

# Executive Summary

This report is a characterization of the socioeconomic environment of the Carson National Forest (NF) and explores relationships and linkages between United States Forest Service (FS) managed land, visitors and surrounding communities. The principal finding of this study is that visitor spending in the Questa Ranger District (RD) is the largest and most influential contributor to the economic impact of the Carson NF. The Questa RD attracts the most visitors to the forest, especially for winter recreation activities such as skiing and snowshoeing. Additionally, the region's history of ranching and traditional land use in northern New Mexico has culminated in a deep-rooted value for preserving the quality of life characteristics of rural agricultural communities.

About 60 percent of the Forest is located in Rio Arriba County, the largest county in the assessment area. Taos County has the highest proportion of managed land, with 40% of its acreage covered by the Carson NF. About seven percent (104,967 acres) of the NF is owned by other entities, including private landowners.

In and around the forest are areas managed by other agencies, such as the Bureau of Land Management (BLM) and other federal entities (Bandelier National Monument, Valles Caldera National Reserve). The key stakeholders in the Carson NF extend beyond the various land managers as areas in and around FS managed-land are accessed by residents and other user-groups from diverse socioeconomic and cultural backgrounds and each has a stake. Each group represents different, and often opposing, expectations of the services and management obligations of the FS.

Much of the quantitative data used for this report are available only at the county-level. Thus, county boundaries define the parameters of much of the data and determine the assessment area – the area includes only New Mexico counties that are contained or touched by the six ranger districts of the Carson NF. The assessment area is comprised of four New Mexico counties (8,829,073 acres). Six ranger districts (RDs) comprise the Carson NF: Tres Piedras (24%), Canjilon (10%), El Rito (19%), Questa (12%), Camino Real (24%) and Jicarilla (11%).<sup>1</sup>

## Demographic and Socioeconomic Trends

The population increased in the assessment area between 1980 and 2000. Real per capita income rose in the four counties between 1990 and 2000. More people with more income in the assessment area may be expected to impact forest uses. In rural economies more dependent on agriculture and other land uses that involve extraction from the forest lands (e.g., grazing, wood gathering, piñon harvesting, etc.), management decisions could have lasting impacts on the wealth and well-being of certain populations. Counties where poverty is most prevalent are primarily rural counties, those with high percentages of minority populations, those that exhibit lower levels of education, and those with more housing without indoor plumbing facilities.

Over the past two decades, much of the logging industry has faded in this part of New Mexico. Grazing on public lands has been curtailed and ranches are experiencing hardships as they struggle to remain economically viable. Further, mines in Colfax and Taos Counties have closed. However, the Carson NF attracts visitors for an increasing number of recreational uses. The local tourism industry has expanded, a characteristic related to increasing amenity migration and greater investment in vacation homes.

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<sup>1</sup> Percentages indicate the proportion of Carson NF that covers each county.

## **Access and Right of Way Issues**

The largest and only major airport in New Mexico is the Albuquerque International Sunport, serving roughly six million travelers a year. However, this airport is more than one hundred miles from any part of the Carson NF.

In all four counties, there are only 165 miles of urban road and over 12,000 miles of rural road. Rio Arriba County has the lightest traffic, with about 158 vehicles traveling any given stretch of road on a typical day. However, the area has the most miles of roads. Taos County had the heaviest traffic in the assessment area, but it is still quite low relative to the rest of the state.

Forest roads provide access for both forest users and FS officials to areas of interest in the Carson NF. In some areas, forest roads allow the only access to complete maintenance and rehabilitative activities. In all, the Carson NF features almost 11,000 miles of forest road. When there are right-of-way issues, the FS tries to resolve them by purchasing easements which follow an existing trail or road through the property. In cases where the FS is unable to secure an easement, another strategy is to construct an alternative trail or road that goes around private property. However, this is more costly than purchasing an easement. Whenever changes to public lands are proposed the FS must first conduct an Environmental Impact Study (EIS) to determine the possibility of negative impacts on habitats, wildlife, and watersheds.

As part of a national mandate, all National Forests in New Mexico are currently involved in Travel Management Planning. This process, which includes the solicitation of public comment, is an effort to designate certain roads and areas for motor vehicle use and minimize damage caused by unmanaged recreation.

## **Land Cover and Land Ownership**

About 60% of the Carson NF (928,139 acres) is covered by coniferous forest. Grassland is the second most common land cover, making up about 23 percent (359,737 acres). The Tres Piedras RD is the largest RD (388,147 acres) and about half of the district is covered by grassland (185,515 acres). Overall, there are 105,010 acres of the Carson NF that are privately owned, comprising approximately seven percent of the entire Forest. The two most common land covers, evergreen forest and grasslands, have differing proportions of land owned by private interests. Only four percent of evergreen forest acres are owned by private landowners, whereas 12 percent of the grasslands are owned by private interests.

Invasive species have been characterized as a “catastrophic wildfire in slow motion.”<sup>2</sup> 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.<sup>3</sup>

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<sup>2</sup> Fred Norbury, Assoc. Deputy Chief, FS. (2005). Statement before the Subcommittee on Public Lands and Forests, Committee on Energy and Natural Resources.  
[http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing\\_ID=1500&Witness\\_ID=4269](http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=1500&Witness_ID=4269).

<sup>3</sup> USDA FS. Invasive Species Program. USDA FS Website.  
<http://www.fs.fed.us/invasivespecies/definition.shtml>.

Most invasive weeds are thistles (biennials and perennials), saltcedar, and Siberian elm. An example in the Carson NF area is the Canada Thistle (*Asteraceae*), which is common in the higher elevations of northern and central New Mexico. According to FS staff, Canada Thistle is present along roadways and is beginning to show in riparian areas.

The most threatening invasive insect species are variations of the bark beetle, an insect native to the region. Drought conditions weaken trees' vigor making it more difficult to survive beetle damage. As trees die from beetle attacks, the dead trees increase the fuel levels, resulting in heightened fire danger. In the Carson NF, species include the fir engraver (*Scolytus ventralis*), the piñon ips (*Ips confuses*) and the five-spined ips (*Ips lecontei*).

Continued drought conditions combined with high fuel loadings have created dangerous conditions for much of the West. Some 26 million acres in the West have been identified as fuels treatment "hot spots" or high priority areas. FS officials have compared the current moisture and fuel loading conditions to those immediately prior to the Hondo Fire and the Cerro Grande fire; both had catastrophic effects scorching thousands of acres of land and homes.

### **Land Uses and Users**

Recreation is the primary use of the Carson NF. However, recreation is concentrated in a few areas. The El Rito and Jicarilla RDs have few designated recreational sites, while the Questa and Camino Real RDs each have over 30. Also, the ski areas on the Questa RD are a major attraction for recreational visitors. Data collected by the FS indicates that at least 1 million people visited the Carson NF in 1999-2000. By far, most visitors are local residents taking day trips to the forest for recreational purposes.

Hunting occurs in areas ranging from the sub-alpine peaks of the Sangre de Cristo Mountains to the high plains near San Antonio Mountain, depending on one's game preference. Common game species in the Carson NF include Merriam's Turkey, Pronghorn Antelope, Mule Deer, Bighorn Sheep and Elk.

Grazing is one of the Carson NF's primary uses and is certainly embedded in the culture and history of the local residents. Although 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. Also, grazing activities are regulated by the United States Congress.

As there are different land uses, there are as many different land users and stakeholders. Recreational visitors, long-time residents, recent migrants and tribal members all have different expectations and needs from the land and the FS.

### **Special Management Areas**

Within the Carson NF are 86,193 acres of wilderness. Wilderness is a formal designation, which brings restrictions such as: no mechanized travel (including bicycles) and no camping within 300 feet of wilderness lakes. The wilderness areas are: Wheeler Peak, Latir Peak, Cruces Basin and parts of the Chama River and Pecos Wildernesses.

In addition to wilderness areas, inventoried roadless areas are special management areas. However, they are the focus of litigation all over the United States. Recent developments and changes in the “Roadless Rule” have captured the attention of forest users, advocacy organizations and business interests. Decisions as to how the land should be used and managed have substantial implications to the socioeconomic characteristics of the forest assessment area. For example, allowing road construction in particular areas may compromise the cultural integrity of some areas or jeopardize wildlife habitats. This could alienate traditional forest users and anger some wildlife preservation organizations. However, not allowing road construction limits the ability of the FS to maintain the forests’ health, by thinning for example, resulting in increased fire danger – threatening wildlife habitats and the forest at large.

The Carson NF features over 80 designated recreational sites. The Questa RD has the most recreational sites with 35 out of the Forest total of 81. The district also has two of the three ski areas, which bring in the most visitors.

### **Economic Impacts**

The data presented in this section describe a region that is significantly oriented toward retail and service industries, though Mora County is an exception. As such, the most important economic aspect of the use of the Carson NF is the revenue generated by recreational visitors. This is not to neglect the primary industrial uses of the forest land, but the main economic concerns of the region with respect to the forest are likely oriented toward maintaining or extending recreational use. This is particularly true for ski visitors, who make up a substantial portion of recreation and, at least in Taos County, are a very important source of revenue during the otherwise non-tourist winter season.

Ski visitors generated a total of \$67.8 million in revenues, 1,140 jobs, and \$29.4 million in additional labor income. Visitor spending is by far the largest source of activity, contributing a total of 84 percent of the employment and 82 percent of the labor income impacts. The FS is the second largest contributor in terms of both employment and income, while ranching also contributes significantly, but the impacts of timber harvesting are negligible.

Though 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 FS tax disbursements for transportation and road costs. In the Carson NF, oil and gas extraction occurs in the Jicarilla Ranger District, which lies in the Chama Municipality in Rio Arriba County

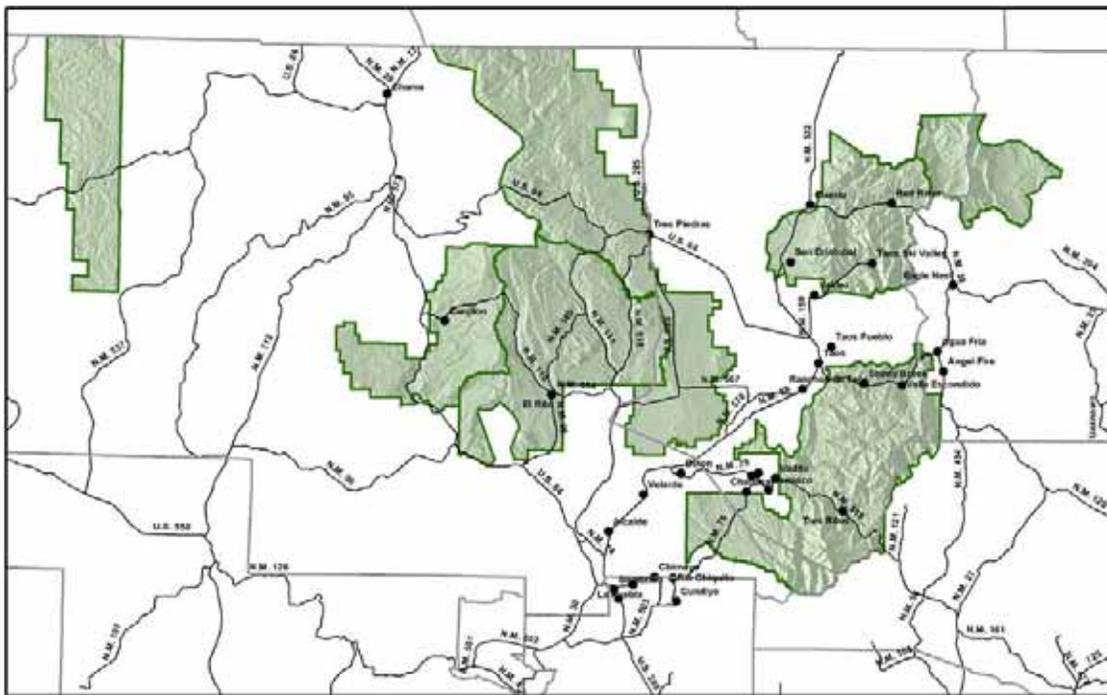
### **Community Relationships**

According to data collected from the USAD Forest Service, the Carson NF benefited from the work of about 228 volunteers between 2003 and 2005. Further, the FS has an extensive history of working with local communities and other government agencies on various projects, ranging from economic development to forest health and sustainability. These partnerships are an indispensable method of managing operations and conducting business. They play a vital role in achieving goals that the FS might not meet alone. Data provided by the FS shows that over 200 community organizations and businesses partner with the FS on various projects throughout New Mexico.

# 1 Introduction

Named for the noted frontier scout, Kit Carson, the Carson National Forest (NF) in northern New Mexico boasts some of the most famous landscapes in the country. The Forest features the Sangre de Cristo Mountains, which includes Wheeler Peak. At 13,161 feet, it is the highest point in New Mexico. The Forest also has perennial streams, small lakes, alpine valleys and meadows, all providing excellent forage for wild animals and domestic livestock. The forest provides year-round recreational opportunities, such as skiing and snowmobiling in the winter and abundant fishing and hiking in the summer. The land in the Carson NF is used mostly for recreation and livestock grazing. The region has a long history of land use characterized by conflict and controversy dating back to the days of Spanish colonialism. The socio-cultural aspect of land uses and users, historical and contemporary, is an integral part of the role played by the forest in northern New Mexico.

As shown in **Figure 1.1**, the Carson NF consists of four contiguous land areas clustered near the center of the New Mexico-Colorado border. Some of the southern borders of the forest abut the Santa Fe NF. The Carson NF encompasses 1.5 million acres across four counties in Northern New Mexico: Rio Arriba, Colfax, Taos and Mora Counties.



**Figure 1.1: The Carson NF**

## 1.1 Statement of Purpose

This report provides information and analysis of the socioeconomic environment of the Carson NF, including the relationships between Forest Service (FS)-managed land, visitors, and surrounding communities. Specifically, this report:

- Documents and analyzes the current contributions of Carson NF to the socioeconomic

- and cultural vitality of the communities neighboring the public land;
- Identifies and evaluates national, regional, and local trends that may shape these contributions during the coming years; and
- Explores Opportunities and Challenges that the FS and the public confront as they work to broaden and deepen relationships between forest land, visitors and neighboring communities.

The purpose of the report is to assist the FS and the public in developing a forest management plan.

## 1.2 Sources of Information and Analytical Methods

Information in this assessment is largely drawn from secondary data sources. Specifically, data for this report comes from:

- Demographic and economic data sets, including those available from the United States Census Bureau and the Bureau of Economic Analysis;
- Administrative, land management, and resource data, mostly provided by the FS and the Bureau of Land Management; and
- Contextual and historical information, obtained from archival sources such as newspapers, internet sites, and trade journals.

Throughout this report, an effort is made to undertake analysis on the local scale, for example, considering differences among communities within individual counties. However, the structure of data sources often constrains this effort. Demographic and economic data sets are in many cases available only on the county level; it is not possible to further disaggregate this data to the community level. Similarly, administrative data provided by the FS is often at the Forest level (for Carson NF as a whole), and it is likewise impossible to further disaggregate the data to the ranger district level.

## 1.3 Assessment Area

Carson NF plays a unique role in the lives and activities of visitors, residents and land managers in northern New Mexico. Northern New Mexico is characterized by a history of disputes concerning the role of state and federal agencies in land management. In New Mexico's six north central counties (Mora, Rio Arriba, Sandoval, San Miguel, Santa Fe and Taos), approximately 34 percent of the land is federally owned. Together, the US Department of Interior's Bureau of Land Management (BLM) and the FS manage about 52 percent of the land in Rio Arriba County and about 53 percent in Taos County<sup>4</sup>.

It is important to consider the region's history because it still influences forest planning and decision making today. Adjacent to the Carson NF are Indian reservations, pueblos and active land grant communities. The combination of different landowners and interests makes forest planning and decision making a complex process for the FS. To make matters more complex,

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<sup>4</sup> Raish, C. and McSweeney, A.. (2001) "Livestock Ranching and Traditional Culture in Northern New Mexico." *Natural Resources Journal*, vol. 41. p713-730.

many residents in these communities perceive forest land to be their private land, as it belonged to their ancestors before the FS was created.<sup>5</sup>

The assessment area is comprised of four New Mexico counties that contain the Carson NF land: Rio Arriba, Colfax, Taos and Mora. The total land area of these counties is 8,829,073 acres. Administratively, the Carson NF is comprised of six ranger districts (RDs): Tres Piedras (24% of the Carson NF), Canjilon (10% of the Carson NF), El Rito (19% of the Carson NF), Questa (12% of the Carson NF), Camino Real (24% of the Carson NF) and Jicarilla (11% of the Carson NF).<sup>6</sup> **Figure 1.2** is a map of the Carson NF assessment area.

### 1.3.1 Brief History of Carson NF and its Assessment Area

Northern New Mexico has a historical record unlike any other in the state, and even the country, considering the region's history of conquest, land ownership and land use. The Hispano ranching tradition in what is now New Mexico began with the first Spanish colonization of the area in 1598, but did not reach its apex until the Spanish "re-conquest" of the area in the late 1690s. During colonization, the Spanish brought domesticated plants and animals from Europe, including cattle, sheep, goats, and horses.<sup>7</sup> Additionally, they introduced new agricultural technologies and subsistence practices to the Native Americans. During the 1600s, however, the region's Pueblo Indian populations drastically decreased in the area as a result of new diseases, warfare and famine caused by droughts and raiding nomadic Indian groups.<sup>8</sup>

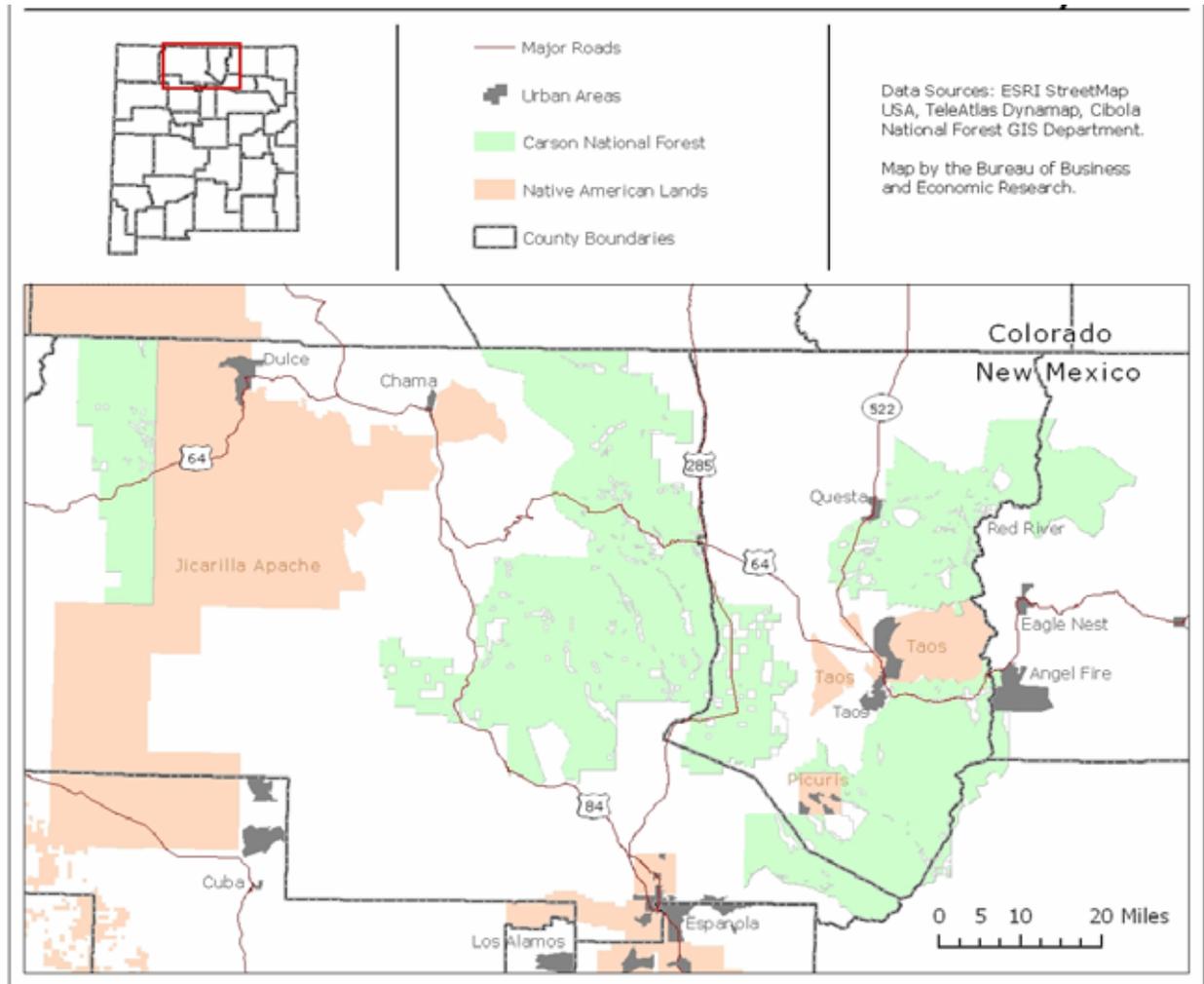
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<sup>5</sup> Raish, C. and McSweeney, A.. (2001) "Livestock Ranching and Traditional Culture in Northern New Mexico." *Natural Resources Journal*, vol. 41. p713-730.

<sup>6</sup>Carson NF Plan, 1990. USDA Forest Service.

<sup>7</sup> Raish, C. (2000). "Environmentalism, the Forest Service, and the Hispano Communities of Northern New Mexico." *Society & Natural Resources*, 13: 489-508.

<sup>8</sup> Ibid.



**Figure 1.2: The Carson NF Assessment Area**

During the Spanish Colonial (1598 to 1821) and Mexican (1821-1848) periods, land ownership and land use in the West were determined by land grants from the Spanish Crown or Mexican government. Various types of land grants were issued in New Mexico, but it is the community land grants, where groups of settlers used portions of the land grant area in common, that became the source of major land ownership conflicts in contemporary north-central New Mexico.<sup>9</sup>

When a community land grant was conferred, settlers generally received individually owned home sites and small plots of irrigated farmland that averaged about three to 12 acres and had access to the common lands of the grant for grazing, timber and livestock pasturing. Both animals and plants were part of an integrated subsistence farming strategy used by the settlers. Sheep and

<sup>9</sup> Treaty of Guadalupe Hidalgo: Definition and List of Community Land Grants in New Mexico. (2001) United States General Accounting Office.

goats were most frequently used for food whereas cattle were used for plowing, threshing, transporting produce and fertilizing fields.<sup>10</sup>

With the American conquest of the region after the Mexican-American War, patterns of land ownership changed drastically, resulting in ownership decisions still in effect today. In 1848, the U.S. and Mexico signed the Treaty of Guadalupe Hidalgo, whereby the U.S. agreed to recognize the property rights of the former Mexican citizens to land within the new boundaries of the U.S. However, land titles were not automatically confirmed as claimants had to apply for title confirmation according to procedures that varied depending on the location of the land.

During the later nineteenth and early twentieth centuries, much of the land that had confirmed titles was lost as well. It was common that villagers could not afford the property taxes excised by the new American system of monetary tax payments and had to sell. Even more land was lost by corrupt speculations practices of the Anglo and Spanish, and by commercial enterprises that were becoming more common in the region.<sup>11</sup> Owners began fencing off land and blocking access to areas that were traditional, non-grant, parcels of land used for grazing and farming. In total, it is estimated that the U.S. settlement of the area resulted in the alienation of eighty percent of the Spanish and Mexican land grants from their original owner.<sup>12</sup>

In 1906, the Taos Forest Reserve was created. Two years later, the Taos NF and part of the Jemez NF were merged to create the Carson NF. In 1923, 63,708 acres in Taos County were transferred from the Santa Fe NF to the Carson NF.<sup>13</sup>

**Table 1.1** lists the counties in the assessment area and shows the proportion of land that is owned by the FS. About 60 percent of the Forest is located in Rio Arriba County, the largest county in the assessment area. Taos County has the highest proportion of FS managed land, with 40 percent of its acreage covered by the Carson NF. About seven percent (104,967 acres) of the NF is owned by other entities.

**Table 1.1: Forest-Owned Land by County (Acres)**

|                              | Forest Service<br>Owned | Other<br>Owned | Total Carson<br>Acres in County | Total Acres in<br>County | % of County<br>Area Covered<br>by Carson |
|------------------------------|-------------------------|----------------|---------------------------------|--------------------------|--|
| Colfax                       | 70,222.80               | 1,210.29       | 71,433.09                       | 2,409,809.39             | 3%                                       |
| Mora                         | 16,823.47               | 1,786.44       | 18,609.91                       | 1,236,469.19             | 2%                                       |
| Rio Arriba                   | 877,827.48              | 50,105.46      | 927,932.93                      | 3,772,882.06             | 25%                                      |
| Taos                         | 517,931.33              | 51,864.45      | 569,795.78                      | 1,409,912.06             | 40%                                      |
| <b>Total Carson Counties</b> | <b>1,482,805</b>        | <b>104,967</b> | <b>1,587,772</b>                | <b>8,829,073</b>         | <b>18%</b>                               |

Sources: Cibola National Forest GIS Department and ESRI Arc GIS Street Map USA 2004

Calculations: Done by UNM-BBER.

<sup>10</sup> Raish, C. and McSweeney, A.. (2001) "Livestock Ranching and Traditional Culture in Northern New Mexico." *Natural Resources Journal*, vol. 41. p713-730.

<sup>11</sup> Ibid.

<sup>12</sup> Westphall, V. (1965). *The Public Domain in New Mexico 1854-1891*. University of New Mexico Press: Albuquerque.

<sup>13</sup> Timeless Heritage: A History of the Forest Service in the Southwest. (1988) USDA Forest Service.

Generally speaking, northern New Mexico has regular winter weather patterns that provide extensive winter recreation opportunities. Ski areas include Red River, Taos Valley and Sipapu. More importantly, however, the snowfall contributes substantially to the runoff water needed throughout the Rio Grande Valley for agricultural purposes. The forest comprises some of the most productive and important watersheds in the region.

The areas in and around FS managed-land are comprised of dynamic interactions between residents from diverse socioeconomic and cultural backgrounds. Each group represents different, and often opposing, expectations of the services and management obligations of the FS. Later chapters of this report look at these divergences and the management challenges they impose and the opportunities they offer.

## 1.4 Carson National Forest Ranger Districts

The following sections describe each of the ranger districts (RDs), including a discussion of historical land uses, using information from the FS website and other sources. Refer to **Figure 1.3** for a map of the ranger districts.

### 1.4.1 Tres Piedras Ranger District

The Tres Piedras RD is located on the north- west side of the Carson NF, west of the Rio Grande Gorge. The small town of Tres Piedras is situated in the foothills of the lower San Juan Mountains, where the sagebrush and piñon-juniper country connects to the ponderosa pine foothills. The elevation of the Tres Piedras RD ranges from 7,000 feet to 11,000 feet, and the vegetation changes with the changes in elevation. Open sagebrush and piñon-juniper dominates in the lower elevations from 7,000-8,000 feet, at which point ponderosa pine ranges from 8,000 to 9,000 feet. Above 9,000 feet, fir and spruce communities dominate the landscape. Aspen is fairly common at all elevations above 8,000 feet.

The village of Taos is the closest large community providing access to most services such as a medical emergency room and a major retail center. Taos is an eclectic mix of traditional northern New Mexico culture, recreational tourism, artist communities, and upscale vacation homes. The town is also home to the Taos Ski Valley, the largest ski resort in northern New Mexico. Taos is the closest large city to Tres Piedras. Santa Fe is the largest city in the northern New Mexico area, located 90 miles from Tres Piedras.

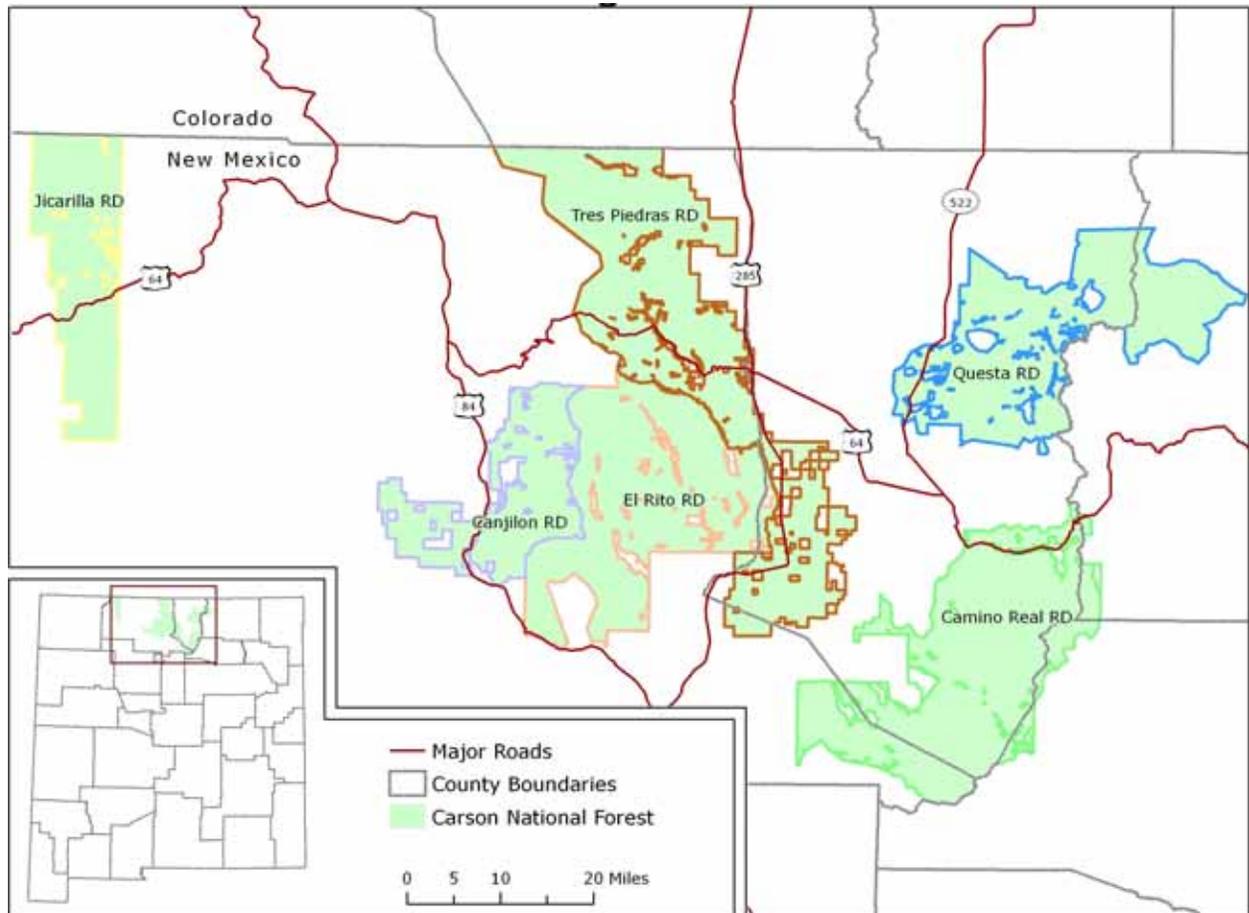
Many of the resident families have been in the area for generations and are descendants of the original settlers. They engage in traditional activities such as raising livestock and cutting fuel wood, but these activities are only a supplement to incomes earned from their “day jobs.”<sup>14</sup> Residents from all around Tres Piedras commute to Taos for employment, as the local job market is limited.

A small regional airport is located 10 miles to the west of Taos, with limited service to Santa Fe and Albuquerque. However, most residents in New Mexico use the state’s major airport in

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<sup>14</sup> J. C. Russell, J.C and Adams-Russell, P.A. (2005) Attitudes, Values and Beliefs Toward National Forest System Lands: The Carson National Forest USDA Forest Service.

Albuquerque to access commercial flights. Albuquerque is approximately a two and a half hour drive from Tres Piedras.



**Figure 1.3: Ranger Districts on The Carson NF**

### 1.4.2 Canjilon Ranger District

Like much of northern New Mexico, the area that is now the Canjilon RD was once Spanish land grants; many of the current residents depend on the land in the same way their forbearers did. The Canjilon RD borders BLM lands, another NF and lies between two large land grants. Using the Chama River as a natural divider, Canjilon RD abuts the Santa Fe NF's northern border. Just to the south of the river is the Chama River Valley Wilderness area, administered by the Santa Fe NF. North of the river lies Mesa de las Viejas. East of the Canjilon RD is the El Rito RD. Access to the Canjilon RD is via, US84. The small community of Canjilon is located about 50 miles south of Pagosa Springs, Colorado and about 50 miles north of Española, New Mexico.

The Canjilon RD is sandwiched between two land grants: the large Tierra Amarilla grant to the north and the Piedra Lumbre grant to the south. The Tierra Amarilla land grant was issued on July 20, 1832 as a quasi-communal grant by the Mexican government. The United States federal government confirmed all the land in the grant (594,515 acres) as legally owned by the grantee.

The Piedra Lumbre grant is 49,747 acres and was issued in 1766 by Mexican Governor Tomás Veléz Cachupín for a private settlement.<sup>15</sup>

The small community of Canjilon has a population of about 300 people. The village is a small patch of privately held land surrounded by FS owned land. According to the United States Census Bureau, many residents commute as much as 85 miles on a daily basis to access employment and educational opportunities in Pagosa Springs, Española and El Rito. Ranches, construction firms, state and local government and the local school system are the major employers in the area. The Village of Chama, about 35 miles away, is the closest full-service community.

Tourism and a service-based economy are developing in the Canjilon area, following national trends. Local attractions such as the Cumbres-Toltec Railroad, Heron, El Vado, Abiquiu Reservoirs and trout streams are major destinations in the summer months. Visitors also come to the area to enjoy fishing in the Trout, Lower Canjilon and Middle Canjilon Lakes. In the fall and winter months, hunting, snowmobiling, and cross-country skiing are popular activities and draw many visitors. The Continental Divide Trail runs along the border between the Canjilon RD and the Tierra Amarilla land grant and continues down to Ghost Ranch.<sup>16</sup>

The area has been the stage for intense conflicts between parties who believe they are the “rightful” owners of the land. In the middle and late 1960s, the formation of the Alianza Federal de Los Pueblos Libres (the Federal Alliance of Free City States) with Reies Lopez Tijerina at the helm epitomized the conflict between land grant claimants and the United States government. Tijerina and his followers were determined to take over NF lands that they claimed were part of their early land grants, regardless of Federal Court decisions dating back into the 1800s. In October 1966, Tijerina and several hundred activists crowded into Echo Amphitheatre and declared it the new state of San Joaquin del Rio de Chama.<sup>17</sup>

### 1.4.3 El Rito Ranger District

The El Rito RD, in Rio Arriba County, is just west of the Canjilon RD. The district is located in high desert, piñon-juniper country. High elevation species, like ponderosa pines, mixed conifer, spruce and aspen types are present only five miles north of the town of El Rito. The population is about 1,300 in this small ranching community. Recreation is a minor focus of the district, with only one developed recreational site. Most FS activity in the district concerns timber, rangeland and fire prevention. Currently, there are at least 10 grazing allotments with about 59 permittees.

The nearby community college, school district, and the FS are the area’s major employers, with many residents commuting between 30 and 60 miles for jobs in Española, Santa Fe, Taos and Los Alamos. The nearest airports are in Taos (60 miles northeast) and Santa Fe (about 60 miles south). Albuquerque has the nearest international airport located about 130 miles south of El Rito. Española is the nearest city.

Although commercial logging was taking place in the area beginning in the early 1900s, grazing has always been the primary use of the NF by local residents. The FS perceived overgrazing to be

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<sup>15</sup> *Land Grants in Rio Arriba and Los Alamos Counties*, The Center for Land Grant Studies, [http://www.southwestbooks.org/grants\\_rioarriba\\_losalamos.htm](http://www.southwestbooks.org/grants_rioarriba_losalamos.htm).

<sup>16</sup> The Continental Divide Society. <http://www.cdtrail.org/page.php?pname=about/newmexico>.

<sup>17</sup> *Timeless Heritage: A History of the Forest Service in the Southwest* (1988) USDA Forest Service.

a problem and, in the mid-1940s, initiated a program of grazing reductions that caused a great deal of animosity toward the FS by local residents. Motivated largely by the hope that jobs, created by a sustained yield unit, would offset the effects of grazing reductions on local people, the FS designed and established the Vallecitos Federal Sustained Yield Unit. Under the plan developed by the FS, timber from the unit was to be cut and processed by a single designated operator who would establish a local sawmill and employ local residents.<sup>18</sup>

The Vallecitos National Yield Sustained area, one of only four Federal Sustained Yield Units in the country, was created in 1947 to provide "the maximum feasible, permanent support to the Vallecitos community and nearby areas".<sup>19</sup> With the exception of a few years, the unit's history is one of chronic conflict between local communities and the FS, frustration by local communities over their exclusion by the FS from decision-making about the unit, and the unit's failure to improve economic conditions significantly in local communities<sup>20</sup>. The major sawmill operations were closed in the mid 1990s.<sup>21</sup>

#### 1.4.4 Questa Ranger District

Questa is a small village located 25 miles north of Taos on Highway 522 in Taos County. There are approximately 2,500 people living in the area. The Questa RD contains 278,885 acres, making it the fourth largest district in the Forest.

Recreation is a major draw to the area which offers recreational opportunities such as hunting, stream and lake fishing, rafting, camping, hiking, mountain biking, four-wheeling, motorcycling, sledding, snowshoeing, snowmobiling and cross-country skiing. In addition, the 100,000 acre Valle Vidal Unit provides big game hunting opportunities not found elsewhere in the state. The Red River Ski Area and the Taos Ski Valley, both of which operate under special-use permits are popular winter destinations.

Included in the Questa RD are two wilderness areas: the Wheeler Peak Wilderness just south of Questa and the Latir Peak Wilderness to the north. The Wheeler Peak Wilderness is 20,506 acres covering the southern tip of the RD. The United States Congress designated the Wheeler Peak Wilderness in 1960. The main attraction is Wheeler Peak (13,161 feet), the highest point in New Mexico.

The Latir Peak Wilderness is relatively unknown and less traveled. It is comprised of southern Rocky Mountain high country meadows, alpine grasslands and tundra, clear lakes, spruce-fir forest and some of New Mexico's highest peaks. The Latir Peak wilderness is the fifth-smallest New Mexico wilderness and attracts few visitors. However, four of the state's highest mountains: Venado Peak (12,734 feet), Latir Peak (12,708 feet), Latir Mesa (12,692 feet), and Virsylvia Peak (12,594 feet) are here.<sup>22</sup>

<sup>18</sup> *Unasylva*, Issue number: 184 1996 64 pg V9122/E.

[http://www.fao.org/documents/show\\_cdr.asp?url\\_file=/docrep/v9122e/v9122e10b.htm](http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/v9122e/v9122e10b.htm).

<sup>19</sup> *Ibid.*

<sup>20</sup> Wilmsen, Carl. (2001). "Sustained Yield Recast: the Politics of Sustainability in Vallecitos, New Mexico", in *Society and Natural Resources*, 14: 193-207.

<sup>21</sup> Ragan, T. "Operator Dismantles Vallecitos Sawmill." *Albuquerque Journal*. April 10, 1996.

<sup>22</sup> New Mexico Wilderness Alliance, "Latir Peak Wilderness." <http://www.nmwild.org/wilderness/latir>.

With five peaks over 12,500 feet, the Questa RD features an abundance of alpine-tundra "high country". The alpine tundra vegetation that covers the peaks is rare in the Southwest. Most of the area is drained by the Lake Fork of Cabresto Creek that originates at Heart Lake and is impounded just outside the wilderness in Cabresto Lake, the main trailhead for those going into the wilderness. Many species of wildlife indigenous to the Hudsonian zone of the southern Rocky Mountains can be found in this remote area.

The relatively small size of the Latir Peak Wilderness area has less to do with natural history than socio-cultural history. Although the wilderness stretches from NM38 in Red River Canyon north to the Colorado border, more than half of this wild land is within the Sangre de Cristo Land Grant. In 1843, just less than one million acres were given to Mexican citizens Narciso Beaubien and Stephen Louis Lee by Mexican governor Manuel Armijo in a communal land grant.<sup>23</sup> This grant was among several northern New Mexico land grants that survived the somewhat turbulent transition from Mexican to American governance after 1848. The Latir Lakes are located to the north of this wilderness on the Sangre de Cristo land grant, and can be visited with the purchase of a permit.

The Questa RD is also home to the "Enchanted Circle Drive", which is a NF Scenic Byway. The Circle is an 84 mile loop that travels through the villages of Questa, Red River, Eagle Nest, Taos, and back to Questa.

### **1.4.5 Camino Real Ranger District**

The Camino Real RD is the southernmost district in the forest, abutting the Santa Fe NF at the southern border. The district is home to the Sangre de Cristo Mountains, a subrange of the Southern Rockies. The town of Peñasco is the district's base of operations and is located at the base of the mountains. Peñasco is surrounded by several other small communities, which total an approximate population of 2,500. In the western part of the region lies the Picuris Pueblo; the smallest Pueblo in New Mexico. This RD is the largest of the six districts, with 334,248 acres comprising almost one third of the Carson NF. In regards to access, the Camino Real is quite far from any major airports. The Albuquerque International Sunport is 120 miles to the south, and smaller airports are located in Taos and in Santa Fe.

The small village of Peñasco is located on the southeast corner of the Picuris Pueblo Grant. According to the FS website, residents of Peñasco have employment mostly outside of the town. Many residents commute to jobs in Santa Fe or Los Alamos, both 70 miles one way, or to Taos which is 20 miles one way. The Peñasco Public Schools, the FS, and the State Highway Department are the primary employers in the area.

The Pecos Wilderness, designated in 1933, contains 223,333 acres. It is at the southern end of the Sangre de Cristo Mountains, at the headwaters of the Pecos River, about 12 miles southeast of Peñasco. From its origin, the first 13.5 miles of the Pecos River is designated "wild" in the Wild and Scenic Rivers System. Fishing, hunting and well-known scenery attracts many visitors. Truchas Peak, the second highest in New Mexico, provides a challenge for mountain climbers and ecologists who may visit to observe rare species of plants and animals. The Sipapu Ski Area is located 12 miles east of Peñasco. The resort is quite small, operating under a special-use permit

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<sup>23</sup> The Center for Land Grant Studies, [http://www.southwestbooks.org/grants\\_taos.htm](http://www.southwestbooks.org/grants_taos.htm).

on the district. Many lakes, more than 150 miles of streams and a 100-foot waterfall, provide opportunities for anglers.<sup>24</sup> An extensive trail system (250 miles) promises space for horseback and mountain bike riding.

While portions of the Pecos Wilderness receive very heavy use, 85 percent of hikers use 15 percent of the wilderness; other areas receive very few visitors. The most frequently traveled trails are those leading to Beatty's Cabin, Puerto Nambe, Hermits Peak, the high peaks, the lake basins, and even Pecos Falls. But after Labor Day, visits to these areas decline precipitously.<sup>25</sup> The wilderness area is a major draw for recreational purposes, but it has a long history of over-grazing and decimated wildlife.

For centuries, the Pecos high country had been a resource for Native American peoples, a place to hunt, fish, cut fuelwood and timber, and gather medicinal and edible plants. On the west lived Tewa and Keresan Pueblo peoples; on the north lived Tiwa Pueblos and nomadic mountain peoples such as the Utes; on the east Plains Indians roamed; and on the south Towa Indians inhabited the pueblo the Spaniards called Pecos, from a Keresan word meaning "place where there is water."<sup>26</sup>

Spaniards arrived in 1540 and established villages around the perimeter of what is now the wilderness area. Grazing livestock became common as early as 1825, but its impact on the land was relatively small. That changed, however, when English-speaking settlers arrived after the United States annexed New Mexico from Mexico in 1846, bringing with them vastly more powerful agricultural technologies. With the new government also came the philosophy that emphasized market economics over subsistence economics. Growing commercial interests in the land cost the existing ecosystems dearly.<sup>27</sup>

The wilderness area was not able to sustain its wildlife after more and more people began accessing the area. By 1888, elk had been exterminated in what is now the Pecos Wilderness. By 1900, they were gone from the rest of the state. Rocky Mountain bighorn sheep had disappeared by 1900. The last Grizzly Bear in the Pecos Wilderness was killed in 1923. Perhaps the most telling example of the wildlife devastation is that during the 1915 hunting season, on the one million acres of the Carson NF (including the Pecos Wilderness), only eight deer were taken.<sup>28</sup>

In 1892 President Harrison proclaimed the upper Pecos watershed a timberland reserve for watershed protection (a proclamation not implemented until 1898). The area was withdrawn from every use including logging, grazing, and mining, and it was closed completely to the public. The Pecos Primitive Area of 133,640 acres was established by the Chief of the Forest Service in 1933. It was declared a FS Wilderness in 1955 and became part of the National Wilderness Preservation System on September 3, 1964, when President Johnson signed the Wilderness Act. In 1980, the New Mexico Wilderness Act added 55,000 acres to include more lands with wilderness character.

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<sup>24</sup> GORP, "Pecos Wilderness," [http://gorp.away.com/gorp/resource/us\\_wilderness\\_area/nm\\_pecos.htm](http://gorp.away.com/gorp/resource/us_wilderness_area/nm_pecos.htm).

<sup>25</sup> New Mexico Wilderness Alliance, "Pecos Wilderness," <http://www.nmwild.org/wilderness/pecos>.

<sup>26</sup> *Ibid.*

<sup>27</sup> USDA Forest Service, *Timeless Heritage: A History of the Forest Service in the Southwest*. 1988.

<sup>28</sup> *Ibid.*

### 1.4.6 Jicarilla Ranger District

The Jicarilla RD is located in the northwest portion of New Mexico within the San Juan Basin, about 50 miles east of Farmington. This RD is somewhat isolated from the other five, as it is separated by the large expanse of the Jicarilla Apache Indian Reservation. This district covers over 159,000 acres of land, including about 6,000 acres of privately owned land. The district was incorporated into the National Forest system in 1910. During the 1940s and 1950s, exploration for oil and gas began in the San Juan Basin, creating a very lucrative gas industry.<sup>29</sup> Today, natural gas production is the prevalent land use in the district, as 98 percent of the district is leased out for mineral development.

With over 600 gas wells in production, the district supplies about seven percent of the nation's daily natural gas supply.<sup>30</sup> The district features hundreds of miles of associated access roads, pipelines and compressors. Most of the leases began between 1950 and 1970, before the National Environmental Protection Act (NEPA) of 1969, when environmental restrictions were not as rigorous.

In 2002, there was controversy over a proposal considering opening an additional 2,500 acres for natural gas drilling.<sup>31</sup> With the ever-rising price of gas and oil, energy companies are clamoring to lease new land and drill new wells. However, the 2004 Land Use Plan was withdrawn after the plan was criticized for restricting activity on wells that were already producing. Environmental conservation groups are voicing concerns regarding the effects on wildlife and habitats in the area.

The Jicarilla RD is home to an estimated 220 wild horses, which are believed to be descendants of escaped or released horses belonging to the Spanish explorers, ranchers, miners, US Cavalry and Native Americans.<sup>32</sup> The Wild Free-Roaming Horses and Burros Act of 1970 gave the BLM and FS the authority to manage, protect and control wild horses on public lands. Federal protection and the absence of natural predators have caused a steady increase in the wild horse population. FS officials capture the horses periodically (when vegetation and water become scarce) and offer them up for adoption.<sup>33</sup> There have been more than 178,000 wild horses and burros placed into private care between 1973 and 2005.<sup>34</sup>

The nearest airport to the district is in Farmington, NM about 20 miles west. The airport has daily commuter flights to Santa Fe, Albuquerque and other New Mexico cities. The nearest city is Bloomfield (about 40 miles away), which can be accessed from the south via US550; east and west via US64 and from the north via 544.

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<sup>29</sup> Federal Register, Vol. 69 No. 193, October 6, 2004 Notices.

<sup>30</sup> Rankin, A. "Environmental Group to Fight Drill Plan," *Albuquerque Journal*, November 8 2004.

<sup>31</sup> Rankin, A, "Forest Plan Withdrawn After Protests," *Albuquerque Journal*, October 18, 2004.

<sup>32</sup> Bureau of Land Management, "Wild Horse and Burro Program,"  
<http://www.wildhorseandburro.blm.gov/index.php>.

<sup>33</sup> The Associated Press, "Carson Forest Plans Wild Horse Adoption This Month," January 11, 2006.

<sup>34</sup> Bureau of Land Management, "Wild Horse and Burro Program,"  
<http://www.wildhorseandburro.blm.gov/index.php>.

## 1.5 Organization of the Report

The organization of this assessment is based on the collection and analysis of data pertinent to seven individual assessment topics. Chapter 2 provides information on demographic trends and economic characteristics of the counties within the assessment area. Chapter 3 discusses the access and travel patterns within the area. Chapter 4 examines the forest's land cover and uses, including descriptions of historical conveyances and exchanges, invasive species, fire and fuels. Chapter 5 describes land uses and the forest's various users. Chapter 6 examines special management areas in the forest including recreational sites and inventoried roadless areas. Chapter 7 provides an assessment of the economic impacts the Carson NF has on surrounding communities. Chapter 8 explores relationships between the Carson NF and various communities at the local and regional levels. Finally, Chapter 9 provides a summary of principal findings and opportunities for the FS.



## 2 Demographic and Socioeconomic Trends

This chapter describes the demographic and socioeconomic characteristics of the population of the Carson NF assessment area. Historic data about the social and economic status of those in the area of assessment are provided here. Data are presented primarily at the county level for the New Mexico counties (Colfax, Mora, Rio Arriba, Taos) that contain the Carson NF.

### 2.1 Population Growth

Table 2.1 shows that population density is relatively sparse in the assessment area, as Taos County, the county with the highest density, measures 13.6 persons per square mile. By comparison, the population density for the entire United States (50 states and the District of Columbia) is about 79 persons per square mile.

**Table 2.1: 2000 Population Density (sq. mile)**

| <b>Population Density</b> |      |
|---------------------------|------|
| Colfax                    | 3.8  |
| Mora                      | 2.7  |
| Rio Arriba                | 7.0  |
| Taos                      | 13.6 |

Source: US Census Bureau, 2000 Decennial Census.

Note: Population Density calculated as per square mile of land area.

Table 2.2 shows that between 1980 and 2000 the population grew moderately in the assessment area. The population increased 36 percent over the two decades, from 66,610 to 91,538, an increase of just below 24,000 persons.

In 2000, just under half of the population in the area resided in Rio Arriba County, about one-third in Taos County and the remainder in Mora and Colfax Counties. Of the four counties, Taos County grew the fastest (54%) during 1980-2000, with the growth rate higher in the 1990's over the 1980's. Taos County added about 10,500 and Rio Arriba County about 12,000 residents during the two decades. Research has shown that affluent individuals who made their living elsewhere, attracted by recreational amenities; have been relocating in and around mountain communities in the assessment area and throughout the West<sup>35</sup>. Colfax County added about 500 new residents during the 20-year period, as growth dipped in the 1980's but picked up in the 1990's. Mora County's growth was flat during the 1980's yet matched the area's growth rate in the 1990's.

According to UNM-BBER projections, 118,000 residents will live in the assessment area by 2030, an increase of 16,000 people between 2000 and 2030. The area's population is expected to grow 30 percent, at about two-thirds that of New Mexico, over the 30-year period. After 2000 growth is expected to taper with this trend affecting all four counties. Population growth rates will be higher in Mora and Taos counties during 2000-2030, similar to or slightly above the state's growth rates, and lower in Rio Arriba and Colfax Counties.

<sup>35</sup> Cromartie, J. and Wardwell, J. (2000). "Migrants Settling Far and Wide in the Rural West." *Rural Development Perspectives*. 14(2):7.

**Table 2.2: Historical & Projected County Population, 1980-2030**

|                              | Historical    |               |               | Projected      |                |                |
|------------------------------|---------------|---------------|---------------|----------------|----------------|----------------|
|                              | 1980          | 1990          | 2000          | 2010           | 2020           | 2030           |
| Colfax                       | 13,667        | 12,925        | 14,189        | 15,234         | 15,890         | 16,026         |
| Mora                         | 4,205         | 4,264         | 5,180         | 6,205          | 7,137          | 7,862          |
| Rio Arriba                   | 29,282        | 34,365        | 41,190        | 45,058         | 48,630         | 50,996         |
| Taos                         | 19,456        | 23,118        | 29,979        | 35,097         | 39,442         | 42,678         |
| <b>TOTAL CARSON COUNTIES</b> | <b>66,610</b> | <b>74,672</b> | <b>90,538</b> | <b>101,594</b> | <b>111,099</b> | <b>117,562</b> |
| TOTAL NM                     | 1,303,303     | 1,515,069     | 1,819,046     | 2,112,986      | 2,383,116      | 2,626,553      |

|                              | Percent Change |            |            |           |           |  |
|------------------------------|----------------|------------|------------|-----------|-----------|--|
|                              | 1980-1990      | 1990-2000  | 2000-2010  | 2010-2020 | 2020-2030 |  |
| Colfax                       | -5%            | 10%        | 7%         | 4%        | 1%        |  |
| Mora                         | 1%             | 21%        | 20%        | 15%       | 10%       |  |
| Rio Arriba                   | 17%            | 20%        | 9%         | 8%        | 5%        |  |
| Taos                         | 19%            | 30%        | 17%        | 12%       | 8%        |  |
| <b>TOTAL CARSON COUNTIES</b> | <b>12%</b>     | <b>21%</b> | <b>12%</b> | <b>9%</b> | <b>6%</b> |  |
| TOTAL NM                     | 16%            | 20%        | 16%        | 13%       | 10%       |  |

Source: US Census Bureau, Decennial Census, 1980, 1990, 2000. Calculations done by UNM - BBER.

Table 2.3 displays the population for several larger incorporated communities in the assessment area. Refer to Appendix Table 1 for a complete list of communities with their populations that meet the criteria to be Census Designated Places (CDP's).

**Table 2.3: Population of Places, 1980-2000**

| Carson Places              | County     | Number        |               |               | Percent Change |            |
|----------------------------|------------|---------------|---------------|---------------|----------------|------------|
|                            |            | 1980          | 1990          | 2000          | 1980-1990      | 1990-2000  |
| Angel Fire village         | Taos       | NA            | 93            | 1,048         | NA             | 1027%      |
| Chama village              | Rio Arriba | 1,090         | 1,048         | 1,199         | -4%            | 14%        |
| Chimayo CDP                | Taos       | 1,993         | 2,789         | 2,924         | 40%            | 5%         |
| Dulce CDP                  | Rio Arriba | 1,648         | 2,438         | 2,623         | 48%            | 8%         |
| Espanola city              | Rio Arriba | 6,803         | 8,389         | 9,688         | 23%            | 15%        |
| La Puebla CDP              | Rio Arriba | NA            | NA            | 1,296         | NA             | NA         |
| Questa village             | Taos       | 1,202         | 1,707         | 1,864         | 42%            | 9%         |
| Ranchos de Taos CDP        | Taos       | 1,411         | 1,779         | 2,390         | 26%            | 34%        |
| Raton city                 | Colfax     | 8,225         | 7,372         | 7,282         | -10%           | -1%        |
| Springer town              | Colfax     | 1,657         | 1,262         | 1,285         | -24%           | 2%         |
| Taos town                  | Taos       | 3,369         | 4,065         | 4,700         | 21%            | 16%        |
| Taos Pueblo CDP            | Taos       | NA            | 1,187         | 1,264         | NA             | 6%         |
| <b>TOTAL CARSON PLACES</b> |            | <b>29,552</b> | <b>39,681</b> | <b>44,575</b> | <b>34%</b>     | <b>12%</b> |

Source: US Census Bureau, Decennial Census, 1980, 1990, 2000. Calculations done by UNM - BBER.

Note: Total includes all places, some of which are not shown in this table.

## 2.2 Racial/Ethnic Composition

New Mexico was the first state in the United States with a total minority population exceeding that of the White Non-Hispanic population. **Table 2.4** shows that the population increased for all race/ethnic groups in the assessment area between 1990 and 2000. Also, the population increased for most race/ethnic groups in the four counties. The interesting exception is Rio Arriba County, where the number who self-identified as White fell by 1,000, while the “other” race category added over 7,000. Although not shown in the table, White Non-Hispanics increased in all four counties, adding about 6,000 people overall, with Taos County accounting for about 3,700 of this gain. While the White population thus increased in Taos County, the group’s share of the county total dropped. Taos County had a very large increase – over 4,000 – in the number of people who self-reported as “other” when asked about racial identity. This “other” includes individuals who self-identify with more than one racial group, but it also includes those, fairly numerous in New Mexico, who self-identify with some racial group not listed. Many of those who so identify are Hispanics.

Between 1990 and 2000, Mora County’s population increased by 900, with Whites accounting for over 600 and the “other” race category for about 250 of the increase. The ethnic split showed Hispanics with two-thirds and Non-Hispanics with one-third of the increase. In Colfax County the population grew by over 1,200, as Whites added over 850 and the “other” race category added over 250. By ethnic group, Hispanics gained about 550 and Non-Hispanics about 650.

**Table 2.5** presents the percentages of the race-ethnic groups represented in each county in the assessment area. About two-thirds of the population in the assessment area identified themselves as Hispanic in 1990 versus 38 percent for New Mexico as a whole. Between 1990 and 2000, the Hispanic share of the total population in New Mexico rose from 38 percent to 42 percent. In the assessment counties, however, their share slipped from 67 percent to 65 percent. Hispanics maintained their share of the total population in Colfax County and Rio Arriba County, but lost ground in both Taos County, where, despite growing by over 5,000 people, the Hispanic share fell from 65 percent to 58 percent, and largely Hispanic Mora County, where an influx of Non-Hispanic Whites brought the share down to 83 percent from 85 percent. The White Non-Hispanic share of the total population increased from 24 percent to 27 percent between 1990 and 2000.

American Indians increased as a percent of the New Mexico population between 1990 and 2000. During the same period, the American Indian population in the assessment counties fell by one percentage point and in Rio Arriba County fell from 14 percent to 12 percent despite a population gain of nearly 200 people. Rio Arriba County has the largest American Indian population, with the Jicarilla Apache Reservation and several pueblos located within the county’s borders. Despite the increase in White Non-Hispanics in Taos County between 1990 and 2000, American Indians, largely members of Taos Pueblo, retained a stable six percent share of the county total.

As indicated above, population trends for race and ethnicity varied by county. Colfax County had a 52 percent non-Hispanic to 48 percent Hispanic split in 1990 with little change over the decade, while the Hispanic population in Rio Arriba County held at 74 percent. By contrast, the influx of White Non-Hispanics into both Taos and Mora counties increased the Non-Hispanic share, respectively, from 35 percent to 42 percent in Taos County and from 15 percent to 18 percent in Mora County. These shifting demographics, particularly in Taos and Mora counties, have social and political implications that will inevitably affect interactions between the Carson NF and the surrounding communities.

**Table 2.4: Race / Ethnicity by County, 1990 & 2000**

|                              | Ethnicity     |               | Race          |                  |                 |                        |               | Total         |
|------------------------------|---------------|---------------|---------------|------------------|-----------------|------------------------|---------------|---------------|
|                              | Non-Hispanic  | Hispanic      | White         | African American | American Indian | Asian Pacific Islander | Other         |               |
| <b>Year 1990</b>             |               |               |               |                  |                 |                        |               |               |
| Colfax                       | 6,682         | 6,190         | 10,697        | 29               | 65              | 15                     | 2,066         | 12,872        |
| Mora                         | 630           | 3,623         | 2,423         | 2                | 12              | 1                      | 1,815         | 4,253         |
| Rio Arriba                   | 8,976         | 24,955        | 24,323        | 117              | 4,830           | 40                     | 4,621         | 33,931        |
| Taos                         | 7,979         | 15,008        | 16,868        | 46               | 1,473           | 70                     | 4,530         | 22,987        |
| <b>Total Carson Counties</b> | <b>24,267</b> | <b>49,776</b> | <b>54,311</b> | <b>194</b>       | <b>6,380</b>    | <b>126</b>             | <b>13,032</b> | <b>74,043</b> |
| <b>Year 2000</b>             |               |               |               |                  |                 |                        |               |               |
| Colfax                       | 7,346         | 6,739         | 11,564        | 41               | 109             | 46                     | 2,325         | 14,085        |
| Mora                         | 931           | 4,229         | 3,050         | 5                | 43              | 2                      | 2,060         | 5,160         |
| Rio Arriba                   | 10,361        | 30,025        | 23,320        | 85               | 5,002           | 72                     | 11,907        | 40,386        |
| Taos                         | 12,337        | 17,370        | 19,118        | 81               | 1,768           | 108                    | 8,632         | 29,707        |
| <b>Total Carson Counties</b> | <b>30,975</b> | <b>58,363</b> | <b>57,052</b> | <b>212</b>       | <b>6,922</b>    | <b>228</b>             | <b>24,924</b> | <b>89,338</b> |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations done by UNM - BBER.

Note: Ethnicity can be of any race. The "Other" group includes two or more races.

**Table 2.5: Race / Ethnicity by County, Percentage, 1990 & 2000**

|                              | Ethnicity    |            | Race       |                  |                 |                        |            | Total       |
|------------------------------|--------------|------------|------------|------------------|-----------------|------------------------|------------|-------------|
|                              | Non-Hispanic | Hispanic   | White      | African American | American Indian | Asian Pacific Islander | Other      |             |
| <b>Year 1990</b>             |              |            |            |                  |                 |                        |            |             |
| Colfax                       | 52%          | 48%        | 83%        | 0%               | 1%              | 0%                     | 16%        | 100%        |
| Mora                         | 15%          | 85%        | 57%        | 0%               | 0%              | 0%                     | 43%        | 100%        |
| Rio Arriba                   | 26%          | 74%        | 72%        | 0%               | 14%             | 0%                     | 14%        | 100%        |
| Taos                         | 35%          | 65%        | 73%        | 0%               | 6%              | 0%                     | 20%        | 100%        |
| <b>Total Carson Counties</b> | <b>33%</b>   | <b>67%</b> | <b>73%</b> | <b>0%</b>        | <b>9%</b>       | <b>0%</b>              | <b>18%</b> | <b>100%</b> |
| <b>New Mexico</b>            | <b>62%</b>   | <b>38%</b> | <b>76%</b> | <b>2%</b>        | <b>9%</b>       | <b>1%</b>              | <b>13%</b> | <b>100%</b> |
| <b>Year 2000</b>             |              |            |            |                  |                 |                        |            |             |
| Colfax                       | 52%          | 48%        | 82%        | 0%               | 1%              | 0%                     | 17%        | 100%        |
| Mora                         | 18%          | 82%        | 59%        | 0%               | 1%              | 0%                     | 40%        | 100%        |
| Rio Arriba                   | 26%          | 74%        | 58%        | 0%               | 12%             | 0%                     | 29%        | 100%        |
| Taos                         | 42%          | 58%        | 64%        | 0%               | 6%              | 0%                     | 29%        | 100%        |
| <b>Total Carson Counties</b> | <b>35%</b>   | <b>65%</b> | <b>64%</b> | <b>0%</b>        | <b>8%</b>       | <b>0%</b>              | <b>28%</b> | <b>100%</b> |
| <b>New Mexico</b>            | <b>58%</b>   | <b>42%</b> | <b>67%</b> | <b>2%</b>        | <b>10%</b>      | <b>1%</b>              | <b>21%</b> | <b>100%</b> |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations done by UNM - BBER.

Note: Ethnicity can be of any race. The "Other" group includes two or more races.

## 2.3 Age of Population

Table 2.6 presents the age of the population by county in the assessment area. Shown are the percentages of those within each cohort as derived from the 1990 and 2000 censuses and followed by projections of each age cohort in 10-year increments until 2030. Corresponding with the national trend, there will be growth in all counties in the population aged 65 and older.

**Table 2.6: Age Distribution by County, 1990-2030**

| County                       | Age            | Percent Distribution |      |             |      |      |
|------------------------------|----------------|----------------------|------|-------------|------|------|
|                              |                | Actual               |      | Projections |      |      |
|                              |                | 1990                 | 2000 | 2010        | 2020 | 2030 |
| Colfax                       | 0 - 14         | 22.8                 | 19.7 | 17.5        | 17.3 | 15.8 |
|                              | 15 - 64        | 60.9                 | 63.4 | 61.3        | 54.9 | 50.2 |
|                              | 65 yrs. & over | 16.3                 | 16.9 | 21.2        | 27.8 | 34.0 |
| Mora                         | 0 - 14         | 24.6                 | 20.6 | 16.0        | 16.0 | 12.7 |
|                              | 15 - 64        | 60.4                 | 64.0 | 63.8        | 63.8 | 53.8 |
|                              | 65 yrs. & over | 15.0                 | 15.4 | 20.2        | 20.2 | 33.5 |
| Rio Arriba                   | 0 - 14         | 27.4                 | 23.8 | 20.7        | 20.9 | 19.4 |
|                              | 15 - 64        | 63.0                 | 65.3 | 66.8        | 62.6 | 60.5 |
|                              | 65 yrs. & over | 9.6                  | 10.9 | 12.4        | 16.5 | 20.1 |
| Taos                         | 0 - 14         | 24.6                 | 19.9 | 16.3        | 15.8 | 14.6 |
|                              | 15 - 64        | 64.5                 | 67.7 | 66.3        | 58.9 | 55.0 |
|                              | 65 yrs. & over | 10.9                 | 12.3 | 17.3        | 25.4 | 30.4 |
| <b>Total Carson Counties</b> | 0 - 14         | 25.6                 | 21.7 | 18.4        | 18.2 | 16.7 |
|                              | 15 - 64        | 62.9                 | 65.7 | 65.6        | 59.9 | 56.6 |
|                              | 65 yrs. & over | 11.5                 | 12.6 | 15.9        | 21.9 | 26.6 |
| NEW MEXICO                   | 0 - 14         | 25.1                 | 23.0 | 20.0        | 19.2 | 17.9 |
|                              | 15 - 64        | 64.2                 | 65.3 | 66.1        | 62.6 | 59.7 |
|                              | 65 yrs. & over | 10.7                 | 11.7 | 13.9        | 18.2 | 22.4 |

**Source: New Mexico County Population Projections: July 1, 2000 to July 1, 2030; UNM-BBER, April 2004.**

The 15 to 64 aged cohort represents those of working age, but its share is expected to shrink from 63 percent to 57 percent between 1990 and 2030. All counties will experience the trend of fewer working age people, although the shrinkage will be less in younger Rio Arriba County. These are counties with modest populations and less economic activity than urban centers in the state. With limited opportunities for employment, younger people migrate to larger communities with more diversified economic bases. For example, in Rio Arriba County, proximity to Santa Fe allows for commuting for educational and employment opportunities.

The 65 and older cohort will double its share, rising from 11.5 percent to 27 percent, in the assessment area during the 40-year period. This cohort's share will more than double to about one-third of the population in three counties, except Rio Arriba County. Aging populations will present new challenges for governments as those retiring from the workforce expect to receive services funded by revenues from a workforce that is a shrinking portion of the total population. These retirees will draw on federal and state resources as they seek services such as Medicaid and Social Security. The consequence for Federal agencies like the FS may be increased competition for funding in an era of flat or declining government revenues.

## 2.4 Income and Poverty

**Table 2.7** depicts per capita income in 1999 dollars by county in the assessment area in 1989 and 1999. Real per capita income increased in all counties during the ten-year period. The income gap between the assessment area (and for each county) and New Mexico narrowed over the ten years. For the assessment area, real per capita income grew by nearly \$4,000, rising from \$11,158 to \$15,100, which exceeded the approximate \$2,700 gain for New Mexico. Compared to the state average, in both 1989 and 1999 real per capita income was higher in Colfax County and Taos County while it was lower in Mora County and Rio Arriba County. In 1999 real per capita income ranged from \$12,340 in Mora County to \$16,418 in Colfax County.

Several changes in resource industries in northern New Mexico have decreased the levels of economic activity. The reductions of operations and virtual closing of coal mining in Raton in Colfax County and molybdenum mining in Taos County affected per capita income growth and levels. Moreover, sawmill closures around Española contributed to economic difficulties in the 1990's.<sup>36</sup>

Table 2.7 also shows the number and percent of persons living below the federal poverty level for each county. While real per capita incomes grew, poverty rates dropped. In all counties, except Colfax County, poverty rates were above the New Mexico average of 18.4 percent in 1999. About 17,900 persons lived in poverty in the assessment area in 1999, declining by about 1,700 persons from 1989. For the assessment area, the poverty rate dropped 6.5 percentage points, compared to 2 percentage points for the state. Poverty rates fell in all counties but dropped an impressive 11 percentage points in Mora County.

**Table 2.7: Per Capita Income and Persons in Poverty, 1990 & 2000**

|                           | 1989              |                       |                                  | 1999              |                       |                                  |
|---------------------------|-------------------|-----------------------|----------------------------------|-------------------|-----------------------|----------------------------------|
|                           | Per Capita Income | Persons Below Poverty | Percent of Persons Below Poverty | Per Capita Income | Persons Below Poverty | Percent of Persons Below Poverty |
| Colfax                    | 13,077            | 2,321                 | 18.6%                            | 16,418            | 2,039                 | 14.8%                            |
| Mora                      | 9,112             | 1,540                 | 36.2%                            | 12,340            | 1,305                 | 25.4%                            |
| Rio Arriba                | 10,200            | 9,372                 | 27.5%                            | 14,263            | 8,303                 | 20.3%                            |
| Taos                      | 11,886            | 6,335                 | 27.4%                            | 16,103            | 6,232                 | 20.9%                            |
| <b>CARSON NF COUNTIES</b> | <b>11,158</b>     | <b>19,568</b>         | <b>26.5%</b>                     | <b>15,100</b>     | <b>17,879</b>         | <b>20.0%</b>                     |
| <b>NEW MEXICO</b>         | <b>14,596</b>     | <b>305,934</b>        | <b>20.6%</b>                     | <b>17,261</b>     | <b>328,933</b>        | <b>18.4%</b>                     |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations by UNM BBER.

Note: The poverty line is the federal established poverty level. Per capita income is in 1999 dollars.

Per Capita income figures are adjusted for inflation and are reported in real 1999 Dollars.

Poverty in the assessment area is high (20%) and generally tracks with race and ethnicity. **Table 2.8** indicates that poverty percentages by race in the assessment area are: Whites (18%), African Americans (22%), American Indians (29%), Asians and Pacific Islanders (35%), and "Other"

<sup>36</sup> Ragan, T. "Operator Dismantles Vallecitos Sawmill." *Albuquerque Journal*. April 10, 1996.

(21%). In Rio Arriba County the poverty rate is extremely high for American Indians (70%) and Whites (44%). In Taos County over one-third of Whites are in poverty and the rate is fairly high for American Indians (29%). The “Other” group also has a high rate of poverty in these two counties.

In the assessment area the poverty rate differs slightly by ethnicity for Non-Hispanics (19%) and Hispanics (21%). In comparison, poverty rates in New Mexico are relatively lower for Non-Hispanics and a little higher for Hispanics. Hispanics are more likely than Non-Hispanics to live in poverty in Mora and Rio Arriba Counties, while the converse is the case in Taos County. In Colfax County both ethnic groups are equally likely to live in poverty. Not shown in the table is the 15% poverty rate for White Non-Hispanics in the assessment area. And in Taos County just over half of White Non-Hispanics are in poverty.

**Table 2.8: Poverty by Race and Ethnicity, 2000**

|                               | Race Group    |                  |                 |                          |              | Ethnicity    |               | TOTAL         |
|-------------------------------|---------------|------------------|-----------------|--------------------------|--------------|--------------|---------------|---------------|
|                               | WHITE         | AFRICAN AMERICAN | AMERICAN INDIAN | ASIAN & PACIFIC ISLANDER | OTHER        | NON-HISPANIC | HISPANIC      |               |
| Colfax                        | 1,466         | 20               | 17              | 14                       | 522          | 659          | 1,380         | 2,039         |
| Mora                          | 605           | 0                | 20              | 0                        | 680          | 265          | 1,040         | 1,305         |
| Rio Arriba                    | 4,530         | 39               | 1,550           | 19                       | 2,165        | 2,270        | 6,033         | 8,303         |
| Taos                          | 3,653         | 4                | 639             | 35                       | 1,901        | 2,604        | 3,628         | 6,232         |
| <b>TOTAL CARSON COUNTIES</b>  | <b>10,254</b> | <b>63</b>        | <b>2,226</b>    | <b>68</b>                | <b>5,268</b> | <b>5,798</b> | <b>12,081</b> | <b>17,879</b> |
| <b>Percent of Total Group</b> |               |                  |                 |                          |              |              |               |               |
| Colfax                        | 14%           | 32%              | 1%              | 21%                      | 10%          | 11%          | 11%           | 100%          |
| Mora                          | 6%            | 0%               | 1%              | 0%                       | 13%          | 5%           | 9%            | 100%          |
| Rio Arriba                    | 44%           | 62%              | 70%             | 28%                      | 41%          | 39%          | 50%           | 100%          |
| Taos                          | 36%           | 6%               | 29%             | 51%                      | 36%          | 45%          | 30%           | 100%          |
| <b>TOTAL CARSON COUNTIES</b>  | <b>18%</b>    | <b>22%</b>       | <b>29%</b>      | <b>35%</b>               | <b>21%</b>   | <b>19%</b>   | <b>21%</b>    | <b>100%</b>   |

Source: US Census Bureau, Decennial Census, 2000. Calculations done by UNM - BBER.

Note: Ethnicity can be of any race. The "Other" group includes two or more races.

The poverty line is the federal established poverty level. Per capita income is in 1990 dollars.

## 2.5 Household Composition

Table 2.9 presents household composition by type of household for 1990 and 2000. Households in the assessment area are exhibiting the same trend as seen in the US, as there are proportionally more single households and female-headed households. Total households in the area grew about 9,000, numbering about 35,500 in 2000.

Single households are non-family households headed by a single person. Female-headed family households are households that are headed by a female with children or other dependents and no husband is present. For example, in 2000 Mora County has 1,516 total households, of which 360 (24%) are single households and 212 (14%) are female-headed family households.

Female-headed family households increased nearly 1,250, totaling about 4,700 in 2000. The percent of female-headed households in the assessment area (13%) matches the state (13%) in 2000. The increased share of female-headed households is similar for all counties between 1990

and 2000. Female-headed households are an increasingly significant aspect of the national demographic landscape.

Similarly, households of people who live by themselves have become increasingly common. Single households continue to grow in part because of a trend in marrying at later ages. Roughly one-third of the residents in single person households in the state are over 65 years of age. In the assessment area, single households increased 3,700, totaling nearly 9,800 in 2000. In 2000 the percent of single households in the assessment area (27%) was slightly higher than in the state (25%). Single households increased by 4 percentage points in the assessment area and increased by more in Taos County, where single households constituted nearly one-third of households in 2000.

**Table 2.9: Type of Household, 1990 & 2000**

|                              | Number of Households |              |                       | Percent of Total Households |                       |
|------------------------------|----------------------|--------------|-----------------------|-----------------------------|-----------------------|
|                              | Total                | Single       | Female Headed, Family | Single                      | Female Headed, Family |
| <b>Year 1990</b>             |                      |              |                       |                             |                       |
| Colfax                       | 4,961                | 1,251        | 490                   | 25%                         | 10%                   |
| Mora                         | 1,516                | 360          | 212                   | 24%                         | 14%                   |
| Rio Arriba                   | 11,525               | 2,254        | 1,636                 | 20%                         | 14%                   |
| Taos                         | 8,811                | 2,210        | 1,155                 | 25%                         | 13%                   |
| <b>TOTAL CARSON COUNTIES</b> | <b>26,813</b>        | <b>6,075</b> | <b>3,493</b>          | <b>23%</b>                  | <b>13%</b>            |
| <b>Year 2000</b>             |                      |              |                       |                             |                       |
| Colfax                       | 5,799                | 1,606        | 593                   | 28%                         | 10%                   |
| Mora                         | 2,015                | 543          | 271                   | 27%                         | 13%                   |
| Rio Arriba                   | 15,015               | 3,545        | 2,248                 | 24%                         | 15%                   |
| Taos                         | 12,701               | 4,066        | 1,631                 | 32%                         | 13%                   |
| <b>TOTAL CARSON COUNTIES</b> | <b>35,530</b>        | <b>9,760</b> | <b>4,743</b>          | <b>27%</b>                  | <b>13%</b>            |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations done by UNM-BBER.

Note: Single households are non-family households headed by a single person. Female headed family households include children.

## 2.6 Educational Attainment

**Table 2.10** presents educational attainment for the 25-year and older population in 1990 and 2000. Attainment levels in 2000 have generally advanced when compared to a decade earlier as the share of the population with at least some college or with a college degree increased while those with high school or less declined. **Table 2.11** shows the share of the population in the assessment area with at least some college education increased from 37 percent to 46 percent and this improvement in the assessment area outpaced that of New Mexico. All counties have substantial decreases in the percent of adults without a high school degree or equivalent and the gap narrowed versus the state. Between 1990 and 2000 the average for the assessment area improved from 31 percent to 24 percent compared to 25 percent to 21 percent for the state. Adults in Mora and Rio Arriba counties were more likely to have lower educational levels. In Mora

County this is because of its higher proportion of elderly. The proportion of those with at least some college varied by county in 2000, ranging from Mora County (38%) to Taos County (53%), the latter being similar to the state.

Educational attainment is closely tied to one's ability to generate income. As educational attainment increases, the likelihood of poverty decreases. This assumption does not hold up as consistently in the assessment area, for while it holds for Colfax County and Rio Arriba County, it does not for both Taos County and Mora County. Taos County has relatively high poverty rates and high educational levels. The county also has a high proportion of single households as previously stated. There appears to be a sharp divide among residents of Taos County between the well off and the struggling. On the other side, Mora County has both relatively low poverty rates and low educational levels.

**Table 2.10: Educational Attainment by County**

|                                  | Less than<br>9th Grade | 9th to 12th<br>Grade | HS Grad<br>or GED | Some<br>College; No<br>Degree | Assoc., BA.<br>Or More | Total         |
|----------------------------------|------------------------|----------------------|-------------------|-------------------------------|------------------------|---------------|
| <b>Year 1990</b>                 |                        |                      |                   |                               |                        |               |
| Colfax                           | 1,036                  | 1,371                | 2,820             | 1,494                         | 1,608                  | 8,329         |
| Mora                             | 559                    | 512                  | 866               | 296                           | 422                    | 2,655         |
| Rio Arriba                       | 3,412                  | 3,409                | 6,550             | 3,470                         | 3,173                  | 20,014        |
| Taos                             | 1,982                  | 2,146                | 4,338             | 2,780                         | 3,384                  | 14,630        |
| <b>TOTAL CARSON<br/>COUNTIES</b> | <b>6,989</b>           | <b>7,438</b>         | <b>14,574</b>     | <b>8,040</b>                  | <b>8,587</b>           | <b>45,628</b> |
| <b>Year 2000</b>                 |                        |                      |                   |                               |                        |               |
| Colfax                           | 596                    | 1,232                | 3,258             | 2,092                         | 2,340                  | 9,518         |
| Mora                             | 481                    | 530                  | 1,061             | 602                           | 674                    | 3,348         |
| Rio Arriba                       | 3,030                  | 3,971                | 8,110             | 5,271                         | 5,548                  | 25,930        |
| Taos                             | 1,532                  | 2,752                | 5,462             | 4,420                         | 6,360                  | 20,526        |
| <b>TOTAL CARSON<br/>COUNTIES</b> | <b>5,639</b>           | <b>8,485</b>         | <b>17,891</b>     | <b>12,385</b>                 | <b>14,922</b>          | <b>59,322</b> |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations done by UNM-BBER.

**Table 2.11: Educational Attainment Percentage by County**

|                                  | Less than<br>9th Grade | 9th to 12th<br>Grade | HS Grad<br>or GED | Some                  |                        | Total       |
|----------------------------------|------------------------|----------------------|-------------------|-----------------------|------------------------|-------------|
|                                  |                        |                      |                   | College; No<br>Degree | Assoc., BA.<br>Or More |             |
| <b>Year 1990</b>                 |                        |                      |                   |                       |                        |             |
| Colfax                           | 12%                    | 16%                  | 34%               | 18%                   | 19%                    | 100%        |
| Mora                             | 21%                    | 19%                  | 33%               | 11%                   | 16%                    | 100%        |
| Rio Arriba                       | 17%                    | 17%                  | 33%               | 17%                   | 16%                    | 100%        |
| Taos                             | 14%                    | 15%                  | 30%               | 19%                   | 23%                    | 100%        |
| <b>TOTAL CARSON<br/>COUNTIES</b> | <b>15%</b>             | <b>16%</b>           | <b>32%</b>        | <b>18%</b>            | <b>19%</b>             | <b>100%</b> |
| <b>TOTAL NM</b>                  | <b>11%</b>             | <b>14%</b>           | <b>29%</b>        | <b>21%</b>            | <b>25%</b>             | <b>100%</b> |
| <b>Year 2000</b>                 |                        |                      |                   |                       |                        |             |
| Colfax                           | 6%                     | 13%                  | 34%               | 22%                   | 25%                    | 100%        |
| Mora                             | 14%                    | 16%                  | 32%               | 18%                   | 20%                    | 100%        |
| Rio Arriba                       | 12%                    | 15%                  | 31%               | 20%                   | 21%                    | 100%        |
| Taos                             | 7%                     | 13%                  | 27%               | 22%                   | 31%                    | 100%        |
| <b>TOTAL CARSON<br/>COUNTIES</b> | <b>10%</b>             | <b>14%</b>           | <b>30%</b>        | <b>21%</b>            | <b>25%</b>             | <b>100%</b> |
| <b>TOTAL NM</b>                  | <b>9%</b>              | <b>12%</b>           | <b>27%</b>        | <b>23%</b>            | <b>29%</b>             | <b>100%</b> |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations done by UNM-BBER.

## 2.7 Housing

Table 2.12 illustrates the number of housing units and the occupied status of these units in each county in the assessment area. As would be expected, the number of dwellings in all counties increased as the population grew.

**Table 2.12: Housing Units and Occupation of Housing**

|                                  | 1990                       |                               |                             | 2000                       |                               |                             |
|----------------------------------|----------------------------|-------------------------------|-----------------------------|----------------------------|-------------------------------|-----------------------------|
|                                  | Housing<br>Units:<br>Total | Housing<br>Units:<br>Occupied | Housing<br>Units:<br>Vacant | Housing<br>Units:<br>Total | Housing<br>Units:<br>Occupied | Housing<br>Units:<br>Vacant |
|                                  | Colfax                     | 8,265                         | 4,959                       | 3,306                      | 8,959                         | 5,821                       |
| Mora                             | 2,486                      | 1,519                         | 967                         | 2,973                      | 2,017                         | 956                         |
| Rio Arriba                       | 14,357                     | 11,461                        | 2,896                       | 18,016                     | 15,044                        | 2,972                       |
| Taos                             | 12,020                     | 8,752                         | 3,268                       | 17,404                     | 12,675                        | 4,729                       |
| <b>TOTAL CARSON<br/>COUNTIES</b> | <b>37,128</b>              | <b>26,691</b>                 | <b>10,437</b>               | <b>47,352</b>              | <b>35,557</b>                 | <b>11,795</b>               |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations done by UNM-BBER.

The housing stock expanded by over 10,000 units during 1990-2000, increasing by about one-quarter in the assessment area. Table 2.12 shows that one in four houses is vacant in the assessment area and each county has a high proportion of vacant housing. The reason for this becomes clearer in Table 2.13 and Table 2.14 that shows that in 2000, 57 percent of total vacant

homes are for seasonal or recreational use within the assessment area. In Colfax County and Taos County, seasonal or recreation use accounts for 72 percent and 63 percent of the vacant housing, respectively. Taos County particularly and Rio Arriba County to a lesser extent gained a large number of vacant houses for seasonal or recreational use.

**Table 2.13: Vacant Housing by Type Of Vacancy**

|                              | For rent     | For sale only | Rented or sold, not occupied | Seasonal or rec use | For migrant workers | Other vacant | Total vacant  |
|------------------------------|--------------|---------------|------------------------------|---------------------|---------------------|--------------|---------------|
| <b>Year 1990</b>             |              |               |                              |                     |                     |              |               |
| Colfax                       | 391          | 106           | 97                           | 2,220               | 0                   | 492          | 3,306         |
| Mora                         | 7            | 36            | 305                          | 348                 | 3                   | 268          | 967           |
| Rio Arriba                   | 326          | 128           | 200                          | 658                 | 7                   | 1,577        | 2,896         |
| Taos                         | 373          | 137           | 210                          | 1,127               | 7                   | 1,414        | 3,268         |
| <b>TOTAL CARSON COUNTIES</b> | <b>1,097</b> | <b>407</b>    | <b>812</b>                   | <b>4,353</b>        | <b>17</b>           | <b>3,751</b> | <b>10,437</b> |
| <b>Year 2000</b>             |              |               |                              |                     |                     |              |               |
| Colfax                       | 248          | 168           | 93                           | 2,264               | 6                   | 359          | 3,138         |
| Mora                         | 19           | 15            | 82                           | 428                 | 1                   | 411          | 956           |
| Rio Arriba                   | 239          | 151           | 133                          | 1,042               | 1                   | 1,406        | 2,972         |
| Taos                         | 593          | 164           | 163                          | 2,968               | 5                   | 836          | 4,729         |
| <b>TOTAL CARSON COUNTIES</b> | <b>1,099</b> | <b>498</b>    | <b>471</b>                   | <b>6,702</b>        | <b>13</b>           | <b>3,012</b> | <b>11,795</b> |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations done by UNM-BBER.

**Table 2.14: Percent of Total Vacant Housing**

|                              | For rent   | For sale only | Rented or sold, not occupied | Seasonal or rec use | For migrant workers | Other vacant | Total vacant |
|------------------------------|------------|---------------|------------------------------|---------------------|---------------------|--------------|--------------|
| <b>Year 1990</b>             |            |               |                              |                     |                     |              |              |
| Colfax                       | 12%        | 3%            | 3%                           | 67%                 | 0%                  | 15%          | 100%         |
| Mora                         | 1%         | 4%            | 32%                          | 36%                 | 0%                  | 28%          | 100%         |
| Rio Arriba                   | 11%        | 4%            | 7%                           | 23%                 | 0%                  | 54%          | 100%         |
| Taos                         | 11%        | 4%            | 6%                           | 34%                 | 0%                  | 43%          | 100%         |
| <b>TOTAL CARSON COUNTIES</b> | <b>11%</b> | <b>4%</b>     | <b>8%</b>                    | <b>42%</b>          | <b>0%</b>           | <b>36%</b>   | <b>100%</b>  |
| <b>Year 2000</b>             |            |               |                              |                     |                     |              |              |
| Colfax                       | 8%         | 5%            | 3%                           | 72%                 | 0%                  | 11%          | 100%         |
| Mora                         | 2%         | 2%            | 9%                           | 45%                 | 0%                  | 43%          | 100%         |
| Rio Arriba                   | 8%         | 5%            | 4%                           | 35%                 | 0%                  | 47%          | 100%         |
| Taos                         | 13%        | 3%            | 3%                           | 63%                 | 0%                  | 18%          | 100%         |
| <b>TOTAL CARSON COUNTIES</b> | <b>9%</b>  | <b>4%</b>     | <b>4%</b>                    | <b>57%</b>          | <b>0%</b>           | <b>26%</b>   | <b>100%</b>  |

Source: 2000 US Census Bureau, Decennial Census, 1990 and 2000. Calculations by UNM-BBER.

As demonstrated in **Table 2.15**, the housing stock in the assessment area is about 32 years old in 2000. Taos and Rio Arriba Counties feature a younger housing stock and Mora and Colfax

counties an older housing stock. Also shown is the percentage of households that lack complete plumbing. There is usually a correlation between counties of high poverty (Table 2.5) and the lack of plumbing in a dwelling. In Mora County, 12 percent of the housing stock in 2000 lacked complete plumbing and the proportion increased from 1990. The other three counties, however, had no increase in the percent of houses without plumbing. In contrast, the state's average age of housing rose from 22 to 27 years and the proportion of households without plumbing stayed level at 3 percent. In the assessment area, housing that lacked plumbing facilities increased by 532 units between 1990 and 2000 but the proportion remained at 6 percent.

**Table 2.15: Age of Housing Stock and Plumbing Availability**

|                              | Average Age of Housing Stock |             | Lacking Complete Plumbing Facilities |           |
|------------------------------|------------------------------|-------------|--------------------------------------|-----------|
|                              | 1990                         | 2000        | 1990                                 | 2000      |
| Colfax                       | 34.8                         | 34.1        | 1%                                   | 1%        |
| Mora                         | 37.9                         | 37.8        | 9%                                   | 12%       |
| Rio Arriba                   | 26.2                         | 28.8        | 7%                                   | 6%        |
| Taos                         | 28.4                         | 28.3        | 8%                                   | 7%        |
| <b>TOTAL CARSON COUNTIES</b> | <b>31.8</b>                  | <b>32.3</b> | <b>6%</b>                            | <b>6%</b> |
| <b>TOTAL NM</b>              | <b>22.2</b>                  | <b>27.0</b> | <b>3%</b>                            | <b>3%</b> |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations by UNM BBER.

## 2.8 Net Migration

Table 2.16 illustrates the net migration into the assessment area at the county level. In each decennial Census, respondents are asked about their county and state of residence five years earlier; these data include only those 5 years of age or older. For the assessment area in 2000, 33 percent of those in the area had changed addresses in the past five years. Of these 28,457, 13,479 had moved from a house in the county of residence to another house within the same county. There has been a substantial increase in movers from other states from a decade earlier, as 7,778 persons, or more than one of four movers, came to the area from other states in 2000. This compares to 5,117 or one of five movers from other states in 1990. And of those who moved from other states, the region of origin in 2000 (as a percent of the total) was Northeast (1%), Midwest (2%), South (3%), and West (5%) -- (Texas is in the South region and California dominates the West region). There was little difference in these percentages between the 1990 and 2000 census.

**Table 2.16: Net Migration by County**

|                             | COLFAX COUNTY |        |                     |                     | MORA COUNTY |       |                     |                     |
|-----------------------------|---------------|--------|---------------------|---------------------|-------------|-------|---------------------|---------------------|
|                             |               |        | Percent<br>of Total | Percent<br>of Total |             |       | Percent<br>of Total | Percent<br>of Total |
|                             | 1990          | 2000   | 1990                | 2000                | 1990        | 2000  | 1990                | 2000                |
| <b>TOTAL</b>                | 12,020        | 13,423 | 100%                | 100%                | 3,988       | 4,857 | 100%                | 100%                |
| <b>Same House</b>           | 6,639         | 7,566  | 55%                 | 56%                 | 2,750       | 3,364 | 69%                 | 69%                 |
| <b>Different House</b>      | 5,381         | 5,857  | 45%                 | 44%                 | 1,238       | 1,493 | 31%                 | 31%                 |
| <b>in the United States</b> | 5,374         | 5,700  | 45%                 | 42%                 | 1,238       | 1,470 | 31%                 | 30%                 |
| <b>Same County</b>          | 3,083         | 2,829  | 26%                 | 21%                 | 606         | 482   | 15%                 | 10%                 |
| <b>Different County</b>     | 2,291         | 2,871  | 19%                 | 21%                 | 632         | 988   | 16%                 | 20%                 |
| <b>Same State</b>           | 912           | 1,088  | 8%                  | 8%                  | 387         | 601   | 10%                 | 12%                 |
| <b>Different State</b>      | 1,379         | 1,783  | 11%                 | 13%                 | 245         | 387   | 6%                  | 8%                  |
| <b>Northeast</b>            | 42            | 98     | 0%                  | 1%                  | 12          | 5     | 0%                  | 0%                  |
| <b>Midwest</b>              | 182           | 197    | 2%                  | 1%                  | 21          | 29    | 1%                  | 1%                  |
| <b>South</b>                | 526           | 555    | 4%                  | 4%                  | 107         | 105   | 3%                  | 2%                  |
| <b>West</b>                 | 629           | 933    | 5%                  | 7%                  | 105         | 248   | 3%                  | 5%                  |
| <b>Puerto Rico</b>          | 0             | 0      | 0%                  | 0%                  | 0           | 0     | 0%                  | 0%                  |
| <b>Elsewhere</b>            | 7             | 157    | 0%                  | 1%                  | 0           | 23    | 0%                  | 0%                  |

|                             | RIO ARRIBA COUNTY |        |                     |                     | TAOS COUNTY |        |                     |                     |
|-----------------------------|-------------------|--------|---------------------|---------------------|-------------|--------|---------------------|---------------------|
|                             |                   |        | Percent<br>of Total | Percent<br>of Total |             |        | Percent<br>of Total | Percent<br>of Total |
|                             | 1990              | 2000   | 1990                | 2000                | 1990        | 2000   | 1990                | 2000                |
| <b>TOTAL</b>                | 31,229            | 38,419 | 100%                | 100%                | 21,328      | 28,347 | 100%                | 100%                |
| <b>Same House</b>           | 20,770            | 27,410 | 67%                 | 71%                 | 13,113      | 18,249 | 61%                 | 64%                 |
| <b>Different House</b>      | 10,459            | 11,009 | 33%                 | 29%                 | 8,215       | 10,098 | 39%                 | 36%                 |
| <b>in the United States</b> | 10,337            | 10,487 | 33%                 | 27%                 | 8,058       | 9,706  | 38%                 | 34%                 |
| <b>Same County</b>          | 6,768             | 5,500  | 22%                 | 14%                 | 4,951       | 4,668  | 23%                 | 16%                 |
| <b>Different County</b>     | 3,569             | 4,987  | 11%                 | 13%                 | 3,107       | 5,038  | 15%                 | 18%                 |
| <b>Same State</b>           | 2,096             | 3,015  | 7%                  | 8%                  | 1,087       | 1,402  | 5%                  | 5%                  |
| <b>Different State</b>      | 1,473             | 1,972  | 5%                  | 5%                  | 2,020       | 3,636  | 9%                  | 13%                 |
| <b>Northeast</b>            | 107               | 139    | 0%                  | 0%                  | 174         | 362    | 1%                  | 1%                  |
| <b>Midwest</b>              | 168               | 204    | 1%                  | 1%                  | 132         | 331    | 1%                  | 1%                  |
| <b>South</b>                | 347               | 493    | 1%                  | 1%                  | 618         | 981    | 3%                  | 3%                  |
| <b>West</b>                 | 851               | 1,136  | 3%                  | 3%                  | 1,096       | 1,962  | 5%                  | 7%                  |
| <b>Puerto Rico</b>          | 0                 | 8      | 0%                  | 0%                  | 10          | 12     | 0%                  | 0%                  |
| <b>Elsewhere</b>            | 122               | 514    | 0%                  | 1%                  | 147         | 380    | 1%                  | 1%                  |

|                             | NEW MEXICO |           |                     |                     | TOTAL CARSON COUNTIES |        |                     |                     |
|-----------------------------|------------|-----------|---------------------|---------------------|-----------------------|--------|---------------------|---------------------|
|                             |            |           | Percent<br>of Total | Percent<br>of Total |                       |        | Percent<br>of Total | Percent<br>of Total |
|                             | 1990       | 2000      | 1990                | 2000                | 1990                  | 2000   | 1990                | 2000                |
| <b>TOTAL</b>                | 1,390,048  | 1,689,911 | 100%                | 100%                | 68,565                | 85,046 | 100%                | 100%                |
| <b>Same House</b>           | 719,628    | 919,717   | 52%                 | 54%                 | 43,272                | 56,589 | 63%                 | 67%                 |
| <b>Different House</b>      | 670,420    | 770,194   | 48%                 | 46%                 | 25,293                | 28,457 | 37%                 | 33%                 |
| <b>in the United States</b> | 645,519    | 731,488   | 46%                 | 43%                 | 25,007                | 27,363 | 36%                 | 32%                 |
| <b>Same County</b>          | 345,469    | 400,128   | 25%                 | 24%                 | 15,408                | 13,479 | 22%                 | 16%                 |
| <b>Different County</b>     | 300,050    | 331,360   | 22%                 | 20%                 | 9,599                 | 13,884 | 14%                 | 16%                 |
| <b>Same State</b>           | 107,289    | 126,093   | 8%                  | 7%                  | 4,482                 | 6,106  | 7%                  | 7%                  |
| <b>Different State</b>      | 192,761    | 205,267   | 14%                 | 12%                 | 5,117                 | 7,778  | 7%                  | 9%                  |
| <b>Northeast</b>            | 14,311     | 15,329    | 1%                  | 1%                  | 335                   | 604    | 0%                  | 1%                  |
| <b>Midwest</b>              | 28,270     | 29,457    | 2%                  | 2%                  | 503                   | 761    | 1%                  | 1%                  |
| <b>South</b>                | 73,548     | 72,497    | 5%                  | 4%                  | 1,598                 | 2,134  | 2%                  | 3%                  |
| <b>West</b>                 | 76,632     | 87,984    | 6%                  | 5%                  | 2,681                 | 4,279  | 4%                  | 5%                  |
| <b>Puerto Rico</b>          | 110        | 398       | 0%                  | 0%                  | 10                    | 20     | 0%                  | 0%                  |
| <b>Elsewhere</b>            | 24,791     | 38,308    | 2%                  | 2%                  | 276                   | 1,074  | 0%                  | 1%                  |

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations by UNM BBER.

## 2.9 Challenges and Opportunities for Forest Management

The demographic data provided in this chapter for the Carson NF assessment area generally follow the demographics of the US as a whole – the population is aging, more racially diverse, with higher educational attainment, and increasing per capita incomes. More households are headed by women and are single person households.

However, to focus exclusively on the similarities between the US and the Carson NF counties would be to miss some very important developments over the past two decades. This is an area of changing economic fortunes, and many of these changes relate directly to changes in use of forest resources. The Carson NF has attracted an increasing number of recreational users. The local tourism industries expanded as did amenity migration by retirees and others and investments in vacation and second homes (see Tables 2.13 and 2.14). The housing stock expanded by about 10,000 units during 1990-2000 as the housing stock increased by about one-quarter in the assessment area. The 2000 Census found a very large number of vacant houses in Mora County (see Table 2.12). Over two-thirds of the vacant houses in Colfax and Taos counties were seasonal or vacation homes (see Table 2.14).

The population increased in all counties between 1980 and 2000 (see Table 2.2). Real per capita income rose in the four counties between 1990 and 2000 (see Table 2.7). More people with more income in the assessment area may be expected to continue to affect forest uses. In rural economies, typically more dependent on agriculture and other extractive uses, management decisions could have lasting impacts on the wealth and well-being of certain populations. Increasingly important will be a more diverse populace that is represented in decisions about the Carson NF. Counties where poverty is most prevalent include rural counties, those with high percentages of minority populations, those that exhibit lower levels of education, and those with more housing with no indoor plumbing facilities.

Finally, those seeking to live in or retire to the attractive forest surroundings are increasingly choosing to build houses within or adjacent to the National Forests and other federal public lands. Older migrants and younger educated migrants are moving from other places in the nation, often metropolitan areas, to places in the rural West to enjoy natural amenities rather than in pursuit of economic opportunities – to the contrary, incomes of those moving to rural areas often decline. These non-economic reasons include the physical amenity reasons of access to recreation, scenery, climate, and quality of environment, and social amenities such as access to family and friends and a slower pace of life.<sup>37</sup>

The trend discussed above is clearly happening in the Carson NF, particularly in the Taos area, the “Enchanted Circle” and on the other side of the mountains in Eastern Colfax County. Housing at the Wildland-Urban interface also impacts the Carson NF policies about fire and the reduction of fuel loads. Strategies for fighting fires when there are dwellings in the forest now must devote additional resources to the protection of the lives of their residents and their property. Residents at the forest’s edge may oppose thinning and thinning methods. Housing in the forest also can alter access and impact forest use. New roads built to developments can impact forest health by

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<sup>37</sup> Nelson, P. (2000). Quality of Life, Non Traditional Income, and Economic Growth: New Development Opportunities for the Rural West. *Rural Development Perspectives*. 14(2):32-37.

creating runoff problems, air pollution problems and access to new areas where unmanaged recreation can occur.