Executive Summary

The purpose of this assessment is to profile the social and economic environment surrounding the Coronado National Forest. The collection and analysis of quantitative and qualitative socioeconomic data in this report will serve as a baseline by which the Coronado National Forest and the wider public can assess management alternatives developed through the process of forest plan revision. It will do so by facilitating a better understanding of the relationship between public lands and surrounding communities, aiding in the identification of specific forest plan elements capable of responding to socioeconomic trends, and assembling a wide array of information needed to evaluate trade-offs between various forest management alternatives.

Multi-county areas of assessment provide a framework for the compiling of social and economic data for this report. The boundaries of the Coronado National Forest abut the state of Sonora, Mexico and extend into five Arizona counties and one in the state of New Mexico. The methods of inquiry for this assessment were described in an initial work plan that was reviewed and approved by the Southwest Regional Office of the USDA Forest Service and by forest planners from each of the six national forests in Arizona. The plan identifies socioeconomic indicators, the geographic and temporal scale of analysis, and potential sources of information for each assessment topic. The following section highlights collected information pertaining to each of these seven topics.

Demographic Patterns and Trends

Total population

Data from the 1980, 1990, and 2000 censuses show that total population growth was greatest in Pinal and Santa Cruz Counties over the twenty-year period. However, total population growth within the entire six-county area of assessment was less than that for the state of Arizona as a whole over the same period (61% versus 89% respectively). Population growth was considerably less in the more rural areas of Cochise, Graham, and Hidalgo Counties. Among individual cities, Oro Valley, Apache Junction, Nogales (Sonora), and Agua Prieta experienced the greatest increases in total population between 1980 and 2000.

Population age

Within the area of assessment, the population of individuals age 65 and over grew at a much greater rate between 1980 and 2000 than that of those under age 18. The greatest disparities between the growth of the 65-and-over and under-18 populations were seen in Pinal, Hidalgo, Cochise, and Santa Cruz Counties. The cities of Oro Valley, Catalina, and Apache Junction experienced increases in 65-and-over populations that were the largest among all of the selected cities within the area of assessment.

Racial / ethnic composition

The decade between 1990 and 2000 saw a significant increase of multiple-race individuals in five of the six counties within the area of assessment, mirroring statewide trends for Arizona and New Mexico. The lone exception to this trend was Santa Cruz County, which saw an increase in the multiple-race population that was much lower than overall population growth for the county within the same period. Despite substantial increases in individuals of multiple-race and Hispanic ethnicity, whites remain the predominant racial group in each county within the area of assessment.

Housing

Increases in total housing and housing density were greatest in Pinal and Santa Cruz Counties between 1990 and 2000, mirroring growth in the state population as a whole. A clear trend in each of the six counties was the significant increase in the number of houses for seasonal use. Seasonal housing increases exceeded state averages for five of the six counties, the lone exception being Graham County which saw only a 35% increase in seasonal housing.

Economic Characteristics and Vitality

Employment

Economic growth for the area of assessment was relatively limited between 1990 and 2000. Gains in total full- and part-time employment for each of the six counties in the area of assessment were below those for their corresponding states between 1990 and 2000. Although each of the counties in Arizona witnessed a substantial increase in construction jobs, none of them matched the rate of increase in construction employment for Arizona overall, which was nearly 84% between 1990 and 2000. Considerable job losses in the mining sector were reported for Cochise, Pinal, and Santa Cruz Counties, reflecting a similar trend for the state of Arizona as a whole. Within the area of assessment, significant gains were made between 1990 and 2000 in the finance, insurance, and real estate (F.I.R.E.) industries as well as the service and government sectors.

Occupational structure

Data show that five of the six counties within the area of assessment maintain occupational structures very similar to those of the states of Arizona and New Mexico as a whole. The management, professional, and related occupations grouping is the dominant occupational category for both states followed by sales and office occupations and, finally, by service occupations. The exception is Hidalgo County, where service was slightly more predominant than either sales and office occupations or management, professional, and related occupations as of 2004. For each of the counties within the area of assessment, construction, extraction, and maintenance, along with production, transportation, and material moving, was among the five most dominant occupational categories.

Income

As of 2000, each of the six counties within the area of assessment maintained levels of per capita and median family income that were lower than state averages. Pinal County saw the greatest increases in per capita and median family income between 1990 and 2000. Both Pinal and Graham Counties saw substantial declines in individual and family poverty that were greater than reductions in poverty at the state level over the same period. Nonetheless, as of 2000, each of the counties maintained rates of poverty greater than those for its respective state.Within the area of assessment, Hidalgo and Santa Cruz Counties reported the highest rates of individual and family poverty as of 2000.

Natural resource dependent economic activity

The area of assessment experienced a relatively strong increase in income from wood products and processing between 1990 and 2000, outstripping gains at the state level over the same period. Meanwhile, losses in income from special forest products and processing were also greater than those for the state of Arizona as a whole. Within the area of assessment, Cochise, Graham, and Pima Counties reported the greatest increases in tourism employment between 1990 and 2000.

Access and Travel Patterns

Existing federal and state road networks

County and state transportation plans reviewed for this assessment acknowledge that current circulation networks have been developed to fit arising needs but are inadequate for accommodating projected long-term growth. As such, these plans emphasize the need for improved planning through regional approaches linking transportation and land use. According to the Arizona Department of Transportation, projected demographic changes throughout the state will require "major expansions of roadway capacity and the development of transportation options and alternatives to provide acceptable levels of service on Arizona's roadways and maintain circulation" (ADOT 2004b).

Modes of travel and seasonal flows

Travel by motorized vehicle is by far the most dominant mode of travel throughout the state of Arizona, a trend likely to continue given patterns of development in rural areas and the expense of developing infrastructure for alternative modes of transportation. Increase in vehicle miles traveled (VMT) was greatest in Pinal County between 1990 and 2000—an expected result of population increases over the same period. Peak traffic flow for most of the area of assessment occurs between the months of February and April, and traffic is lowest from July to September. The exception is the Interstate 10 corridor, which reaches a peak in December. With respect to internal modes of travel, the greatest increases were reported for off-highway vehicles (OHVs).

Planned improvements

The Arizona Department of Transportation currently has plans for a number of road improvements in proximity to the Coronado National Forest over the next five years, most of which entail road widening and resurfacing. Similarly, county governments throughout the area of assessment envision improvements to arterial road networks to accommodate expected population growth. There are currently no plans to expand the existing network of internal roads in the Coronado National Forest.

Barriers to access

On external road networks, the greatest barrier to access is likely poor road maintenance resulting from constrained county transportation budgets. Internally, the most common barrier to access in the Coronado National Forest is the passage of forest roads and trails through private property. Information obtained from forest personnel suggests that private land owners have increasingly sought to limit passage through their property for the purpose of accessing public lands.

Land Use

Land ownership

As a whole, land ownership within the area of assessment differs from overall ownership patterns for the state of Arizona in that it involves relatively large amounts of private acreage and State Trust land, both of which are likely to have a considerable impact on future development patterns throughout the region. Hidalgo, Cochise, and Santa Cruz Counties reported the greatest amounts of private land as of 2005 while Pima and Graham Counties had the least. The percentage of State Trust land was greatest in Pinal and Cochise Counties. Santa Cruz County has far and away the greatest amount of national forest land, and Graham and Pima Counties reported the highest percentage of land owned by Native American entities.

Land coverage and land use

Shrub, brush, and mixed range constituted the predominant land cover in five of the six counties in the area of assessment. The lone exception was Santa Cruz County, which reported a considerable portion of evergreen forest land and a relatively high percentage of herbaceous land cover. Within the area of assessment, Pinal County reported the highest percentage of residential cover while Pima County reported the greatest amount of commercial, services, industrial, and urban land cover.

Long range land use plans and local policy environment

County land use within the area of assessment ranges from traditional uses such as farming and ranching in rural areas to denser concentrations of residential, industrial, and commercial uses in and around urban centers. Preservation of open space is a particularly important land use issue given both the public's desire to maintain the "rural character" of county lands and the need to accommodate rapidly growing populations and municipalities. The debate over preservation of open space has gained increased attention throughout the region as elements such as the *Sonoran Desert Conservation Plan* draw both support and opposition from diverse stakeholders. The provision of adequate, affordable infrastructure and sufficient water supplies is also a growing concern for planners, residents, and land managers throughout the region.

Forest Users and Uses

Extractive uses

Historically, extractive uses have played a major role in public land management throughout the area of assessment. National studies show, however, that land uses such as livestock grazing, timber cutting, and mining are being slowly succeeded in policy and management by an emphasis on non-extractive uses. These national trends are supported by information which suggests a similar decline in livestock grazing and mining on lands managed by the Coronado National Forest.

Non-extractive uses

Although recreational use has increased steadily since the establishment of the National Forest Service, the increase in recreation over the past few decades has been particularly dramatic. According to National Visitor Use Monitoring data, the Coronado National Forest received over 2 million visits during fiscal year 2001—the majority of which were male, white, and between the ages of 31 and 70. The Forest Service has identified the significant increase in off-highway vehicle activity as a major component of unmanaged recreational use.

Special uses

A number of special user groups were identified for the Coronado National Forest including Native American tribes, OHV users, wildlife users, and wilderness users. The management and accommodation of these and other special user groups has had increasing administrative and political implications in recent years.

Illegal uses

In the Coronado National Forest, undocumented immigrants are the most common type of "illegal users." The region has seen a gradual increase in the migration of undocumented immigrants since 1994 with particularly large numbers of crossings and apprehensions in the Nogales, Sierra Vista, and Douglas Ranger Districts.

Designated Areas and Special Places

Natural, recreational, and interpretive resources

The Coronado National Forest encompasses considerable natural, recreational, cultural, and interpretive resources including over 400 dispersed sites, campgrounds, picnic areas, and scenic areas. Although special places are inherently difficult to identify and categorize, the Coronado National Forest is home to a number of identifiable places considered special by various user groups. They include numerous mountain ranges, canyons, springs, caves, and cultural sites scattered throughout the Sky Islands of southeastern Arizona.

Issues surrounding identification of special places as cultural resources

Due to the cultural, emotional, and spiritual bonds formed between individuals and specific environments, the identification and management of special places can be rather contentious. Making these tasks more difficult is the fact that the relationships people form with special places often cut across traditional boundaries dividing liberal and conservative political ideologies, extractive and environmentalist interests, and urban and rural user groups. Ultimately, the incorporation of "special places" into revised Forest Plans is best supported by a commitment to primary research and participatory decision making.

Community Relationships

Community involvement with natural resources

The communities surrounding the Coronado National Forest have long been dependent upon natural resources for commodity production, tourism, and aesthetic enjoyment. A review of state and local newspapers reveals a continued local interest in the use and management of these resources and particularly intense concern surrounding fire control and prevention, illegal activity along the U.S.-Mexico border, and management of wildlife and regional water supplies.

Communities of interest and historically underserved communities

The management activities of the Coronado National Forest must take into account the interests of a growing number of community groups and forest partners. Organizations and individuals influencing forest planning and management represent government agencies, Native American tribes, special advocacy groups, business interests, educational institutions, and the media. Meanwhile, the Forest Service is making a concerted effort to address the needs and desires of historically underserved communities, a fact that is increasingly important to the Coronado National Forest given the rates of demographic change in the region.

Community/forest interaction

In recent years the Forest Service has placed increasing priority on the social relationships between national forests and surrounding communities. As awareness and commitment to these processes grows, so does the need for forest managers and planners to understand the dynamic linkages between the forest and surrounding communities. Although the concept of community relations is a relatively new component of forest planning, frameworks exist to help planners develop a comprehensive strategy for monitoring and enhancing these relationships.

Key Resource Management Topics

In addition to the initial seven topics of socioeconomic assessment, Forest Planners identified several issues of growing importance to the management of natural resources within Arizona's national forests. Although these issues are identified throughout previous chapters, this section provides greater detail on the status of policy debates as well as potential implications for forest planning and management.

Findings suggest that susceptibility to catastrophic wildfire and invasive species, the environmental and economic sustainability of livestock grazing on public lands, and the effects of human land use on existing open space will likely continue to have a strong impact on the future management activities of the Coronado National Forest.

Similarly, changing demographic patterns and forest user trends will surely affect the alternatives considered in the process of Forest Plan revision. In particular, a significant increase in recreational forest uses and the ongoing concern over border security will continue to be important issues for the Coronado National Forest.

Given rates of population growth and urban expansion in southern Arizona, the Coronado National Forest stands to be affected by ongoing debates regarding the management of public land and regional water supplies. Reforms proposed by lawmakers and the Arizona State Land Department are likely to have a significant impact on the forest given the abundance of State Trust land within the area of assessment. Likewise, the role of managing regional watersheds places the Coronado National Forest at the center of contentious debates over water provision, particularly in light of the ongoing regional drought.

Finally, specific issues under the heading of forest access and travel will undoubtedly affect the future management activities of the Coronado National Forest. Recent reinterpretation of the "Roadless Rule" has been a particularly controversial issue involving extractive business interests, environmental advocacy groups, and the general public at the local and state level. Additionally, the effort on the part of the Forest Service to respond to a dramatic increase in off-highway vehicle travel promises to raise concerns from various user groups and affect natural resource management in the Coronado National Forest over the coming years.

1. Introduction

1.1 Statement of purpose

The purpose of this assessment is to characterize the social and economic environment of the Coronado National Forest (CNF) by showing the relationship and linkages between National Forest System land and local communities. The information contained in the assessment is intended to help the Forest Service (FS) and the public to do the following:

- Better understand the relationship between public lands and communities;
- Aid in identifying specific elements of the current forest plans that may need to be changed; and
- Assemble information needed to assess the consequences of potential forest management options.

Finally, this assessment is intended to be useful as a basis for well-informed consideration of future alternatives within and beyond the planning process. It does so by clarifying relationships between the various socioeconomic characteristics of local communities and the natural resource management activities of the CNF.

1.2 Assessment methodology and topics

This assessment of the social and economic environment surrounding the CNF is based entirely on the analysis of secondary research. Secondary research is commonly understood as data which have already been collected and published for different purposes but which may prove useful to any number of other inquiries or applications. Examples of secondary data include demographic and economic information obtained from the United States Census Bureau or through review of FS documents.

Specific lines of inquiry were identified in the initial Project Work Plan agreed to by the University of Arizona and Region 3 of the USDA Forest Service (USFS) in Albuquerque, New Mexico. This document prescribes the methods of assessment of socioeconomic trends for each of Arizona's six national forests. In addition to individual information elements for each assessment topic, this document identifies the preferred geographic and temporal scales of analysis as well as potential sources of information.

In accordance with the work plan, and following the example of similar socio-economic assessments, this study uses counties as the primary unit of analysis for social and economic data. For each of the national forests in Arizona, the area of assessment consists of all counties adjacent to particular forest boundaries. For the CNF, this includes Graham, Cochise, Pima, Pinal, and Santa Cruz Counties in Arizona as well as Hidalgo County in New Mexico. Where appropriate, social and economic trends for the area of assessment are compared to those for the states of Arizona and New Mexico. It should be noted, however, that statewide trends for Arizona are significantly influenced by Maricopa County, which was home to nearly sixty percent of the entire state population as of 2000.

In addition to analyzing information at the county and regional levels, this assessment includes data on individual communities of interest to Coronado NF. The work plan defines communities of interest as those that are proximate to forest boundaries, those which share a stake in the management of the forest, and those communities of access and egress. During the collection of demographic and economic data, the decision was made to collect information on selected Census Designated Places (CDPs) as well as the more commonly used Minor Civil Divisions (MCDs). Inclusion of CDPs provides data for settled population concentrations that are identifiable by name but are not legally incorporated under the laws of the state in which they are located (U.S. Census Bureau 2005). The area of assessment for the CNF also includes the state of Sonora, Mexico and the individual towns of Agua Prieta, Naco, and Nogales. Due to

limited access and comparability, information on areas within Sonora, Mexico is primarily limited to existing demographic and economic data and does not include details on road networks, land use, or community and cultural resources.

This report provides a profile of socioeconomic conditions and trends deemed most relevant to natural resource policies in general and the management of Arizona's national forests in particular. Secondary demographic, economic, and social data have been drawn from readily available sources including the U.S. Census Bureau, the U.S. Forest Service Natural Resource Information System (NRIS), the Arizona Department of Transportation (ADOT), county comprehensive plans, and the Minnesota IMPLAN Group (MIG). The information contained in this report is well suited to serve as a comparative baseline for each of the counties, presenting descriptive data to assist the CNF and local communities in analyzing and monitoring trends most likely to influence the management of forest resources throughout the region.

Specific variables used to profile existing socioeconomic conditions and trends within the geographic area of assessment are based on both explicit and implicit assumptions about relationships between various forest management alternatives and affected communities. The individual topics of assessment and the specific variables have been identified in conjunction with regional and local FS administrators and are similar to measures used in other social assessment studies (Adams-Russell 2004; Leefers, Potter-Witter, and McDonough 2003). The profiles generated through the collection of secondary data will serve as valuable tools for estimating the potential impact of policy changes, resource management activities, and development trends for each of the assessment topics.

1.3 Report organization

The organization of this assessment is based on the collection and analysis of data pertinent to each of seven individual assessment topics. Following this introductory chapter, collected data on selected socioeconomic indicators are provided for each topic. Additionally, each topic is discussed in its historical context as well as its potential implications for forest planning and management. Chapters 2 and 3 provide information on demographic trends and economic characteristics of counties and selected cities within the area of assessment. Chapter 4 discusses the access and travel patterns within the area of assessment and Chapter 5 examines land use patterns and policies. Chapter 6 uses available secondary data to discuss trends for current forest users and uses. Chapter 7 identifies designated areas and known special places within the Coronado NF and discusses their importance to forest management. Chapter 8 assesses relationships between the CNF and various communities at the local and regional levels. Chapter 9 offers a brief analysis of key management topics identified by forest planners at the inception of this assessment. The final chapter summarizes major trends within each topical area and discusses their combined relevance to Forest Plan revision. A list of works cited is included in this assessment and a separate, complete annotated bibliography will be presented to individual forests alongside the assessments.

2. Demographic Patterns and Trends

This section discusses both the historic and current conditions affecting local populations and illustrates demographic trends for each of the six counties within the area of assessment for Coronado National Forest (CNF). Data on selected cities within the area of assessment are provided in order to illustrate important factors contributing to demographic changes in specific populations. Demographic data for Arizona; New Mexico; and Sonora, Mexico are also included, forming a basis to compare trends among the border states. Indicators used to assess demographic patterns and trends include total population, racial/ethnic origin, urban versus rural populations, age structure, educational attainment, and housing density.

A review of secondary social data affirms that Tucson is by far the largest city within the area of assessment. However, the two most recent censuses report that population growth in both Pinal and Santa Cruz Counties exceeded that of Pima County over the twenty-year period between 1980 and 2000. Among selected cities within the area of assessment, Oro Valley, Apache Junction, and Catalina have all seen substantial increases in population as well as total and seasonal housing units since 1990. With the exception of Graham County, the region's population is predominantly urban despite considerable increases in the rural populations of Cochise and Pima Counties between 1990 and 2000. Five of the six counties in the area of assessment became more racially and ethnically diverse between 1990 and 2000 largely as the result of substantial increases in multiple race and Hispanic populations.

2.1. Historical context and social characteristics

Sheridan (1995) describes the time from the fifteenth to the nineteenth centuries in what is now Arizona as the convergence of the Athapaskan (Apache and Navajo), Hispanic, and Anglo American cultures on the Native American groups already living in that area, including the Hopi, River Yuman, Upland Pais, and Piman (O'odham and Sobaipuri) peoples. As the first Hispanic missionaries entered central and southern Arizona, those areas were populated by Piman-speaking groups that may have descended from the much older Hohokam civilization. These groups farmed corn, beans, and squash along the region's rivers, particularly the Santa Cruz (dominated by the Tohono O'odham or Papago), the San Pedro (dominated by the Sobaipuris), and their tributaries (Sheridan 1995, Hadley and Sheridan 1995).

In 1540, less than two decades after the Spanish entered the New World, Francisco Vasquez de Coronado entered what is now the modern southern boundary of the United States at a point on the San Pedro River in Cochise County. Coronado was in search of gold and precious minerals that legends claimed were to be found in the area, but of which the native tribes were unaware. At the time, of course, Coronado could not imagine the wealth in minerals under the surface that would later bring in a booming mining industry. Coronado and his troops continued into northern Arizona and New Mexico on an expedition in search of the mythical seven cities of Cíbola. While the sought-after treasures were never found, Coronado's entrada laid the groundwork for the process of Spanish colonization over the following three hundred years. The route they followed later became Route 666, which originates in Cochise County. It is now the Coronado Trail Scenic Byway, which runs through the Apache National Forest. A museum has been established at the point where Coronado was said to have crossed and is part of the Coronado National Memorial (Houston Institute 2005, Sheridan 1995).

When the Jesuit missionary Padre Eusebio Kino entered modern southern Arizona in the late 17th century, Apaches and other raiding groups had banded together to attack these Piman-speaking groups and were in the process of either "displacing or assimilating" them (Hadley and Sheridan 1995). It is not clear when the Pimans or the Apaches first arrived in the area, but by the 18th century, the groups that later came to be known as Chiricahua Apaches had learned to tame wild Spanish horses and had spread throughout the Peloncillo, Dragoon, Dos Cabezas, Chiricahua, and probably Huachuca mountain ranges. They gathered

wild foods as well as engaging in some agriculture and generally preferred higher elevations than the Pimans and descended from the highlands to raid the more agricultural settlements (Sheridan 1995).

Many of the threats that faced Piman-speaking farmers also confronted subsequent waves Hispanic and Anglo settlers. Apache attacks, the marginal environment, disease, and other factors slowed Spanish missionaries, early Hispanic farmers and ranchers, Anglo trappers, Gold Rush migrants, and early U.S settlements. The Treaty of Guadalupe-Hidalgo was signed in 1848, ending the U.S. war with Mexico and bringing California and New Mexico (including Arizona north of the Gila River) under U.S. control. The 1853 Gadsen Purchase added southern Arizona and the Mesilla Valley of New Mexico. The Southern Pacific Railroad followed soon after. For nearly forty years, continuing aggression between the Apaches and the westward-bound Americans kept the area sparsely populated. However, the U.S.'s military conquest of Native American groups opened the doors to large-scale Anglo settlement. A year after the surrender of Geronimo, the area became a major mining center with Tombstone at its heart (Houston Institute 2005). Arizona's extensive livestock industry was born, and a series of extractive booms and busts (most notably mining, cattle, and cotton) followed.

The current boundaries of the CNF are the result of an amalgamation of numerous forest reserves and national forests. In 1902, the Santa Rita, Santa Catalina, Mount Graham, and Chiricahua Forest Reserves were established, followed four years later by the Huachuca and the Tumacacori Forest Reserves. The following year, the Dragoon National Forest was established. In 1927, two natural areas were put aside for scientific research, including the Santa Catalina area. By 1930, land from the various forests and reserves had been combined to form the CNF, which at the time was one of fourteen such forests in the region. In 1938, land was transferred from the Coronado to the Chiricahua National Monument, which was established in 1924 on a site previously home to the Faraway Ranch guest house, owned by Swedish immigrants. By the late 1950s, the Crook National Forest had been dissolved and its lands split between the Coronado, Tonto, and Gila National Forests (Baker et al. 1988).

Today, the scattered holdings of the CNF cover over 2,600 square miles of land ranging in elevation from 3,000 to over 10,000 feet (on Mt. Graham) in southeastern Arizona and southwestern New Mexico. The area is rich in vegetation zones including desert grasslands, Douglas fir and Ponderosa pine forests, and saguaro-covered desert, all of which harbor a diversity of wildlife including numerous bird species, reptiles, mammals, and large predators such a bears and even jaguars. Its long stretches of grassland make it a historical grazing area, and its variety of elevations allows for year-round recreational use.

The recent demographic history of the area surrounding the Coronado NF, and the region as a whole, represents one of sustained and rapid growth. Since 1930, the Mountain West has doubled its share of the U.S. population, from 3% to 6.5%. Growth increased dramatically in the 1950s and then declined again in the 1960s. This pattern of growth was repeated for the next forty years, with alternating decades of intense growth followed by decades of slower growth (Otterstrom and Shumway 2003). Following a period of population loss in Cochise and Santa Cruz Counties between 1920-1950, the Arizona counties into which the forest boundaries extend have grown steadily from 240,000 residents to over 1.2 million (Forstall 1995, U.S. Census Bureau 2005). Washington and Arizona are the only two states to show such startling demographic expansion (U.S. Census Bureau 2005). The average age in the state has been steadily increasing: 31% of the state population was under 15 in 1950, but only 22.4% fall in the under-15 bracket today. Some of these shifts can be attributed to Arizona's amenable climate, relatively affordable property values, and the continued importance of area military bases. Long-term population increases are also supported by seasonal visitors wishing to permanently relocate to environs with increased outdoor opportunities (McHugh and Mings 1996).

The past fifty or sixty years have seen only moderate racial diversification in the state. While the Hispanic population in the state has increased from 20.4% to 25.2% of the population since 1940, the African American cohort, despite an especially rapid influx during the two decades following WWII and an average population growth rate of 49% per decade, has remained static, sitting at 3.1% of the population

in 2000, only 0.1% above their relative numbers in 1940. The Native American population as a percentage of total population, by contrast, has declined significantly over the past five or six decades, falling from 11% in 1940 to 5% in 2000 (U.S. Census Bureau 2005)[1].

The past fifty years of increased growth is considered to be a marked pattern for the region, and more of the same is likely in the near future. As local populations increase, additional pressure for space continually affects the borders, integrity, and biodiversity of the federal lands surrounding such growing communities as homes abut forested land and a higher concentration of visitors travel to favored forest destinations (USFS 1999a).

[1] The specific numbers for these historical comparisons are found at http://www.census.gov/population/documentation/twps0056/tab17.pdf in the U.S. Census Bureau website and are juxtaposed with the Census 2000 findings.

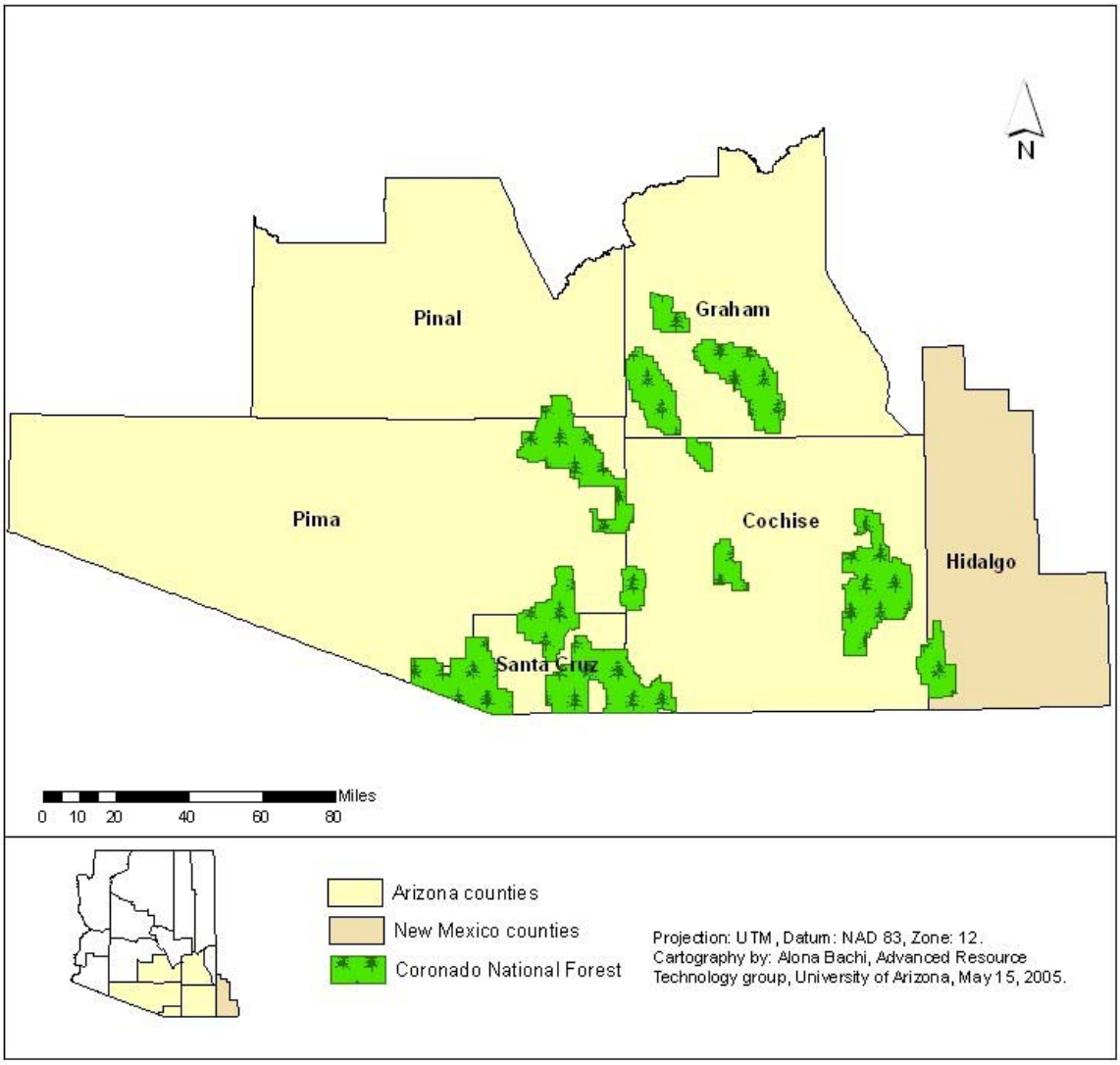


Figure 1. Map of Forest Boundaries and Counties in Area of Assessment

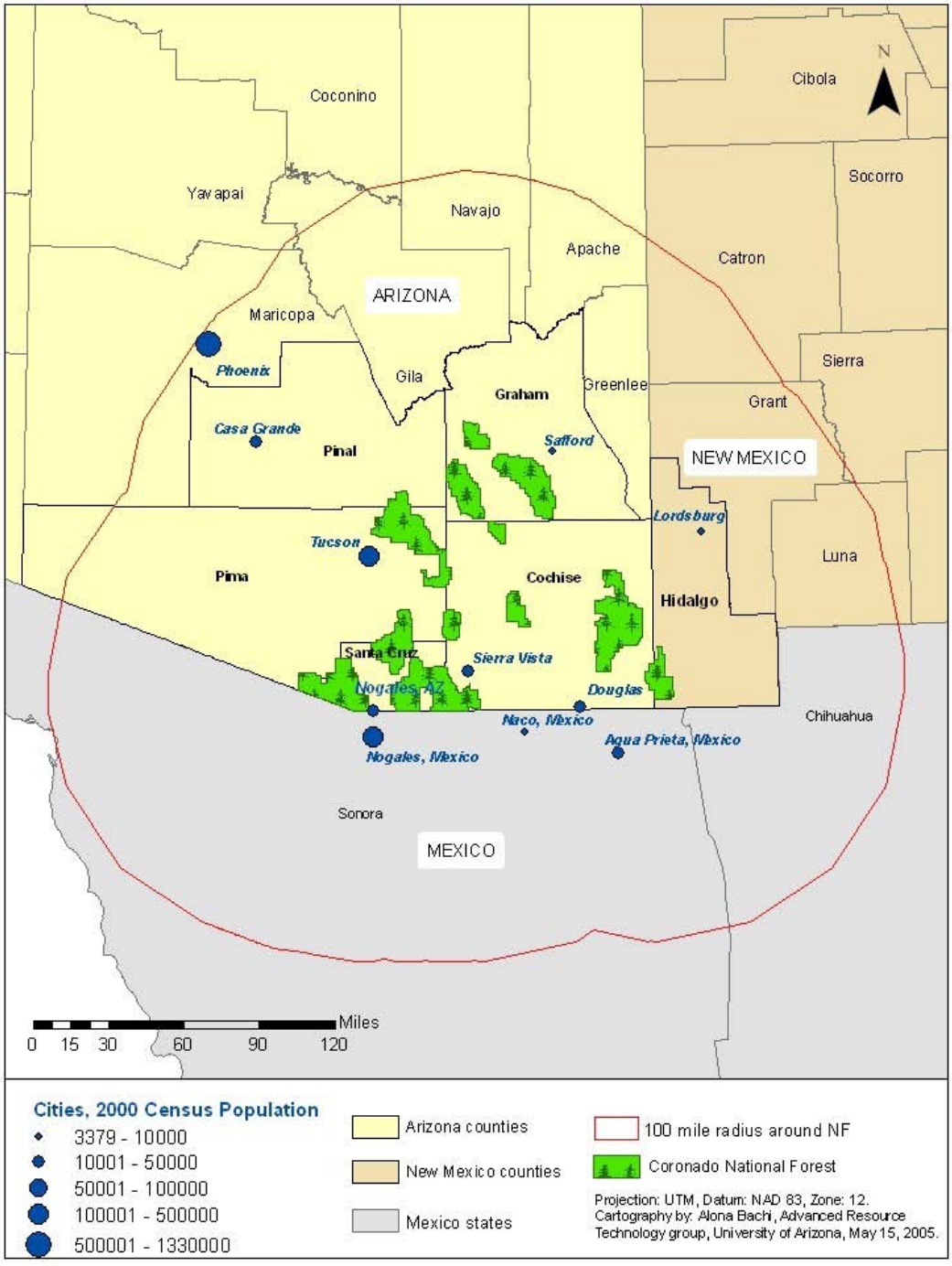


Figure 2. Proximity of Population – Municipalities within 100-mile Radius

2.2 Population, age structure, net migration, and tourism

Information concerning total land area, U.S. Forest Service (USFS) acreage, total population, and population density for each of the six counties and selected places is presented in Table 1. Data identify Pima County as both the largest and the most populous county in the region, but Cochise County holds the largest amount of Forest Service (FS) land with over 490,000 acres. Population density within the area of assessment ranges from 91.8 individuals per square mile in Pima County to 1.7 individuals per square mile in sparsely populated Hidalgo County, New Mexico. Tucson is the most populous of the selected cities within the area of assessment followed by Nogales and Agua Prieta, both located in Sonora, Mexico. Due to the unavailability of total land area statistics at the time of this assessment, it was not possible to calculate population density for the three cities in Sonora.

Data on population change for each of the six counties as well as the selected places are presented in Table 2. These data show that, in general, the population growth of counties in the region did not match the statewide growth rate in Arizona, which itself was roughly double the rate of population growth in New Mexico over the same period. The exceptions to this trend are Santa Cruz County, which experienced a population increase of 45.05% between 1980 and 1990, and Pinal County, which saw an increase of 54.43% from 1990 to 2000. Both of these counties significantly exceeded the statewide growth rate over the same period. Among the selected cities within the area of assessment, Oro Valley has grown most dramatically, sustaining a growth rate of over 345% between 1980 and 2000. Coolidge, Apache Junction, Marana, and Green Valley also experienced significant population growth, particularly between 1980 and 1990. Interestingly, the data show that Hidalgo County's population has continued to decline over the past two decades, further eroding a very limited population base. In Sonora, the cities of Nogales and Aqua Prieta have also experienced dramatic growth at various stages over the last two decades. Although population growth statistics reported by the Instituto Nacional de Estadística Geografía e Informática (INEGI) report increases in residents of the state and municipalities, they do not account for the significant transient populations of cities along the U.S.-Mexico border. Various estimates suggest that during the peak season for labor migration, daily populations of Agua Prieta, Naco, and other border communities may be double that of the permanent, year-round population (Ibarra 1997, USDHHS 2002). Long-term population change for the six-county area of assessment is also displayed in Figure 3, demonstrating a relatively dramatic increase in the population of Pima County, particularly in the years following World War II.

Table 3 presents urban and rural population data from the three most recent censuses and the percent change by county. Data confirm an overall trend towards urbanization in Arizona over the last two decades with a few notable exceptions. Graham County alone maintained a predominantly rural population. Although Santa Cruz County experienced a significant increase in its rural population, particularly between 1980 and 1990, the majority of its population continues to reside in urban areas. The rural populations of Cochise County and Pima Counties also increased between 1990 and 2000 significantly (35.29% and 41.13% respectively).

Although Pinal County undoubtedly underwent a process of urbanization during this decade, the dramatic increase in urban population depicted in Table 3 (593%) is likely due to a change in reporting criteria adopted by the U.S. Census Bureau. In 1980, urban populations were defined strictly as those living in urban areas—areas determined according to minimum total population and population density criteria not met by the city of Casa Grande and expanding areas such as Apache Junction, Queen Creek, and others outside of the Phoenix and Tucson metropolitan areas. In 1990, however, reporting criteria for urban populations was changed to include those living *in* urban areas as well as those living in the suburbs *outside* urban areas. This shift likely accounts for much of the total population growth for Pinal County between 1980 and 1990, contributing to a somewhat skewed increase in urban versus rural populations. The aggregated change in rural and urban populations for the entire six-county assessment area over the same period is displayed in Figure 4.

Table 1. Total Area, Total Population, Population Density, and Forest Service Acreage by County and Place

County/Place	Total Area Sq. Miles	2000 population	Pop. Density per sq. mile*	USFS Acres
Cochise County	6,169	117,755	19.1	490,182
Sierra Vista	153.5	37,775	246.09	n/a
Douglas	7.7	14,312	1,858.70	n/a
Bisbee	4.8	6,090	1,268.75	n/a
Benson	35.7	4,711	131.96	n/a
Willcox	6	3,733	622.17	n/a
Graham County	4,629	33,489	7.2	396,174
Safford	7.9	9,232	1,168.61	n/a
Thatcher	4.4	4,022	914.09	n/a
Hidalgo County, NM	3,446	5,932	1.7	76,589
Lordsburg	8.4	3,379	402.26	n/a
Pima County	9,186	843,746	91.8	389,871
Tucson	194.7	486,699	2,499.74	n/a
Oro Valley	31.8	29,700	933.96	n/a
Green Valley	26.2	17,283	659.66	n/a
Catalina	13.9	13,556	975.25	n/a
Marana	72.7	7,025	96.63	n/a
South Tucson	1.0	5,490	5,490.00	n/a
Pinal County	5,374	179,727	33.44	223,155
Apache Junction	34.2	31,814	930.23	n/a
Casa Grande	48.2	25,224	523.32	n/a
Florence	8.3	17,054	2,054.70	n/a
Eloy	71.7	10,375	144.70	n/a
Coolidge	5.0	7,786	1,557.20	n/a
Queen Creek	25.8	4,316	167.29	n/a
Santa Cruz County	1,238	38,381	31	418,302
Nogales	20.8	20,878	1,003.75	n/a
Patagonia	1.2	881	734.17	n/a
Sonora, Mexico	184,934	2,216,969	12	n/a
Nogales	-	159,787	-	n/a
Agua Prieta	-	61,944	-	n/a
Naco	-	5,370	-	n/a

Source: NRIS - Human Dimensions

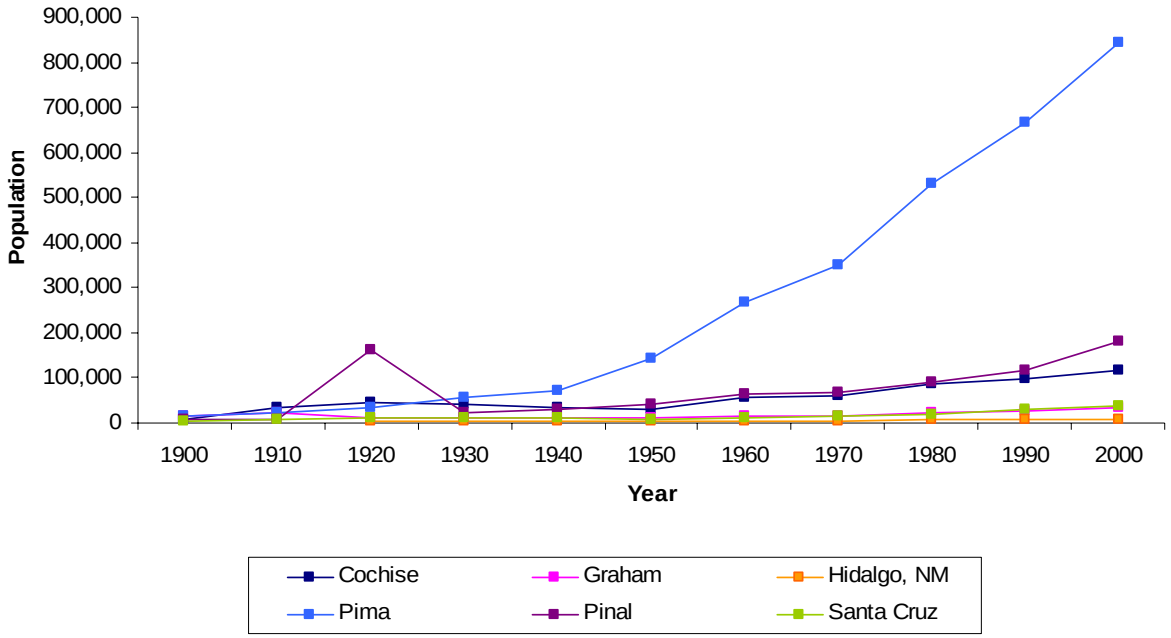
*Population density for areas in Mexico expressed in individuals per square kilometer

http://www.inegi.gob.mx/est/contenidos/espanol/tematicos/mediano/mun.asp?t=mpob103&c=3850&e=26
http://www.city-data.com/city/Arizona.html

Table 2. Decennial County, Place, and State Populations, 1980-2000 and % Change

County/Place/State	Total Population 1980	1990	2000	1980-1990 % Change	1990-2000 % Change
Cochise County	85,686	97,624	117,755	13.93%	20.62%
Sierra Vista	24,937	32,983	37,775	32.27%	14.53%
Douglas	13,058	12,905	14,312	-1.17%	10.90%
Bisbee	7,154	6,288	6,090	-12.11%	-3.15%
Benson	4,190	3,824	4,711	-8.74%	23.20%
Willcox	3,243	3,122	3,733	-3.73%	19.57%
Graham County	22,862	26,554	33,489	16.15%	26.12%
Safford	7,010	7,359	9,232	4.98%	25.45%
Thatcher	3,374	3,763	4,022	11.53%	6.88%
Hidalgo County, NM	6,049	5,958	5,932	-1.50%	-0.44%
Lordsburg	3,195	2,922	3,379	-8.54%	15.64%
Pima County	531,443	666,880	843,746	25.48%	26.52%
Tucson	330,537	405,390	486,699	22.65%	20.06%
Oro Valley	1,489	6,670	29,700	347.95%	345.28%
Green Valley	7,999	13,231	17,283	65.41%	30.63%
Catalina	1,674	2,187	13,556	30.65%	519.84%
Marana	2,749	4,864	7,025	76.94%	44.43%
South Tucson	6,554	5,093	5,490	-22.29%	7.80%
Pinal County	90,918	116,379	179,727	28.00%	54.43%
Apache Junction	9,935	18,196	31,814	83.15%	74.84%
Casa Grande	14,971	19,082	25,224	27.46%	32.19%
Florence	6,851	7,510	17,054	9.62%	127.08%
Eloy	6,240	7,201	10,375	15.40%	44.08%
Coolidge	3,391	6,927	7,786	104.28%	12.40%
Queen Creek	n/a	2,478	4,316	n/a	74.17%
Santa Cruz County	20,459	29,676	38,381	45.05%	29.33%
Nogales	15,683	19,489	20,878	24.27%	7.13%
Patagonia	980	923	881	-5.82%	-4.55%
Arizona	2,718,215	3,665,228	5,130,632	34.84%	39.98%
New Mexico	1,302,894	1,515,096	1,819,046	16.29%	20.06%
Sonora, Mexico	1,513,731	1,823,606	2,216,969	20.47%	21.57%
Nogales	68,076	107,936	159,787	58.55%	48.04%
Agua Prieta	34,380	39,120	61,944	13.79%	58.34%
Naco	4,441	4,645	5,370	4.59%	15.61%

Source: NRIS - Human Dimensions
http://www.sonora.gob.mx/portal/Runscript.asp?p=ASP\pg212.asp



Source: U.S. Bureau of the Census, Census of Population

Figure 3. Six-County Assessment Area Population Change, 1900-2000

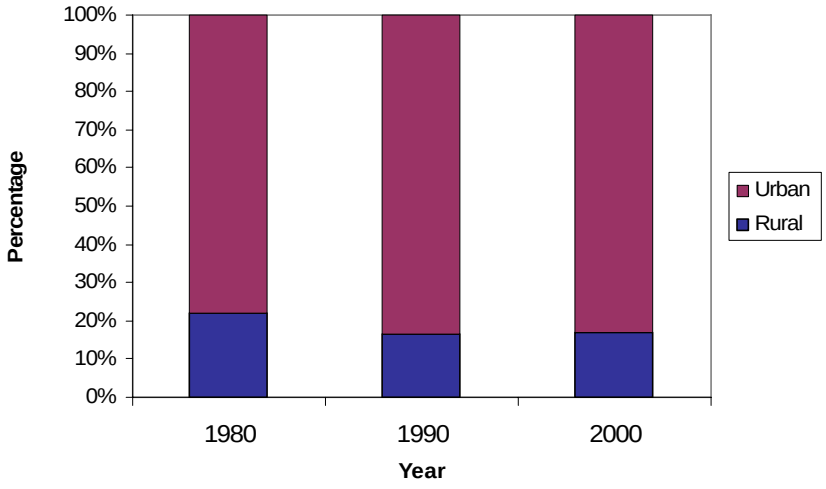
Table 3. Urban and Rural County Populations, 1980-2000 and % Change

County		1980* Population	1980* % of Total	1980* % Change	1990 Population	1990 % of Total	1990 % Change	2000 Population	2000 % of Total	2000 % Change
Cochise	Urban	52,582	61.37%	n/a	68,359	70.02%	30.00%	78,163	66.38%	14.34%
	Rural	33,104	38.63%	n/a	29,265	29.98%	-11.60%	39,592	33.62%	35.29%
Graham	Urban	10,384	45.42%	n/a	11,122	41.88%	7.11%	14,829	44.28%	33.33%
	Rural	12,478	54.58%	n/a	15,432	58.12%	23.67%	18,660	55.72%	20.92%
Hidalgo (NM)	Urban	3,195	52.82%	n/a	2,922	49.04%	-8.54%	2,986	50.34%	2.19%
	Rural	2,854	47.18%	n/a	3,036	50.96%	6.38%	2,946	49.66%	-2.96%
Pima	Urban	450,059	84.69%	n/a	616,159	92.39%	36.91%	772,162	91.52%	25.32%
	Rural	62,633	11.79%	n/a	50,721	7.61%	-19.02%	71,584	8.48%	41.13%
Pinal	Urban	9,935	10.93%	n/a	68,908	59.21%	593.59%	116,082	64.59%	68.46%
	Rural	36,841	40.52%	n/a	47,471	40.79%	28.85%	63,645	35.41%	34.07%
Santa Cruz	Urban	15,683	76.66%	n/a	19,489	65.67%	24.27%	25,939	67.58%	33.10%
	Rural	4,776	23.34%	n/a	10,187	34.33%	113.30%	12,442	32.42%	22.14%

*Does not account for farming populations

N.B.: % Total is the percentage of total population. % Change is the percentage of change from prior census year

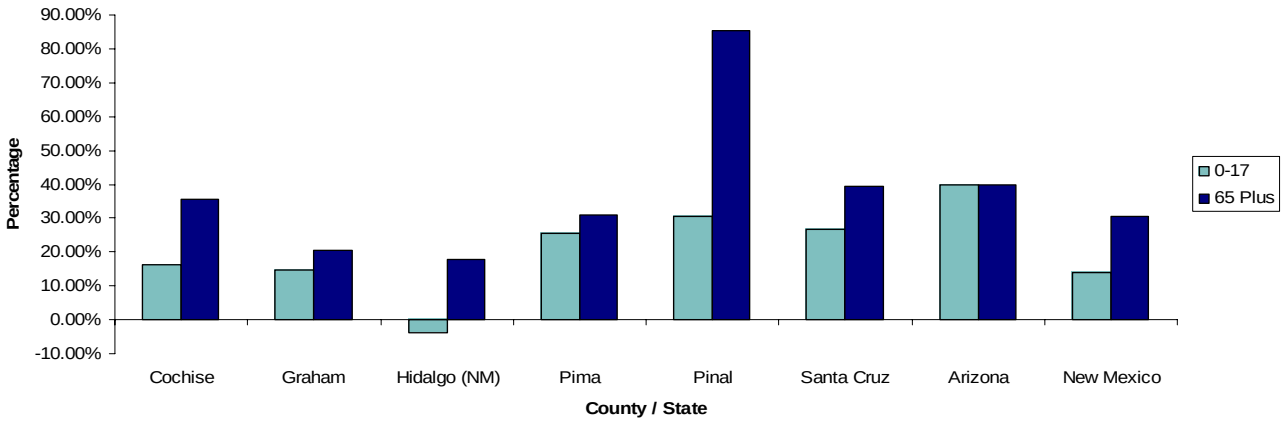
Source: NRIS - Human Dimensions



Source: NRIS - Human Dimensions

Figure 4. Six-County Assessment Area Urban/Rural Composition, 1980-2000

The age structure of populations for each of the six counties and their selected places is presented in Figure 5. The corresponding data in Table 4 show a clear difference in population trends for individuals under 18 and those 65 and over for each of the counties. Between 1990 and 2000, the county and state under-18 populations grew at a much slower rate than those populations 65 and over. The exceptions to this trend were the Sonoran cities of Nogales and Agua Prieta as well as the state of Arizona, all of which experienced considerable rates of growth in under-18 populations during the same period. The greatest disparities between the growth of the under-18 and 65-and-over populations were seen in Pinal, Cochise, Santa Cruz, and Hidalgo Counties, with Hidalgo actually losing a considerable portion of its already limited under-18 population. Among all counties, Pinal County demonstrated the most dramatic growth in the 65-and-over population with an increase of over 85%, well above the state average for the same group. The cities of Catalina and Oro Valley experienced increases in 65-and-over populations that were the largest among all of the selected cities within the area of assessment (519.14% and 437.48% respectively). Similarly, these two cities were the only two that had dramatic increases in their under-18 populations over the ten-year period. All other counties in the area of assessment realized a growth in the 65-and-over population that was below that of the state as a whole.



Source: NRIS - Human Dimensions

Figure 5. Percent Change in Under-18 and 65+ Populations by County, 1990-2000

Table 4. Age Structure of County, Place, and State Populations (Under-18 and 65+), 1990-2000 and % Change

	Under 18			65 And Over		
County/Place/State	**1990**	**2000**	**% Change**	**1990**	**2000**	**% Change**
Cochise County	26,687	30,999	16.16%	12,815	17,365	35.51%
Sierra Vista	8,815	9,755	10.66%	2,393	4,574	91.14%
Douglas	4,409	4,798	8.82%	1,861	1,873	0.64%
Bisbee	1,495	1,318	-11.84%	1,315	1,193	-9.28%
Benson	948	921	-2.85%	964	1,381	43.26%
Willcox	963	1,097	13.91%	505	597	18.22%
Graham County	8,793	10,077	14.60%	3,309	3,985	20.43%
Safford	2,300	2,790	21.30%	1,345	1,546	14.94%
Thatcher	1,285	1,110	-13.62%	463	499	7.78%
Hidalgo County, NM	1,959	1,882	-3.93%	685	808	17.96%
Lordsburg	944	1,078	14.19%	441	508	15.19%
Pima County	165,740	207,896	25.44%	91,257	119,487	30.93%
Tucson	98,889	119,617	20.96%	51,190	57,828	12.97%
Oro Valley	1,292	6,392	394.74%	1,254	6,740	437.48%
Green Valley	311	270	-13.18%	9,517	12,662	33.05%
Catalina	686	3,626	428.57%	209	1,294	519.14%
Marana	1,500	1,931	28.73%	655	990	51.15%
South Tucson	1,641	1,730	5.42%	659	549	-16.69%
Pinal County	34,537	45,081	30.53%	15,731	29,171	85.44%
Apache Junction	4,051	6,515	60.82%	4,611	8,050	74.58%
Casa Grande	6,247	7,797	24.81%	1,994	3,469	73.97%
Florence	865	1,294	49.60%	760	1,626	113.95%
Eloy	2,872	3,501	21.90%	557	661	18.67%
Coolidge	2,431	2,558	5.22%	929	1,040	11.95%
Queen Creek	986	1,528	54.97%	155	209	34.84%
Santa Cruz County	10,204	12,913	26.55%	2,947	4,114	39.60%
Nogales	7,048	7,228	2.55%	1,859	2,260	21.57%
Patagonia	281	184	-34.52%	164	188	14.63%
Arizona	978,783	1,366,947	39.66%	477,200	667,839	39.95%
New Mexico	446,439	508,574	13.92%	162,518	212,225	30.59%
	Under 15			**65 And Over**		
Sonora	652,577	719,618	10.27%	73,057	105,330	44.18%
Nogales	36,896	53,441	44.84%	3,317	4,383	32.14%
Agua Prieta	14,248	21,986	54.31%	1,288	2,005	55.67%
Naco	1,739	1,999	14.95%	178	219	23.03%

Source: NRIS - Human Dimensions
XI Censo General de Población y Vivienda, 1990
http://www.inegi.gob.mx/est/contenidos/espanol/tematicos/mediano/mun.asp?t=mpob93&c=3839&e=26

Table 5 presents data on net migration for each county for the years 1990 and 2000 as well as the percent change. The data represent numbers of individuals who reported living in a different location five years previously. As such, the 1990 data provide information on location of residence in 1985, and the 2000 data indicate location of residence in 1995. Once again, net migration data show that population growth in Pinal County has been especially strong, fueled by the inward migration of individuals previously living outside the county. Conversely, net migration to Hidalgo County was particularly low between 1990 and 2000. Pinal County reported relatively high numbers of immigrants from within the state of Arizona as well as individuals from other states. Although the majority of out-of-state immigrants came from the West, South, and Midwest, many counties reported the greatest increases in out-of-state immigrants as coming from the northwest region of the country. Finally, both Graham and Pinal Counties reported significant increases in the number of individuals migrating from "elsewhere" (different countries) over the period.

Figure 6 displays the seven distinct tourism regions designated by the Arizona Office of Tourism (AZOT). AZOT has traditionally gathered and reported visitation statistics within these regions rather than by counties. The area of assessment of the CNF is located primarily within the region referred to as the "Old West Territory." The 2003 profile for the Old West Territory reported 4.77 million domestic overnight leisure visitors representing a 77.3% increase over the 2.69 million domestic overnight leisure visitors a decade earlier. This established the Old West Territory as the second most visited region in the state behind the Valley of the Sun in the number of domestic overnight visitors. Approximately 73% of Old West Territory visitors came to the area for leisure while the remaining 27% were visiting on business (AZOT 2004a).

In 2002, 31.7% of domestic visitors to the Old West Territory came from within Arizona while 26.6% were visitors from California. In addition, Texas, New Mexico, Nevada, and Illinois contributed significant numbers of tourists. AZOT data suggest that general spending and sightseeing were both popular for visitors to the Old West Territory with 44% of respondents engaging in these activities. 33% of tourists reported visiting for nature activities, which include camping, visiting national and state parks, and "eco-travel." Coronado NF and Sabino Canyon were the sixth most visited natural tourist attractions in the state with 1.5 million reported visitors in 2003 (AZOT 2004a). 2002 data confirm that the flow of visitors is greatest during winter with 43% of visits taking place between the months of December and March (AZOT 2004b).

Statistics for overseas visitors are not made available for individual tourism regions; however, AZOT reports that the state of Arizona experienced a 15.3% decline in overseas visitors in 2003 (dropping to 544,000 from 636,000 in 2002) while the U.S. saw a decline of 4%. The primary countries of origin for overseas visitors to Arizona were the U.K. (18.4%), Germany (16.4%), Mexico (11.0%), Japan (9.1%), and France (8.5%) (AZOT 2004a).

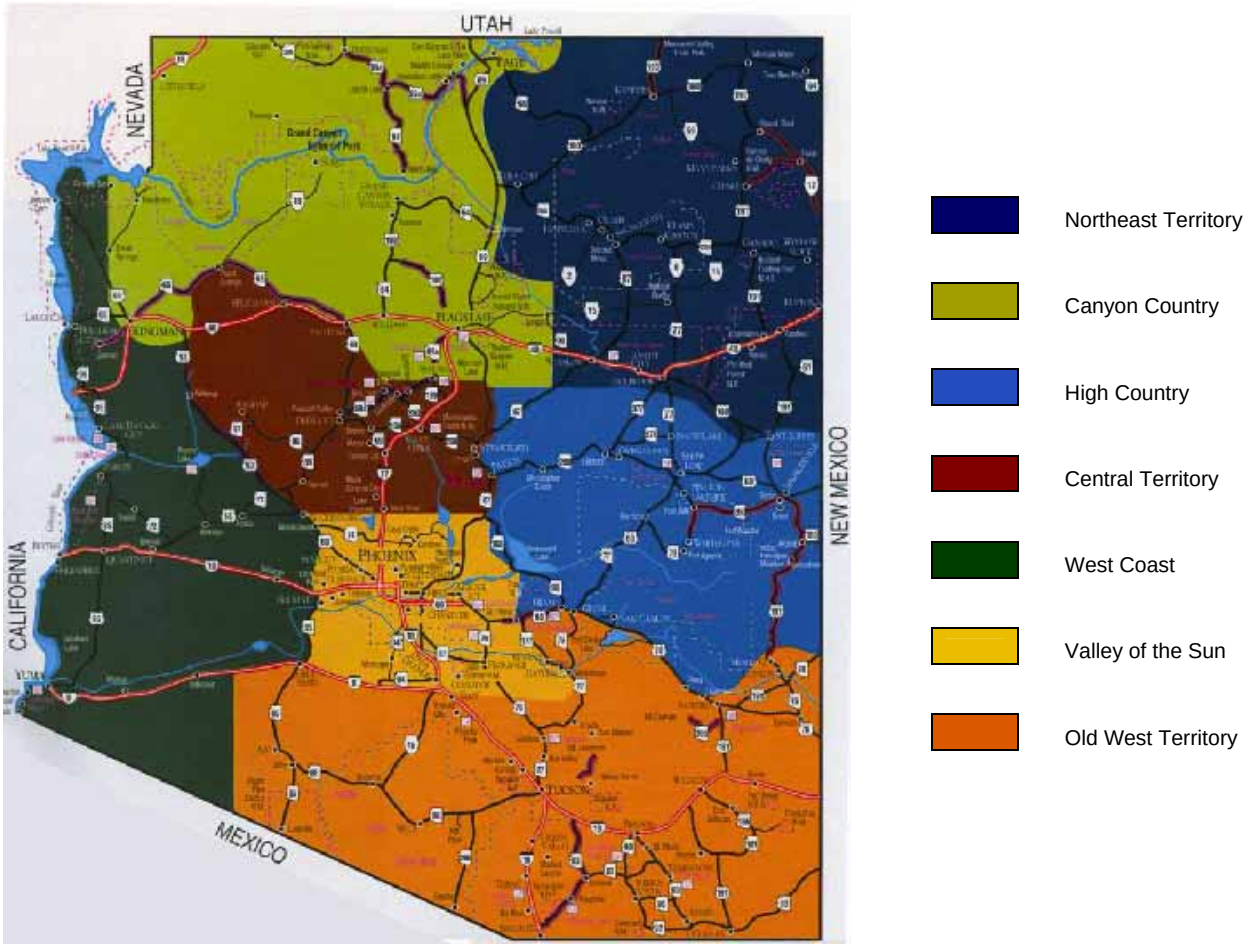
Table 5. Net Migration by County, 1990-2000 and % Change

	Cochise County			Graham County			Hidalgo County, NM		
	1990	2000	% Change	1990	2000	% Change	1990	2000	% Change
Total*	90,617	110,047	21.44%	24,364	30,909	26.86%	5,450	5,473	0.42%
Same House	38,243	51,018	33.40%	13,283	17,785	33.89%	2,863	3,526	23.16%
Different House	52,374	59,029	12.71%	11,081	13,124	18.44%	2,587	1,947	-24.74%
In United States	46,145	54,340	17.76%	10,951	12,375	13.00%	2,546	1,834	-27.97%
Same County	19,880	25,237	26.95%	4,670	5,824	24.71%	1,375	982	-28.58%
Different County	26,265	29,103	10.81%	6,281	6,551	4.30%	1,171	852	-27.24%
Same State	7,629	8,198	7.46%	3,931	4,199	6.82%	613	233	-61.99%
Different State	18,636	20,905	12.18%	2,350	2,352	0.09%	558	619	10.93%
Northwest	1,456	2,248	54.40%	61	67	9.84%	13	14	7.69%
Midwest	3,920	3,363	-14.21%	386	375	-2.85%	47	26	-44.68%
South	6,421	7,371	14.80%	455	586	28.79%	93	183	96.77%
West	6,839	7,923	15.85%	1,448	1,324	-8.56%	405	396	-2.22%
In Puerto Rico	18	120	566.67%	0	0	n/a	0	0	n/a
Elsewhere	6,086	4,569	-24.93%	130	749	476.15%	41	113	175.61%

	Pima County			Pinal County			Santa Cruz County		
	1990	2000	% Change	1990	2000	% Change	1990	2000	% Change
Total*	617,632	788,868	27.72%	106,788	167,639	56.98%	26,798	35,184	31.29%
Same House	268,012	364,326	35.94%	50,936	79,159	55.41%	14,819	19,430	31.12%
Different House	349,620	424,542	21.43%	55,852	88,480	58.42%	11,979	15,754	31.51%
In United States	331,150	399,916	20.77%	54,574	84,554	54.93%	9,981	14,143	41.70%
Same County	187,589	245,742	31.00%	26,325	32,275	22.60%	6,406	10,055	56.96%
Different County	143,561	154,174	7.39%	28,249	52,279	85.06%	3,575	4,088	14.35%
Same State	33,254	35,158	5.73%	12,632	26,642	110.91%	2,068	2,090	1.06%
Different State	110,307	119,016	7.90%	15,617	25,637	64.16%	1,507	1,998	32.58%
Northwest	13,228	15,408	16.48%	1,196	2,261	89.05%	198	59	-70.20%
Midwest	29,820	27,424	-8.03%	4,450	7,655	72.02%	261	224	-14.18%
South	21,984	25,372	15.41%	2,925	3,796	29.78%	213	468	119.72%
West	45,275	50,812	12.23%	7,046	11,925	69.24%	835	1,247	49.34%
In Puerto Rico	89	408	358.43%	0	50	n/a	0	0	n/a
Elsewhere	18,101	24,218	33.79%	1,278	3,876	203.29%	1,998	1,611	-19.37%

	Arizona			New Mexico		
	1990	2000	% Change	1990	2000	% Change
Total*	3,374,806	4,752,724	40.83%	1,390,048	1,689,911	21.57%
Same House	1,454,319	2,103,907	44.67%	719,628	919,717	27.80%
Different House	1,920,487	2,648,817	37.92%	670,420	770,194	14.88%
In United States	1,840,216	2,465,345	33.97%	645,519	731,488	13.32%
Same County	1,026,332	1,456,345	41.90%	345,469	400,128	15.82%
Different County	813,884	1,009,490	24.03%	300,050	331,360	10.43%
Same State	164,063	213,070	29.87%	107,289	126,093	17.53%
Different State	649,821	796,420	22.56%	192,761	205,267	6.49%
Northwest	63,950	84,288	31.80%	14,311	15,329	7.11%
Midwest	179,202	190,720	6.43%	28,270	29,457	4.20%
South	118,041	140,608	19.12%	73,548	72,497	-1.43%
West	288,628	380,804	31.94%	76,632	87,984	14.81%
In Puerto Rico	665	1,745	162.41%	110	398	261.82%
Elsewhere	78,618	181,237	130.53%	24,466	38,308	56.58%

* Totals do not include persons under the age of 5
Source:1990- US Census of Population- Social and Economic Characteristics
2000- US Census American Factfinder- http://factfinder.census.gov



Source: Arizona Office of Tourism

Figure 6. Map of Arizona Tourism Regions

2.3 Racial/ethnic composition and educational attainment

Tables 6 and 7 present collected data on the racial and ethnic composition of the population in the six counties as well as the states of Arizona and New Mexico. Table 6 presents reported numbers and percentage change in individuals of specific racial and ethnic categories between 1990 and 2000. Table 7 provides these racial and ethnic categories according to their proportional representation in the overall county and state populations. As a point of clarification, race and ethnicity are defined as separate concepts by the federal government. People of a specific race may be of any ethnic origin, and people of a specific ethnic origin may be of any race. Race in this section covers the following five groups: White, Black or African American, American Indian and Alaska Native, Asian and Pacific Islander, and Multiple Races. The population of Hispanic origin is defined for federal statistical purposes as another group and may be of any race (Hobbs and Stoops 2002; Leefers, Potter-Witter, and McDonough 2004).

The reported census data may indicate an increase in individuals who identify themselves as being both of multiple racial backgrounds and of Hispanic origin. Notably, the decade between 1990 and 2000 saw significant increases in individuals of multiple races for five of the six counties, mirroring the overall trend for the states of Arizona and New Mexico (Table 6). The sole exception to this trend was Santa Cruz County, which saw an increase in the multiple-race population that was much lower than overall

population growth for the county within the same period. Similarly, the growth in Hispanic populations exceeded the overall population growth rates for each of the six counties. These particularly large increases solidified previous Hispanic majorities in both Hidalgo and Santa Cruz Counties and contributed to significant gains in Hispanic populations for both Arizona and New Mexico. The most dramatic increase in any one racial population was seen in Graham County where the multiple race population grew by 268% between 1990 and 2000. Although considerable increases were seen in the Native American populations of Hidalgo and Santa Cruz Counties, the racial group remains minimally represented in both counties (Table 7). The aggregated change in the racial and ethnic composition of the entire six-county assessment area over the same period is displayed in Figure 7.

Table 6. Racial/Ethnic Composition of County and State Populations, 1990-2000 and % Change

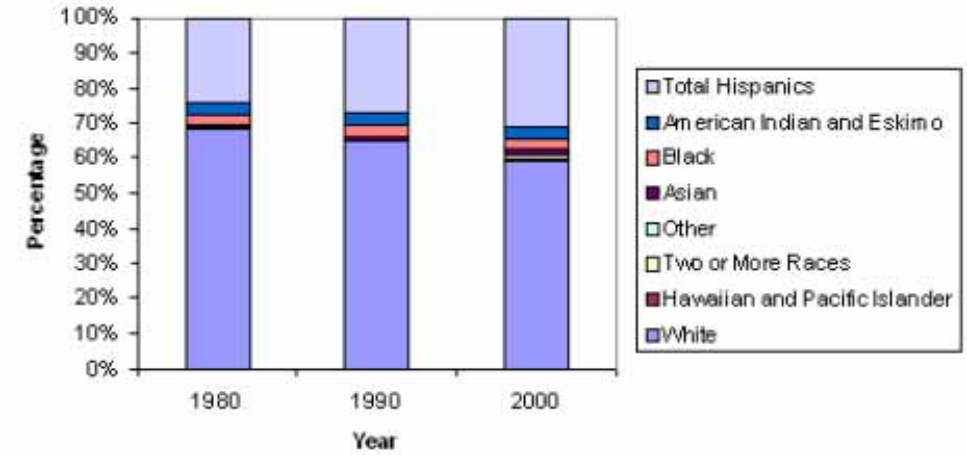
	Cochise County			Graham County			Hidalgo County (NM)		
Race/Ethnicity	**1990**	**2000**	**% Change**	**1990**	**2000**	**% Change**	**1990**	**2000**	**% Change**
American Indian or Alaska Native	1,136	1,350	18.84%	3,908	5,005	28.07%	26	46	76.92%
Asian or Pacific Islander	2,139	2,243	4.86%	167	201	20.36%	36	19	-47.22%
African American or Black	5,074	5,321	4.87%	461	625	35.57%	40	24	-40.00%
Multiple Races	9,720	18,572	91.07%	1,408	5,185	268.25%	433	873	101.62%
White	79,555	90,269	13.47%	20,610	22,473	9.04%	5,423	4,970	-8.35%
Hispanic	27,766	36,134	30.14%	6,520	9,054	38.87%	2,995	3,324	10.98%
	Pima County			**Pinal County**			**Santa Cruz County**		
	1990	**2000**	**% Change**	**1990**	**2000**	**% Change**	**1990**	**2000**	**% Change**
American Indian or Alaska Native	20,034	27,178	35.66%	11,150	14,034	25.87%	70	251	258.57%
Asian or Pacific Islander	12,149	17,415	43.35%	677	1,121	65.58%	110	218	98.18%
African American or Black	20,856	25,594	22.72%	3,639	4,958	36.25%	66	145	119.70%
Multiple Races	87,437	139,286	59.30%	13,721	32,944	140.10%	7,212	8,583	19.01%
White	526,404	633,387	20.32%	87,192	126,559	45.15%	22,218	29,168	31.28%
Hispanic	161,053	247,578	53.72%	34,158	53,671	57.13%	22,894	31,005	35.43%
	Arizona			**New Mexico**					
	1990	**2000**	**% Change**	**1990**	**2000**	**% Change**			
American Indian or Alaska Native	204,589	255,879	25.07%	134,035	173,483	29.43%			
Asian or Pacific Islander	54,127	98,969	82.85%	14,372	20,758	44.43%			
African American or Black	110,062	158,873	44.35%	29,818	34,343	15.18%			
Multiple Races	328,768	743,300	126.09%	188,282	376,209	99.81%			
White	2,967,682	3,873,611	30.53%	1,148,562	1,214,253	5.72%			
Hispanic	680,628	1,295,617	90.36%	576,709	765,386	32.72%			

Source: NRIS - Human Dimensions

Table 7. Racial/Ethnic Composition of County and State Populations by Percentage, 1990-2000 and Change

	Cochise County			Graham County			Hidalgo County (NM)		
Race/Ethnicity	**1990**	**2000**	**Change**	**1990**	**2000**	**Change**	**1990**	**2000**	**Change**
American Indian or Alaska Native	1.16%	1.15%	-0.02%	14.72%	14.95%	0.23%	0.44%	0.78%	0.34%
Asian or Pacific Islander	2.19%	1.90%	-0.29%	0.63%	0.60%	-0.03%	0.60%	0.32%	-0.28%
African American or Black	5.20%	4.52%	-0.68%	1.74%	1.87%	0.13%	0.67%	0.40%	-0.27%
Multiple Races	9.96%	15.77%	5.82%	5.30%	15.48%	10.18%	7.27%	14.72%	7.45%
White	81.49%	76.66%	-4.83%	77.62%	67.11%	-10.51%	91.02%	83.78%	-7.24%
Percent Non-white	18.51%	23.34%	4.83%	22.38%	32.89%	10.51%	8.98%	16.22%	7.24%
Hispanic	28.44%	30.69%	2.25%	24.55%	27.04%	2.49%	50.27%	56.04%	5.77%
	Pima County			**Pinal County**			**Santa Cruz County**		
	1990	**2000**	**Change**	**1990**	**2000**	**Change**	**1990**	**2000**	**Change**
American Indian or Alaska Native	3.00%	3.22%	0.22%	9.58%	7.81%	-1.77%	0.24%	0.65%	0.42%
Asian or Pacific Islander	1.82%	2.06%	0.24%	0.58%	0.62%	0.04%	0.37%	0.57%	0.20%
African American or Black	3.13%	3.03%	-0.09%	3.13%	2.76%	-0.37%	0.22%	0.38%	0.16%
Multiple Races	13.11%	16.51%	3.40%	11.79%	18.33%	6.54%	24.30%	22.36%	-1.94%
White	78.94%	75.07%	-3.87%	74.92%	70.42%	-4.50%	74.87%	76.00%	1.13%
Percent Non-white	21.06%	24.93%	3.87%	25.08%	29.58%	4.50%	25.13%	24.00%	-1.13%
Hispanic	24.15%	29.34%	5.19%	29.35%	29.86%	0.51%	77.15%	80.78%	3.63%
	Arizona			**New Mexico**					
	1990	**2000**	**Change**	**1990**	**2000**	**Change**			
American Indian or Alaska Native	5.58%	4.99%	-0.59%	8.85%	9.54%	0.69%			
Asian or Pacific Islander	1.48%	1.93%	0.45%	0.95%	1.14%	0.19%			
African American or Black	3.00%	3.10%	0.09%	1.97%	1.89%	-0.08%			
Multiple Races	8.97%	14.49%	5.52%	12.43%	20.68%	8.25%			
White	80.97%	75.50%	-5.47%	75.81%	66.75%	-9.06%			
Percent Non-white	19.03%	24.50%	5.47%	24.19%	33.25%	9.06%			
Hispanic	18.57%	25.25%	6.68%	38.06%	42.08%	4.02%			

Source: NRIS - Human Dimensions
Note: 1990 and 2000 data expressed as a % of total population. Change illustrates the trends in proportional representation of various racial/ethnic groups in the overall population.



Source: NRIS - Human Dimensions

Figure 7. Six-County Assessment Area Racial/Ethnic Composition, 1980-2000

Educational attainment for the population 25-years of age and older is shown for both the counties and states in Table 8. Data show that five of the six counties fall short of state averages in percentage of high school and college graduates. The exception is Pima County, which exceeded the average for the state of Arizona in both categories. Santa Cruz and Hidalgo Counties are clearly the most limited in terms of educational attainment of individuals 25 and over. In Santa Cruz County, a full twenty percent of individuals have less than a 9th-grade education and only sixty percent have graduated from high school. Similar statistics are found in Hidalgo County, where nearly eighteen percent of the 25-and-over population has less than a 9th-grade education and less than ten percent hold a college degree.

Table 8. Educational Attainment of County and State Populations 25 Yrs. Old and Over

	Cochise County		Graham County		Hidalgo County (NM)		Pima County	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population Over 25	75,774	100%	19,302	100%	3,596	100%	546,200	100%
Less than 9th grade	7,112	9.4%	1,703	8.8%	642	17.9%	34,722	6.4%
9th to 12th grade, no diploma	8,451	11.2%	3,011	15.6%	480	13.3%	55,761	10.2%
High school graduate (includes equivalency)	18,670	24.6%	5,811	30.1%	1,328	36.9%	127,343	23.3%
Some college, no degree	20,742	27.4%	4,782	24.8%	696	19.4%	145,579	26.7%
Associate degree	6,552	8.6%	1,711	8.9%	94	2.6%	36,687	6.7%
Bachelor's degree	9,390	12.4%	1,234	6.4%	224	6.2%	86,752	15.9%
Graduate or professional degree	4,857	6.4%	1,050	5.4%	132	3.7%	59,356	10.9%
Percent high school graduate or higher	(x)	79.5%	(x)	75.6%	(x)	68.8%	(x)	83.4%
Percent bachelor's degree or higher	(x)	18.8%	(x)	11.8%	(x)	9.9%	(x)	26.7%
	Pinal County		**Santa Cruz County**		**Arizona**		**New Mexico**	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Population 25-years and over	119,102	100%	22,445	100%	3,256,184	100%	1,134,801	100%
Less than 9th grade	12,681	10.6%	4,588	20.4%	254,696	7.8%	104,985	9.3%
9th to 12th grade, no diploma	19,832	16.7%	4,242	18.9%	364,851	11.2%	134,996	11.9%
High school graduate (includes equivalency)	36,255	30.4%	5,124	22.8%	791,904	24.3%	301,746	26.6%
Some college, no degree	29,418	24.7%	4,191	18.7%	859,165	26.4%	259,924	22.9%
Associate degree	6,739	5.7%	898	4.0%	219,356	6.7%	67,001	5.9%
Bachelor's degree	8,964	7.5%	2,008	8.9&	493,419	15.2%	154,372	13.6%
Graduate or professional degree	5,213	4.4%	1,394	6.2&	272,793	8.4%	111,777	9.8%
Percent high school graduate or higher	(x)	72.7%	(x)	60.7%	(x)	81.0%	(x)	78.9%
Percent bachelor's degree or higher	(x)	11.9%	(x)	15.2%	(x)	23.5%	(x)	23.5%

Source: U.S. Census Bureau, Census 2000 Summary File http://www.census.gov/census2000/states/az.html

2.4 Housing characteristics and population projections

Housing characteristics for the area of assessment are presented in Table 9. Total housing units in 2000 ranged from a high of 366,737 in Pima County to a low of 2,848 in Hidalgo County. Even with an 18% increase in total housing units between 1990 and 2000, Hidalgo County remains sparsely developed with less than one house per square mile. In contrast, Pima County reported forty houses per square mile in 2000. A clear trend in each of the six counties was the significant increase in the number of houses for seasonal use. Seasonal housing increases exceeded state averages for five of the six counties, the lone exception being Graham County, which saw only a 35% increase in seasonal housing. Of the selected cities within the area of assessment, Catalina, Benson, Wilcox, and Douglas all saw seasonal housing units increase by over 700% during the ten-year period between 1990 and 2000. Pinal and Santa Cruz

Counties experienced the greatest increases in both total housing units and seasonal housing units between 1990 and 2000. Total and seasonal housing growth was particularly strong in Pinal County at 53.90% and 92.22% respectively. Among selected cities, Catalina and Oro Valley experienced the greatest increases in total housing units over the ten-year period. The number of total housing units also grew significantly in Apache Junction, Queen Creek, and Benson between 1990 and 2000. Although the increase in seasonal housing for Hidalgo County was dramatic (672.73%), the total of eighty-five units in 2000 is unlikely to significantly alter the architectural landscape of the county. Between 1990 and 2000, Catalina and Queen Creek had the greatest increases in median home value. Census data from INEGI suggest that growth in total housing units was strong for the state of Sonora in general and for the cities of Agua Prieta and Nogales in particular. Between 1990 and 2000, these two cities experienced increases in total housing units of 77.44% and 67.94% respectively. Statistics on seasonal housing units, housing density, and medium home value were not available for municipalities in Sonora at the time of this assessment. Percentage increases in total and seasonal housing units between 1990 and 2000 are displayed for each of the six counties in Figure 8.

Table 10 suggests that population growth at the county and state level is expected to continue although at somewhat lower rates than were experienced over the last two decades (Table 2). The possible exception to this trend is Graham County, which is projected to grow at an accelerated rate until 2010 before slowing considerably. It is interesting to note that population growth within Pinal County is projected to slow dramatically to 11.12% between 2000 and 2010 after having experiencing a 54.43% increase in the previous decade. Finally, the decline of Hidalgo County's population is expected to continue at an increasing rate through 2030.

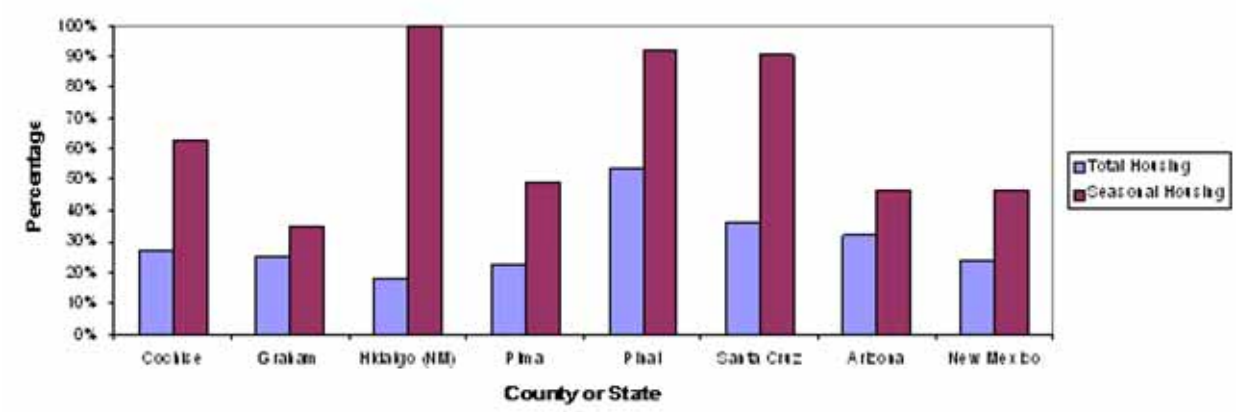
Table 9. County, Place, and State Housing Characteristics, 1990-2000 and % Change

County/Place/ State	Total Housing Units			Seasonal Housing Units			Housing Density per Sq. Mile			Median Home Value		
	1990	2000	% Change	1990	2000	% Change	1990	2000	% Change	1990	2000	% Change
Cochise County	40,238	51,126	27.06%	1,185	1,932	63.04%	7.00	8.00	14.29%	$59,700	$88,200	47.74%
Sierra Vista	12,927	15,621	20.84%	119	170	42.86%	91.00	102.00	12.09%	$77,400	$105,300	36.05%
Douglas	4,327	5,156	19.16%	8	66	725.00%	915.00	668.00	-26.99%	$45,200	$62,700	38.72%
Bisbee	3,181	3,282	3.18%	58	134	131.03%	661.00	682.00	3.18%	$39,700	$67,600	70.28%
Benson	1,872	2,670	42.63%	45	433	862.22%	220.00	75.00	-65.91%	$46,900	$72,800	55.22%
Willcox	1,371	1,597	16.48%	12	111	825.00%	237.00	266.00	12.24%	$44,400	$65,100	46.62%
Graham County	9,112	11,430	25.44%	214	289	35.05%	1.97	2.47	25.38%	$50,300	$80,900	60.83%
Safford	2,857	3,691	29.19%	23	45	95.65%	405.00	466.00	15.06%	$49,400	$83,000	68.02%
Thatcher	1,263	1,441	14.09%	30	12	-60.00%	400.00	330.00	-17.50%	$59,900	$89,200	48.91%
Hidalgo County, NM	2,413	2,848	18.03%	11	85	672.73%	0.70	0.83	18.57%	$38,400	$53,900	40.36%
Lordsburg	1,204	1,424	18.27%	6	41	583.33%	144.00	170.00	18.06%	$36,400	$47,200	29.67%
Pima County	298,207	366,737	22.98%	7,113	10,622	49.33%	32.00	40.00	25.00%	$76,500	$114,600	49.80%
Tucson	183,338	209,792	14.43%	2,944	3,472	17.93%	1,173.00	1,078.00	-8.10%	$66,700	$96,300	44.38%
Oro Valley	3,576	14,004	291.61%	313	873	178.91%	151.00	440.00	191.39%	$131,400	$177,400	35.01%
Green Valley	10,047	13,241	31.79%	1,140	1,579	38.51%	453.00	505.00	11.48%	$83,100	$123,200	48.26%
Catalina	850	5,658	565.65%	12	224	1,766.67%	16.00	78.00	387.50%	$53,600	$134,500	150.93%
Marana	1,923	2,803	45.76%	10	38	280.00%	139.00	202.00	45.32%	$76,000	$121,700	60.13%
South Tucson	1,861	2,059	10.64%	0	9	n/a	1,826.00	2,039.00	11.66%	$38,300	$48,700	27.15%
Pinal County	52,732	81,154	53.90%	6,120	11,764	92.22%	9.82	15.11	53.91%	$53,400	$93,900	75.84%
Apache Junction	12,760	22,781	78.53%	3,393	6,797	100.32%	776.00	666.00	-14.18%	$58,800	$98,400	67.35%
Casa Grande	7,404	10,936	47.70%	163	861	428.22%	340.00	227.00	-33.24%	$64,300	$86,600	34.68%
Florence	2,143	3,255	51.89%	492	628	27.64%	370.00	393.00	6.22%	$46,500	$88,000	89.25%
Eloy	2,333	2,737	17.32%	10	22	120.00%	34.00	38.00	11.76%	$36,400	$51,500	41.48%
Coolidge	2,806	3,179	13.29%	119	370	210.92%	588.00	632.00	7.48%	$40,500	$59,800	47.65%
Queen Creek	769	1,306	69.83%	0	15	n/a	70.00	51.00	-27.14%	$106,300	$202,900	90.87%
Santa Cruz County	9,595	13,036	35.86%	173	330	90.75%	8.00	11.00	37.50%	$71,500	$94,700	32.45%
Nogales	5,537	6,487	17.16%	59	57	-3.39%	266.00	311.00	16.92%	$68,300	$88,800	30.01%
Patagonia	464	502	8.19%	24	34	41.67%	390.00	422.00	8.21%	$59,700	$108,900	82.41%
Arizona	1,659,430	2,189,189	31.92%	96,687	141,965	46.83%	15.00	19.00	26.67%	$79,700	$121,300	52.20%
New Mexico	632,058	780,579	23.50%	21,778	31,990	46.89%	5.00	6.00	20.00%	$69,800	$108,100	54.87%

Sonora, Mexico	380,407	535,743	40.83%
Nogales	22,672	38,076	67.94%
Agua Prieta	8,394	14,894	77.44%
Naco	1,034	1,262	22.05%

Sources: NRIS - Human Dimensions

XI Censo General de Población y Vivienda, 1990
ttp://www.inegi.gob.mx/est/librerias/tabulados.asp?tabulado=tab_ho01a&c=770&e=26



* For purposes of graphing, increase in seasonal housing for Hidalgo County is shown at 100.00% when in fact the increase was 672%. The actual increase was minimal from 11 to 85 seasonal units.

Source: NRIS - Human Dimensions

Figure 8. PercentChange in Total and Seasonal Housing Units by County, 1990-2000

Table 10. County and State Population Projections, 2010-2030 and % Change

County/State	Total Pop. 2000	Projected 2010	% Change	Projected 2020	% Change	Projected 2030	% Change
Cochise	117,755	137,035	16.37%	149,990	9.45%	160,049	6.71%
Graham	33,489	43,499	29.89%	50,673	16.49%	57,355	13.19%
Hidalgo (NM)	5,932	5,799	-2.24%	5,624	-3.02%	5,378	-4.37%
Pima	843,746	1,031,623	22.27%	1,206,244	16.93%	1,372,319	13.77%
Pinal	179,727	199,715	11.12%	231,229	15.78%	255,695	10.58%
Santa Cruz	38,381	46,246	20.49%	55,111	19.17%	64,459	16.96%
Arizona	5,130,632	6,145,108	19.77%	7,363,604	19.83%	8,621,114	17.08%
New Mexico	1,819,046	2,112,986	16.16%	2,383,116	12.78%	2,626,553	10.22%

Source: Arizona Department of Commerce - Arizona County Population Projections: 1997-2050

http://www.azcommerce.com/prop/eir/population.asp

University of New Mexico – Bureau of Business and Economic Research

http://www.unm.edu/~bber/demo/table1.htm

2.5 Key issues for forest planning and management

Over the past two decades, continued population growth in previously rural areas has brought about significant changes in the dynamic relationships between human communities and publicly-administered lands throughout Arizona. These changes have occurred amid ongoing resource policy debates concerning fire suppression, forest restoration, water allocation, road construction, and other economically and environmentally pressing issues.

Although population growth in the communities surrounding the Coronado NF has been somewhat slower than in other parts of the state, significant changes in the human populations surrounding the forest are likely to affect not only the quantity of goods and services demanded from public lands but also to significantly influence the character, or quality, of those goods and services. Research shows that areas with an abundance of natural-resource based amenities (mild climate, forested mountains, access to

hiking and camping, presence of clean air and water) are increasingly attractive to retirement-age populations as well as others seeking to take advantage of the quality of life offered by small, rural communities. In particular, prospective residents are increasingly attracted to smaller communities with relatively affordable housing, low crime rates, and cultural traditions associated with small, rural towns throughout the Mountain West (Booth 2002, McCool and Kruger 2003, Bodio 1997). These demographic shifts are borne out by data on the area surrounding the CNF which show substantial increases in the retirement-age population and the number of seasonal housing units throughout the area of assessment.

Although population growth can potentially enhance the economic vitality of rural areas through greater employment opportunities and an expanding tax base, it can also challenge the capacity of rural communities and public land managers to provide for the wide array of services. This is particularly true in areas where potential conflicts in value systems between established community interests and recently arrived immigrants can create friction over natural resource management. For example, the growth in populations seeking natural amenities from forest lands may pit them against traditional commodity interests. Likewise, the dramatic growth in multiple-race and Hispanic populations (sometimes referred to as “hidden populations”) may force different demands for public services from individuals who interact with natural resources in fundamentally different ways than have been the historic norm for the resident population (McCool and Kruger 2003).

Together, these shifts in the demographic makeup of communities surrounding the CNF carry important implications for the development of good relations between management agencies and their local publics. For example, how might agencies contribute to the maintenance of viable resource economies given increasing demands for amenities? Similarly, how does expansion of the wildland-urban interface influence issues such as forest access, water quality, habitat fragmentation, or fire management? Finally, demographic change within forest communities may influence not only the management of natural resources, but also the social and political acceptability of processes used to develop management plans. Land management objectives of new property owners may lead to demands for change in how adjacent, federally administered land is managed. In addition, immigrant populations may lack a thorough understanding of underlying community values while at the same time acting on a thorough understanding of planning regulations and methods of influencing political processes (McCool and Kruger 2003, Booth 2002, Wilkinson 1992).