF, much of the roadless land is in the eastern section of the Española RD and just south of the Pecos Wilderness in the Pecos/ Las Vegas RD. In total, 155,000 acres (10%) of the Santa Fe NF is designated as roadless areas, where construction and reconstruction is not allowed.⁹² **Figure 6.2** shows the inventoried roadless areas.

⁸⁹ Kenworthy, T. (2006, September 20). Judge reinstates ban on forest development. *USA TODAY*. Retrieved from http://www.usatoday.com/news/washington/2006-09-20-forest-rule_x.htm

⁹⁰ USDA FS map of NM Inventoried Roadless Areas on NF lands.

⁹¹ USDA FS (2001, January). *Inventoried Roadless Area Acreage, Categories of NFS Lands Summarized by State*. Retrieved March 27, 2006, from http://roadless.fs.fed.us/documents/feis/data/sheets/acres/appendix_state_acres.html

⁹² A Forest Service map of Inventoried Roadless Areas is available at <http://roadless.fs.fed.us/states/nm/cars.pdf>

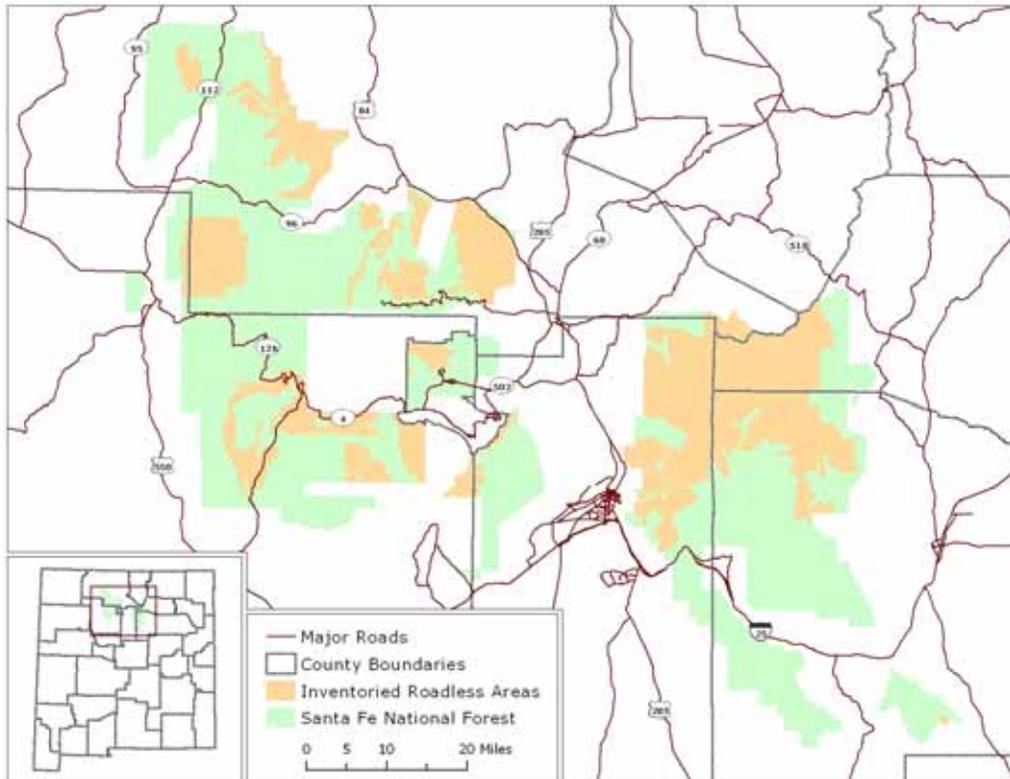


Figure 6.2: Inventoried Roadless Areas on Santa Fe National Forest

6.2 Recreational and Heritage Sites

The Santa Fe NF features over 100 designated recreational sites. For a complete list of recreational sites, please see **Table A.5** in the appendix. **Table 6.1** lists the number of designated recreation sites in each district, according to the INFRA database. The Pecos- Las Vegas RD has 34 recreational sites, which is the most of any RD in the Santa Fe NF.

Table 6.1⁹³ below shows a summary of recreation site types found over the whole forest. Table A.4 in the appendix lists all designated recreational sites on the forest, sorted by ranger district. Many areas of the forest are not “fee areas,” meaning visitors can access the site without charge. User fees were removed at the Iron Gate and Black Canyon trailheads because they did not meet the requirements set for trailheads under the 2004 Federal Lands Recreation Enhancement Act. The act allows federal agencies to charge fees if sites have features such as permanent toilets, trash bins, picnic tables and security services.⁹⁴ Data collected by the Forest Service indicates that at least 1.3 million people visited the Santa Fe NF in 2002-2003.

⁹³ These figures came from the USFS INFRA database, which is assumed to be the best source of data regarding recreational sites.

⁹⁴ Staci Matlock. “Forest Service Ends Fees for Recreational Areas.” The Santa Fe New Mexican. June 14, 2005.

Table 6.1: Types of Recreation Sites on The Santa Fe NF

Designated Site Category	Number of Sites
Campground	25
Trailhead	19
Picnic Site	16
Fishing Site	14
Group Campground	7
Recreation Residence	7
CUA Trailhead	6
Interpretive Site (Minor)	4
Boating Site	3
Observation Site	2
CUA Camping Area	2
Information Site	1
Group Picnic Site	1
Horse Camp	1
Ski Area Alpine	1
TOTAL	109

Source: USDA Forest Service, INFRA

Recreational sites are classified as either developed or dispersed sites. A developed site is a discrete place containing a concentration of facilities and services used to provide recreation opportunities to the public. Recreation sites are developed within different outdoor settings to facilitate desired recreational use. Developed sites include campgrounds, picnic areas, visitor centers and historic sites. Dispersed recreation are activities that occur outside of developed recreation sites such as boating, camping, hunting, fishing, hiking and biking. In other words, dispersed sites are popular areas that have no facilities or services.

6.3 Wild and Scenic Rivers

In 1968, Congress passed the National Wild and Scenic River Act, providing to protect certain rivers to remain in their natural state. There are three waterways in the Santa Fe NF that have received this formal designation. The waterways can be classified in three categories: wild, scenic and recreational. The definitions⁹⁵ are:

Wild: Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shoreline essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Scenic: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational: Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

⁹⁵ US Department of the Interior. *Federal Register* Vol. 47, No. 173. September 7, 1982. <http://www.nps.gov/rivers/guidelines.html> Accessed June 8, 2006.

The **East Fork Jemez River** was designated in 1990. The East Fork originates in the Valles Caldera as a small meandering stream in a vast crater. On its way to its confluence with the Rio San Antonio, the river passes through the heart of the Jemez Mountains' most popular recreation area. The designated area is 11 miles long, with 4 “wild” miles, 5 “scenic” miles and 2 “recreational”.

The **Pecos River** flows out of the Pecos Wilderness, through rugged granite canyons and waterfalls, and passes small, high-mountain meadows. It is one of New Mexico's most heavily used trout streams. The designation includes 20.5 miles, with 13.5 miles classified as “wild” and 7 miles as “recreational.”

The **Rio Chama**, which is a major tributary of the Rio Grande in northern New Mexico, was designated as a Wild and Scenic River in 1988. It flows through a multi-colored sandstone canyon which is at times is 1,500 feet deep and through areas that are designated as wilderness or as wilderness study areas. Co-managed by the Bureau of Land Management (BLM) and the U.S. Forest Service, the Rio Chama was classified as: 19.8 “wild” miles; 4.9 “scenic” miles, for a total of 24.7 miles.

The largest of the Wild and Scenic Rivers is the **Rio Grande**. The designated area extends from the Colorado state line downstream about 68 miles. The Rio Grande designation was among the original eight rivers designated by Congress as Wild and Scenic in 1968. The designation was extended by legislation in 1994 to include an additional 12 miles of the Rio Grande. The designated area includes 60 miles of the Rio Grande from the Colorado/New Mexico state line to just beyond BLM's County Line Recreation Site, and also includes the lower 4 miles of the Red River. The classification of the Rio Grande is 53.2 “wild” miles; 3 “recreational”; 12 “scenic”.

6.4 Cultural Resources

In addition to formally designated areas, there are areas of cultural significance to indigenous peoples. These places are of importance to Native American tribes for their traditional cultural and religious activities. Out of respect for the privacy of tribal activities and uses, the identity and other information about these places are kept strictly confidential. However, the location and nature of many of these sites are not revealed by the tribes, even to FS personnel, in an effort to protect their privacy and the sanctity of the site.⁹⁶ The fact that many of these sites are unknown complicates managing multiple uses of the forest and its resources.

6.5 Opportunities, Risks and Special Circumstances

The Forest Service maintains special areas in the Forest that offer unique opportunities for visitors, traditional forest users, and wildlife. The key issues concerning special management areas are similar to those presented in Chapter 5. The FS is in the difficult position of mediating different (and adamant) perspectives on what is the best and most appropriate use of land. In basic terms, one can see the line drawn between supporters of the FS's old mission, which was to extract economically viable resources from the forests and the more contemporary mission:

⁹⁶ Russell, J. C., & Adams-Russell, P. A. (2005b). Values, Attitudes and Beliefs Toward National Forest System Lands: The New Mexico Tribal People (Issue Brief). Placerville, CA: Adams-Russell Consulting, September 11, 2005, pgs. 19-20.

conserve and protect the forest for generations to come. In some cases, like the Valle Vidal, the disagreements often grow into something bigger than just a land use decision. Rather, it becomes a symbolic rallying point for the Forest's various stakeholders, making the FS's duties even more difficult.

With growing population pressures and increasing conflicts between government bureaucracy and forest users, the management of special areas promises to become more complicated. As stated in the Wilderness Act of 1964, *...increasing population, accompanied by expanding settlement and growing mechanization, [the Act helps to] "secure for the American people of present and future generations the benefits of an enduring resource of wilderness."*

Opportunities exist for the FS in regards of managing special areas. The substantial public response to forest management issues demonstrates that various stakeholders are deeply invested in land use decisions and look to the FS for support. Here again, the FS has the opportunity to demonstrate its mission, facilitate discussion and create collaborative relationships among different stakeholders. The tribal groups in the area pose a special management opportunity.

Northern New Mexico is home to many tribal groups, each representing a potential source of knowledge and management assistance, which can be of tremendous benefit to the FS. Russell's study on the northern tribes revealed a willingness among tribal members to be involved in forest management and decision-making processes. The FS has the opportunity to directly address tribal interests in management decisions by delegating some of the management responsibilities to the tribes.

In terms of further developing Forest land, such as road construction, the FS has the opportunity to increase visitor access to the forest, maintain adequate access routes for emergency personnel. In many cases, allowing development can possibly increase much needed economic activity in rural areas, as in the case of mineral extraction. Again, the difficulty lies in balancing land use among a broad spectrum of stakeholders.

Special areas pose many risks and challenges to the FS as well. In regards to recreational sites, maintaining them requires significant amounts of labor and other resources that may not be available to the FS. In the past, the agency has addressed this issue with the use of volunteers.

The FS is often caught in the middle of decision making at the federal level (such as the Roadless Rule) and demands from users at the local level. If locals perceive the federal government as interfering with New Mexico land issues, the FS can be accused of being influenced by "Washington" and not being sensitive to the cultural and ecological contexts of open space in New Mexico. Any decision the FS makes runs the risk of upsetting another group of stakeholders.

When working with tribal groups, the FS is in a complicated situation. As described earlier, there are about ten tribal groups surrounding the Carson NF. To each of these groups, the land is the nexus of history, way of life, culture and future generations. Special areas are used for religious and cultural purposes, and these places are not always known by the FS. This complicates Forest management because the agency runs the risk of implementing projects on ceremonial land without knowing it. Further, the tribes all use different special areas. One tribe may give the go ahead to clear trees from one area, when another tribe uses it for ritual practices. The only way to be completely sure is to survey all the tribes individually. The FS works to preserve the integrity of tribal special areas, but it becomes very difficult when they do not know where they are.