

Executive Summary

The purpose of this assessment is to profile the social and economic environment surrounding the Apache-Sitgreaves National Forests. The collection and analysis of quantitative and qualitative socioeconomic data in this report will serve as a baseline by which the Apache-Sitgreaves National Forests and the wider public can assess management alternatives developed through the process of forest plan revision. It will do so by 1) facilitating a better understanding of the relationship between public lands and surrounding communities, 2) aiding in the identification of specific forest plan elements capable of responding to socioeconomic trends, and 3) assembling a wide array of information need to evaluate trade-offs between various forest management alternatives.

Multi-county areas of assessment provide the framework for compiling social and economic data for this report. The boundaries of the Apache-Sitgreaves National Forests extend into or border five counties in eastern Arizona and western 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. This Executive Summary highlights collected information pertaining to each of these seven topics.

Demographic Patterns and Trends

Total population

Data from the 1980 and 2000 censuses show that total population growth was greatest in Coconino County over the twenty-year period. Nonetheless, population growth in all five counties was far less than that for their respective states over the same period. Population growth was minimal in Catron County, NM, and Greenlee County experienced a population decrease of -25.07% between 1980 and 2000. Among individual cities, Flagstaff reported the greatest increase in population over the twenty-year period. The rate of population increase, however, was largest in the communities of Sedona, Page, Whiteriver, and Pinetop-Lakeside.

Population age

Within the area of assessment, the population of individuals age 65 and over grew at a considerably higher rate between 1990 and 2000 than that of those under age 18. The exception to this trend was seen in Greenlee County which reported net population losses in both categories. The greatest disparities between the growth of the 65-and-over and under-18 populations were reported in Catron and Apache Counties. The cities of Snowflake, Showlow, and Springerville reported the most significant increases in 65-and-over populations among selected cities within the area of assessment.

Racial/ethnic composition

Navajo and Greenlee Counties reported the most significant increases in population of individuals of multiple race between 1990 and 2000, clearly outpacing increases in the same categories at the state level over the same period. Despite substantial increases in individuals of multiple-race and Hispanic ethnicity, Native Americans were the predominant racial group in Coconino and Navajo Counties, and remained the outright majority in Apache County as of 2000.

Housing

Increases in total housing and housing density were greatest in Coconino and Navajo Counties between 1990 and 2000, mirroring similar growth in overall population. Navajo and Apache Counties reported increases in seasonal housing that far exceeded increases in the same category at the state level over the same period. Similarly, four of the five counties in the area of assessment experienced increases in median home values between 1990 and 2000 that were greater than the average for Arizona.

Economic Characteristics and Vitality

Employment

Economic growth for the area of assessment was relatively limited between 1990 and 2000. Each of the five counties reported increases in total full and part-time employment that were less than gains at the state level over the same period. As a whole, the area of assessment reported higher rates of unemployment than were average for Arizona, New Mexico, and the United States between 1980 and 2004.

Occupational structure

As of 2000, four of the five counties within the area of assessment maintained occupational structures that closely resembled those of the states of Arizona and New Mexico overall. For these areas, management, professional, and related occupations grouping is the dominant occupational category, followed by sales and office occupations and finally, by service occupations. The exception is Greenlee County, which reported a relatively high percentage of construction, extraction, and maintenance occupations along with production, transportation, and material moving occupations.

Income

Despite significant increases, each of the counties within the area of assessment maintained levels of per capita and median family income that were lower than average for their respective states as of 2000. Apache County saw the greatest increases in per capita and median family income between 1990 and 2000. Similarly, despite substantial declines poverty, four of the five counties reported levels of individual and family poverty which were greater than that of their respective states as of 2000.

Natural resource dependent economic activity

Changes in income from natural resources were particularly dramatic in Coconino County between 1990 and 2000. Data for the county show a precipitous decline in income from wood products and processing and a substantial increase in income from special forest products and processing over the period. Navajo County reported similar, though less dramatic changes in the same categories. Each of the five counties within the area of assessment reported increases in tourism-related employment between 1990 and 2000 that exceeded increases at the state level.

Access and Travel Patterns

Existing federal and state highway conditions

County and state transportation plans reviewed for this assessment acknowledge that current circulation networks have been developed as needs have arisen and are therefore 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 that is likely to continue given patterns of development in rural areas as well as the expense of developing infrastructure for alternative modes of transportation. Increase in vehicle miles traveled (VMT) was greatest in Coconino County between 1990 and 2000—an expected result of population increases over the same period. Peak traffic flow for the area of assessment occurs between the months of June and August, and traffic is lowest from November to February. 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 Apache-Sitgreaves National Forests over the next five years, most of which involve road widening or 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 Apache-Sitgreaves National Forests.

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 Apache-Sitgreaves National Forests involves OHV use. Amid a significant increase in OHV use, the Apache-Sitgreaves National Forests have joined four other National Forests in Arizona in drafting a policy that would place greater restrictions on the access afforded to this rapidly expanding user group.

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 Native American and Forest Service land. Navajo and Apache Counties have the greatest percentage of Native American lands whereas Catron and Greenlee Counties have far and away the greatest amount of land controlled by the Forest Service. Catron County reported the greatest percentage of private land and Greenlee County had the greatest percentage of State Trust land as of 2005.

Land coverage and land use

Mixed range land constitutes the predominant land cover in Apache and Navajo Counties whereas shrub and brush rangeland is most common in Catron and Greenlee Counties. Evergreen forest is the predominant land cover in Coconino County. Within the area of assessment, Navajo County reported the highest percentage of residential cover (.31%), while Coconino had the greatest percentage of commercial land cover (.17%) and Greenlee County reported the highest percentage of industrial land cover (.43%).

Long range land use plans and local policy environment

County land use within the area of assessment ranges from traditional uses such as 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 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 similar declines in livestock grazing and mining on lands managed by the Apache-Sitgreaves National Forests. Forest thinning and treatment projects proposed in the wake of the Rodeo-Chediski fire have contributed to an intense public debate over appropriate fire prevention and management.

Non-extractive uses

Although recreation 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 Apache-Sitgreaves National Forests received approximately 2 million visits during fiscal year 2001—a majority of which were male, white, and between the ages of 31 and 70. A significant increase in the use of off-highway vehicles (OHVs) has been identified by the Forest Service as a major component of unmanaged recreational use.

Special uses

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

Designated Areas and Special Places

Natural, recreational and interpretive resources

The Apache-Sitgreaves National Forests encompass considerable natural, recreational, cultural, and interpretive resources including over 250 boating sites, trailheads, and wilderness areas.

Issues surrounding identification of 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 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, 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 Apache-Sitgreaves National Forests have long been dependent upon natural resources for commodity production, tourism, and aesthetic enjoyment. A review of state and local newspapers reveals a general interest in the use and management of forest resources with particular attention paid to the effects of fire and recreational uses such as hunting and fishing.

Communities of interest and historically underserved communities

The management activities of the Apache-Sitgreaves National Forests 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 Apache-Sitgreaves National Forests 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 grow, 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 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 surrounding 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 future management activities of the Apache-Sitgreaves National Forests.

Given rates of population growth and urban expansion in Arizona and New Mexico, the Apache-Sitgreaves National Forests stand 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 an impact on the forest given the amount of State Trust land within the area of assessment. Likewise, the role of managing regional watersheds places the Apache-Sitgreaves National Forests 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 Apache-Sitgreaves National Forests. 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 OHV travel promises to raise concerns from various user groups and to affect natural resource management in the Apache-Sitgreaves National Forests 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 Apache-Sitgreaves National Forests (ASNF) by showing the relationship and linkages between National Forest System land and communities. The information contained in the assessment is intended to help the Forest Service 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 evaluate trade-offs between options for future forest management.

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

1.2 Assessment methodology and topics

This assessment of the social and economic environment surrounding the ASNF is based entirely on the analysis of secondary research. Secondary research is defined as data which have already been collected and published for different purposes but which may prove useful in any number of other inquiries or applications. Examples of secondary data include demographic and economic information compiled by the United States Census Bureau as well as information contained in 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 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 desired 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 Apache-Sitgreaves National Forests, this includes Apache, Navajo, Greenlee, and Coconino Counties in the eastern and central portions of Arizona and Catron County in western New Mexico.¹ 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 ASNF. 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

¹ A significant discrepancy is noted among various maps of the Apache National Forest. While some suggest that the Apache Forest extends well into Catron County, New Mexico (c.f. http://www.fs.fed.us/recreation/map/xaz_nm_tx.html), available G.I.S. and administrative maps describe the ASNF boundary as ending at the Arizona–New Mexico border. This assessment is based on the latter description.

which they are located (U.S. Census Bureau 2005). Social and economic information on individual communities within Catron County was extremely limited. Where available, information on Reserve, the Catron County seat, is included in the assessment.

The 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 USFS Natural Resource Information System (NRIS), 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 ASNF and local communities analyze and monitor 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 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 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 Apache-Sitgreaves NF and discusses their importance to forest management. Chapter 8 assesses relationships between the ASNF 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, fully annotated bibliography will be presented to individual forests alongside the assessments.

2. Demographic Patterns and Trends

This section discusses historic and current social conditions affecting local populations and illustrates demographic trends for each of the five counties within the area of assessment for the Apache-Sitgreaves National Forests (ASNF). Data on selected cities within the area of assessment are also included in order to illustrate important factors contributing to demographic change for specific populations. 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 for area of assessment shows that the region's population has grown at a slower rate than that for the entire state over the last two decades and is expected to continue to do so through 2030. Most of the urban areas within the region can be characterized as small towns with Flagstaff being the only city to report more than 11,000 residents as of 2000. In general, the region's population of individuals under 18-years old has grown at a limited pace when compared to statewide averages. The opposite is true for populations of individuals 65 and over, which, with the exception of Greenlee County, have far exceeded increases in the retirement age population at the state level. On a related note, the region experienced substantial growth in seasonal housing units between 1990 and 2000, particularly in Navajo County. In terms of racial and ethnic diversity, data show that Native Americans comprise a relatively large portion of the regional populations. The decade between 1990 and 2000 also saw increases in multiple race and Hispanic populations for each county in the area of assessment.

2.1 Historical context and social characteristics

Human interaction with the lands including and surrounding the Mogollon Rim has been continuous for at least 5,000-6,000 years. The first communities in the region were highly mobile hunting and gathering camps that had only a light effect on the landscape. During the period of time between C.E. 100 and C.E. 900, the resident populace established a more sedentary lifestyle. This transition was typified along the Arizona highlands by cultures such as the Anasazi and the Hohokam. There was an increased use of ceramics, development of more complicated architecture, and the beginnings of horticulture and domesticated livestock. This more sedentary lifestyle led to an associated rise in human population. By the periods encompassing C.E. 900-1200, more long-term human effects were noticeable on the environment, including a depletion of wild game, the institution of standing agricultural fields, and the resultant diversion of water sources (USFS 1999a).

The entrance of Francisco Vasquez de Coronado in 1540 marked the first significant Spanish interest in the Arizona highlands. On a route that led from western Mexico to central Kansas, Coronado's explorations were primarily motivated by a search for silver and gold. He failed to find it in Arizona, and Spanish interest in the area was largely quelled until the discovery of mineral wealth at the turn of the 17th century (Sheridan 1995). Athapaskan (Apache and Navajo) groups played a major role during this time. In fact, the mountainous regions of Arizona were often referred to as the Apacheria. Apaches formed loosely confederated groups based on matrilineal kinship and thrived on a combination of agriculture, hunting, trade, and raiding. Both Navajos and Apaches absorbed skills and traits from neighboring groups, including the Pueblo peoples and the Spaniards. Through most of Spanish and Anglo colonization, Apache raiders were seen as a major threat to settlers. Nonetheless, by the 1700s, Spanish explorers and missionaries routinely made the trip between Tucson and Santa Fe. The area became, by the 1800s, a driving route for livestock, specifically sheep, primarily by Mormon settlers. Due to limited water sources, overgrazing occurred primarily near standing aquifers. However, with the spread of standing agriculture, the pressures of grazing began to spread across the range (USFS 1999a).

In August, 1898, the Black Mesa Forest reserve was established, followed by Roosevelt's proclamation of the National Forest Service in 1907 and, by 1930, the Apache and Sitgreaves National Forests were

among fourteen such protected areas in Arizona. The borders of the parks fluctuated wildly as government decrees shifted land from one protected designation to another. In addition, private ownership contracts impeded the National Forest Service's attempts to consolidate the borders of forest lands. One such conflict between public and private interests began with an 1866 congressional "right-of-way" allowance to the Atlantic-Pacific Railroad and resulted in the return of the land to the forests only after over 100 years of complicated sales and trades which finally brought 68,000 of the approximately 98,000 original acres back into the Apache and Sitgreaves in the 1980s. In 1974, the Apache and Sitgreaves National Forests were administratively merged (Baker et al. 1988).

Today's Apache-Sitgreaves National Forests cover just over two million square acres, stretching from the Western edge of New Mexico through Greenlee and Apache Counties with a band arching up through Navajo County where it runs into the Coconino and Tonto National Forests. Its elevation fluctuates from 3,500 feet at its lowest point to as high as 11,500 feet at the top of Mount Baldy, providing a wide range of climates, ecosystems, wildlife habitats, and recreational opportunities. In addition, the forest continues to provide integral natural resources to Arizona by way of mining, lumber, and other industries.

The demographic history of the area surrounding the ASNF, and the region as a whole, represents one of sustained and rapid growth. In the period since 1930, the Mountain West has doubled its share of the U.S. population, from 3% to 6.5%. This growth increased dramatically in the 1950s and then reduced again in the 1960s. The pattern was repeated for the next forty years, with alternating decades of intense growth followed by decades of slower growth (Otterstrom and Shumway 2003). The three most populous counties surrounding the Apache-Sitgreaves have, in general, grown steadily over the past ninety years; by contrast, Greenlee County has seen precipitous drops over the past thirty years. Apache County has seen heavy growth, especially in the decade between 1970 and 1980, during which the county population nearly doubled from 32,000 residents to 52,000. Coconino County has itself grown at an average of just above 3% per year over the past fifty years, and over the past century, the counties which are home to the Apache-Sitgreaves have grown from 22,600 residents to nearly 300,000 (U.S. Census Bureau 2005, Forstall 1995, Morton 2003). The state of Arizona has grown from 120,000 residents to well over 5 million—along with Washington, only one of two states to show such startling demographic expansion (U.S. Census Bureau 2005). 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 the state of Arizona. While the Hispanic presence has increased from 20.4% to 25.2% of the total population since 1940, African Americans, despite an especially rapid influx in the two decades following WWII and an average population growth rate of 49% per decade, remained static 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 the total in Arizona, 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).²

² The specific numbers for these historical comparisons are found at <http://www.census.gov/population/documentation/twps0056/> in the U.S. Census Bureau website (Table 17) and are juxtaposed against the Census 2000 findings.

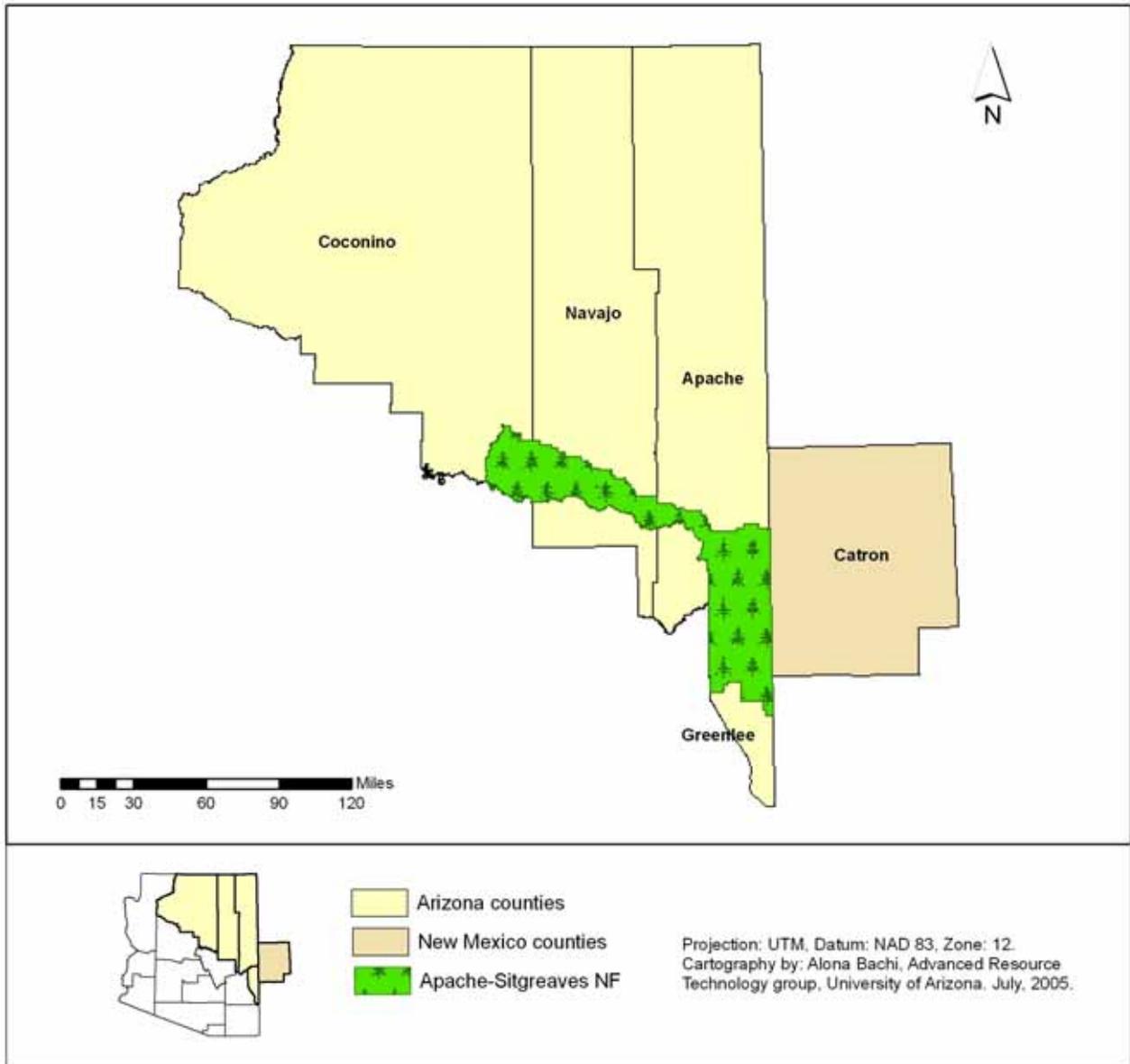


Figure 1. Map of Forest Boundaries and Counties in Area of Assessment

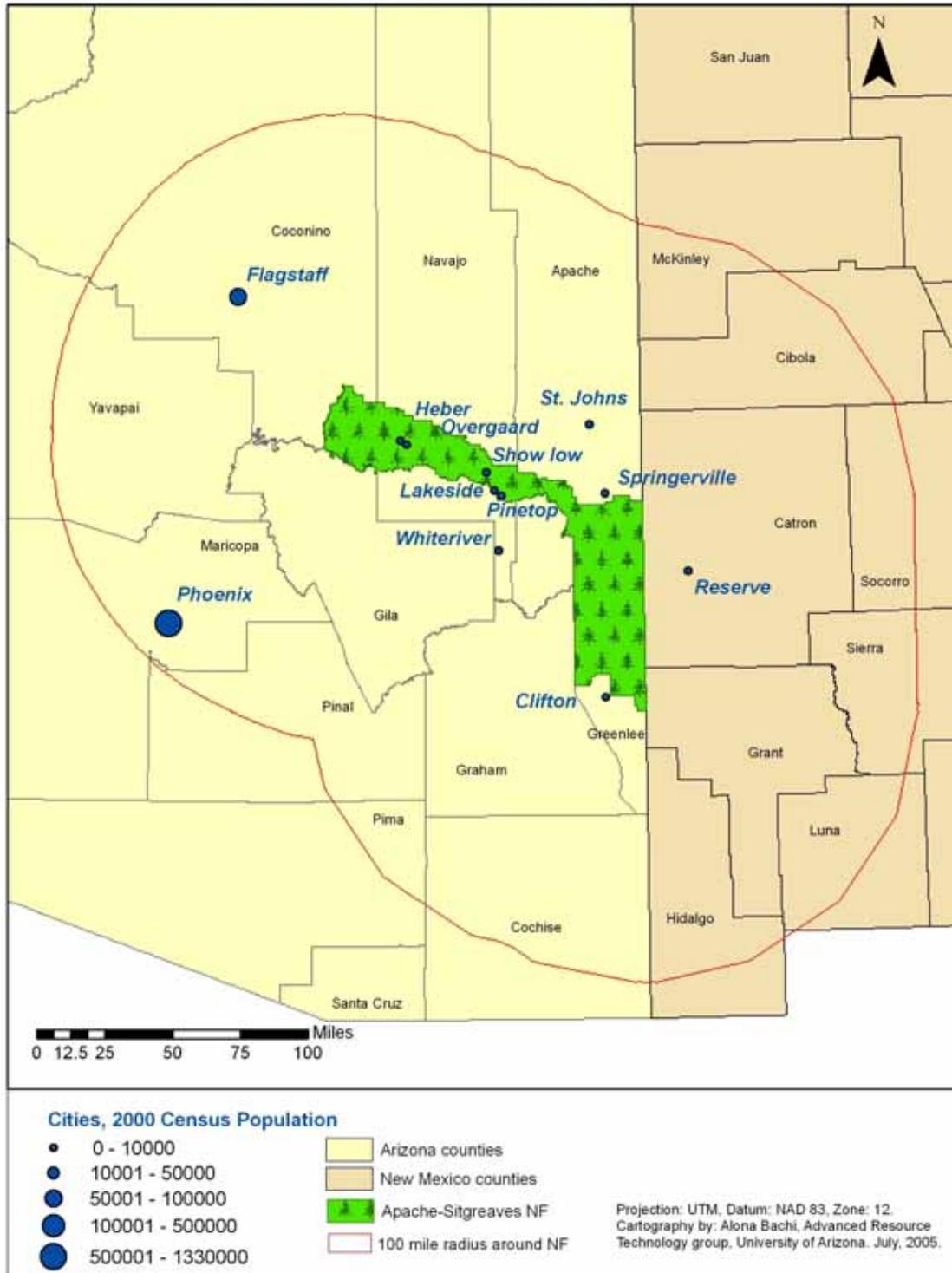


Figure 2. Proximity of Population – Municipalities within 100-Mile Radius

2.2 Population, age structure, net migration, and tourism

Total land area, total population, population density, and Forest Service acreage is shown for each of the five counties and selected places in Table 1. Data show that Coconino County is the most populous county and has both the largest total area as well as the greatest amount of FS land with well over 3 million acres. Catron County has by far the smallest population per total land area resulting in a population density of one individual for every two square miles. In contrast, Navajo is the most densely populated of the five counties with 9.79 people per square mile. Table 1 shows that Flagstaff is by far the most populous city within the area of assessment with a population of 52,894 as of 2000. All other towns throughout the region support much smaller populations, the least of which was Reserve, NM with a population of 387 in 2000.

Population change for each of the five counties and selected places is presented in Table 2. With the exceptions of Greenlee and Catron Counties, both of which saw declines in their relatively small populations between 1980 and 1990, each county has experienced net population growth. Still, data show that the rate of growth for each county over the past two decades has remained well below the rate of growth for the state of Arizona as a whole. While Coconino County experienced significant growth between 1980 and 1990, the rate of growth slowed considerably over the next decade. The population of the city of Page mirrored this pattern, expanding by 191% between 1980 and 1990 before slowing dramatically over the next decade. Demonstrating an opposite trend, population growth within Navajo County between 1990 and 2000 far exceeded that of the previous decade. Table 2 also shows that the population of Greenlee County has stabilized following sharp declines in the local labor market as a result of the scaling back of mining activities in the mid 1980s. The influence of changing local economies is also seen in the sharply declining populations of mining towns like Clifton and Morenci which were at least partially offset by gains in Whiteriver and Pinetop-Lakeside during the same period. While the rate of population growth within Greenlee County appears to have stabilized, it remains the lowest of the four Arizona counties and far below that of the state as a whole.

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
Apache County	11,218.4	69,423	6.2	492,814
Eagar	11.3	4,033	356.9	n/a
St. Johns	6.6	3,269	495.3	n/a
Springerville	11.5	1,972	171.5	n/a
Coconino County	18,661.2	116,320	6.2	3,275,320
Flagstaff	63.6	52,894	831.7	n/a
Sedona	18.6	10,192	548.0	n/a
Page	16.6	6,809	410.2	n/a
Williams	43.5	2,842	65.3	n/a
Fredonia	7.4	1,036	140.0	n/a
Greenlee County	4,641.1	8,547	1.8	751,060
Clifton	14.9	2,596	174.2	n/a
Morenci	0.8	1,879	2,348.8	n/a
Navajo County	9,959.5	97,470	9.8	488,158
Show Low	27.9	7,695	275.8	n/a
Whiteriver	17.8	5,220	293.3	n/a
Snowflake	30.8	4,460	144.8	n/a
Pinetop-Lakeside	11.3	3,582	317.0	n/a
Heber-Overgaard	7.0	2,722	388.9	n/a
Catron County, NM	6,927.8	3,543	0.51	2,222,895
Reserve	.56	387	696.24	n/a

Source: NRIS - Human Dimensions

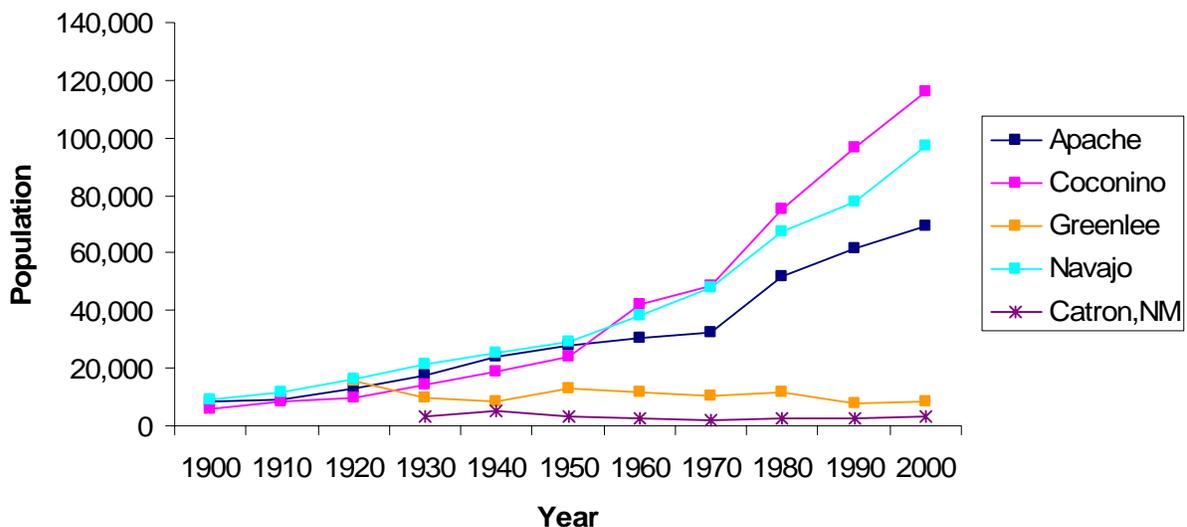
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Table 2. Decennial County, Place, and State Populations, 1980-2000 and % Change

County/Place/State	Total Population			1980-1990	1990-2000
	1980	1990	2000	% Change	% Change
Apache County	52,108	61,591	69,423	18.20%	12.72%
Eagar	2,791	4,025	4,033	44.21%	0.20%
St. Johns	3,368	3,294	3,269	-2.20%	-0.76%
Springerville	1,452	1,802	1,972	24.10%	9.43%
Coconino County	75,008	96,591	116,320	28.77%	20.43%
Flagstaff	34,743	45,857	52,894	31.99%	15.35%
Sedona	4,907	7,645	10,192	55.80%	33.32%
Page	2,266	6,598	6,809	191.17%	3.20%
Williams	5,368	2,461	2,842	-54.15%	15.48%
Fredonia	1,040	1,197	1,036	15.10%	-13.45%
Greenlee County	11,406	8,008	8,547	-29.79%	6.73%
Clifton	4,245	2,771	2,596	-34.72%	-6.32%
Morenci	2,736	1,868	1,879	-31.73%	0.59%
Navajo County	67,629	77,658	97,470	14.83%	25.51%
Show Low	4,298	5,019	7,695	16.78%	53.32%
Whiteriver	2,256	3,738	5,220	65.69%	39.65%
Snowflake	3,510	3,679	4,460	4.81%	21.23%
Pinetop-Lakeside	1,527	2,422	3,582	58.61%	47.89%
Heber-Overgaard	n/a	n/a	2,722	n/a	n/a
Catron County	2,720	2,563	3,543	-5.77%	38.24%
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%

Source: NRIS - Human Dimensions

<http://www.epodunk.com/cgi-bin/genInfo.php?locIndex=17798>



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

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

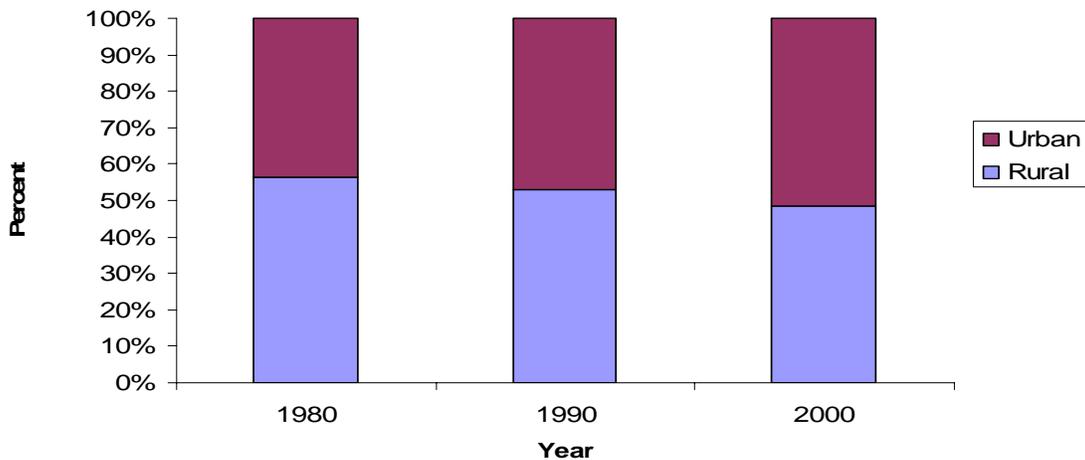
Table 3 demonstrates interesting trends in the overall urban/rural structure of the populations for each of the five counties in the area of assessment. As of 1980, populations within Apache and Navajo Counties could be characterized as predominantly rural whereas those of Coconino and Greenlee Counties were largely urban. Between 1980 and 2000, the assessment area witnessed interesting trends in the urban/rural composition of county populations. The urban population of Greenlee County was significantly affected by the aforementioned changes in the local labor market. Similarly, Apache and Coconino Counties saw significant increases in rural population concurrent with an increase in seasonal housing. During the same time period, Greenlee and Navajo Counties reported relatively strong growth in urban populations. Further evidence of these divergent patterns is offered by Apache County's net decrease in urban population and Greenlee County's comparable loss of rural residents between 1990 and 2000. Given its extremely low population density, the census bureau categorizes the population of Catron County as entirely rural.

The age structure of populations for each of the five counties and selected places is presented in Table 4. Data show a clear difference in population trends for individuals under 18 and those 65 and over for each of the counties and places of the counties with the exception of Greenlee County, which witnessed declines in both age groups between 1990 and 2000. Perhaps the most dramatic distinction can be seen in Apache County, where the under-18 population declined and the 65-and-over population grew significantly in Eager, St. Johns, and Springerville. The contrast between growth rates in these age groups was also significant in Catron County. In fact, all five counties saw relatively minor increases in the number of individuals under 18 when compared to that of the Arizona over the same period. Growth rates for the under-18 population were also considerably lower than overall population growth within these same counties between 1990 and 2000. Conversely, the 65-and-over population for each of the five counties grew at a higher rate than was average for its respective states and considerably higher than county populations as a whole. Catron County experienced the highest rate of increase in the 65-and-over population at 70.59%. In sheer number, however, Navajo County experienced a more significant increase in individuals 65 and over with a gain of 54.86% between 1990 and 2000. Among cities, Show Low and Snowflake saw the largest increases in the 65-and-over population with growth rates of 85% and 87% respectively. Again, the exception to this overall trend is Greenlee County, which experienced a five percent decrease in the number of individuals 65 and over between 1990 and 2000.

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

County		1980*			1990			2000		
		Population	% of Total	% Change	Population	% of Total	% Change	Population	% of Total	% Change
Apache	Urban	12,405	23.81%	n/a	19,941	32.38%	60.75%	16,606	23.92%	-16.72%
	Rural	39,703	76.19%	n/a	41,650	67.62%	4.90%	52,817	76.08%	26.81%
Coconino	Urban	46,473	61.96%	n/a	63,988	66.25%	37.69%	74,462	64.01%	16.37%
	Rural	28,535	38.04%	n/a	32,603	28.03%	14.26%	41,858	35.99%	28.39%
Greenlee	Urban	6,981	61.20%	n/a	2,759	34.45%	-60.48%	4,324	50.59%	56.72%
	Rural	4,425	38.80%	n/a	5,249	65.55%	18.62%	4,223	49.41%	-19.55%
Navajo	Urban	24,857	36.75%	n/a	28,784	37.07%	15.80%	40,937	42.00%	42.22%
	Rural	42,772	63.25%	n/a	48,874	62.93%	14.27%	56,533	58.00%	15.67%
Catron, NM	Urban	0	0%	n/a	0	0%	0%	0	0%	0%
	Rural	2,720	100%	0%	2,563	100%	0%	3,543	100%	0%

NB: % Total is the percentage of total population. % Change is the percentage of change from prior census year
 *Does not account for farming populations
 Source: NRIS - Human Dimensions



Source: NRIS - Human Dimensions

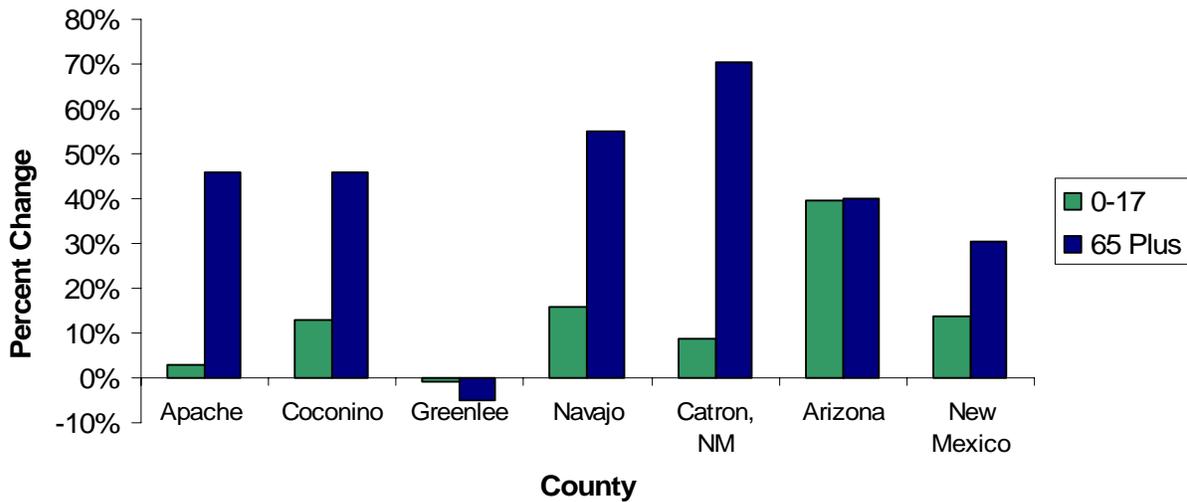
Figure 4. Five-County Assessment Area Urban/Rural Composition, 1980-2000

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

County/Place/State	Under 18			65 And Over		
	1990	2000	% Change	1990	2000	% Change
Apache County	25,974	26,731	2.91%	3,939	5,741	45.75%
Eagar	1,709	1,461	-14.51%	255	373	46.27%
St. Johns	1,504	1,160	-22.87%	212	341	60.85%
Springerville	612	576	-5.88%	172	288	67.44%
Coconino County	29,624	33,425	12.83%	5,585	8,143	45.80%
Flagstaff	11,321	12,834	13.36%	1,988	2,826	42.15%
Sedona	1,098	1,401	27.60%	2,456	2,605	6.07%
Page	2,559	2,178	-14.89%	351	432	23.08%
Williams	743	847	14.00%	323	316	-2.17%
Fredonia	470	335	-28.72%	72	115	59.72%
Greenlee County	2,735	2,712	-0.84%	894	849	-5.03%
Clifton	885	839	-5.20%	358	283	-20.95%
Morenci	804	669	-16.79%	14	12	-14.29%
Navajo County	29,858	34,527	15.64%	6,301	9,758	54.86%
Show Low	1,682	2,248	33.65%	622	1,151	85.05%
Whiteriver	1,779	2,317	30.24%	108	166	53.70%
Snowflake	1,712	1,691	-1.23%	254	475	87.01%
Pinetop-Lakeside	659	912	38.39%	361	531	47.09%
Heber-Overgaard	n/a	589	n/a	n/a	610	n/a
Catron County	688	747	8.58%	391	667	70.59%
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%

Source: NRIS - Human Dimensions

<http://www.epodunk.com/cgi-bin/genInfo.php?locIndex=17798>



Source: NRIS - Human Dimensions

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

Table 5 presents data on net migration for each county through 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 2000 data indicate location of residence in 1995. Once again, net migration data show that population growth within the area of assessment has been relatively slow with limited in-migration of individuals previously living outside the county. The exceptions to this trend were Apache and Navajo Counties, both of which reported relatively strong growth in individuals migrating to the area from other states as well as from different counties within Arizona. The greatest numbers of individuals moving in from out-of-state came from the West and the Midwest. Coconino County, however, reported a significant increase in the number of migrants from the Northwest over the period. Finally, both Apache and Navajo 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 Apache-Sitgreaves National Forests is located primarily within the region referred to as the “High Country” Region. The 2003 Profile for the High Country Region reported 722,800 domestic overnight leisure visitors, representing a 9.5% increase over the 660,000 domestic overnight leisure visitors a decade earlier in 1993. This made the High Country the sixth most visited region in the state ahead of only the Northeast Country in the number of domestic overnight visitors. Approximately 80% of these visitors came to the area for leisure while the remaining 20% were visiting on business (AZOT 2004a).

In 2002, nearly 70% of domestic visitors to the High Country came from within Arizona, while Utah, California, New Mexico, and Texas contributed the largest number of tourists from outside the state. 57% of in-state visitors in 2003 were residents of the Phoenix metropolitan area, and roughly 13% were from Tucson and Sierra Vista. According to AZOT data, the High Country is a predominantly outdoor-based activity destination with 42% of visitors engaging in nature activities including camping (11%), visiting national and state parks (19%), visiting water sources (2%), and participating in eco-travel activities (10%). The flow of visitors is greatest between the months of July and September with 38% of total visitation taking place in the summer (AZOT 2004a).

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

	Apache			Coconino			Greenlee		
	1990	2000	% Change	1990	2000	% Change	1990	2000	% Change
Total	54,033	63,202	16.97%	88,003	107,775	22.47%	7,369	7,855	6.60%
Same House	37,232	44,593	19.77%	36,558	49,841	36.33%	4,197	4,487	6.91%
Different House	16,801	18,609	10.76%	51,445	57,934	12.61%	3,172	3,368	6.18%
In United States	16,711	18,140	8.55%	50,117	56,247	12.23%	3,155	3,301	4.63%
Same County	9,672	9,074	-6.18%	21,006	24,801	18.07%	1,577	1,643	4.19%
Different County	7,039	9,066	28.80%	29,111	31,446	8.02%	1,578	1,658	5.07%
Same State	3,379	4,372	29.39%	13,634	14,870	9.07%	864	857	-0.81%
Different State	3,660	4,694	28.25%	15,477	16,576	7.10%	714	802	12.32%
Northwest	132	152	15.15%	927	1,658	78.86%	11	8	-27.27%
Midwest	267	504	88.76%	2,373	3,055	28.74%	84	46	-45.24%
South	455	335	-26.37%	2,755	2,856	3.67%	187	157	-16.04%
West	2,806	3,703	31.97%	9,422	9,007	-4.40%	432	590	36.57%
In Puerto Rico	0	8	n/a	0	7	n/a	0	0	n/a
Elsewhere	79	461	483.54%	1,307	1,680	28.54%	17	67	294.12%
	Navajo			Catron, NM					
	1990	2000	% Change	1990	2000	% Change			
Total	69,158	89,175	28.94%	2,403	3,394	41.24%			
Same House	39,984	54,025	35.12%	1,237	1,960	58.45%			
Different House	29,174	35,150	20.48%	1,166	1,434	22.98%			
In United States	28,969	34,115	17.76%	778	1,430	83.80%			
Same County	17,337	17,860	3.02%	388	307	-20.88%			
Different County	11,632	16,255	39.74%	778	1,123	44.34%			
Same State	6,815	10,580	55.25%	258	344	33.33%			
Different State	4,817	5,675	17.81%	520	779	49.81%			
Northwest	182	170	-6.59%	73	17	-76.71%			
Midwest	544	642	18.01%	29	48	65.52%			
South	1,102	1,022	-7.26%	13	85	553.85%			
West	2,989	3,841	28.50%	405	629	55.31%			
In Puerto Rico	4	0	-100.00%	0	0	n/a			
Elsewhere	194	1,035	433.51%	0	4	n/a			

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

	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

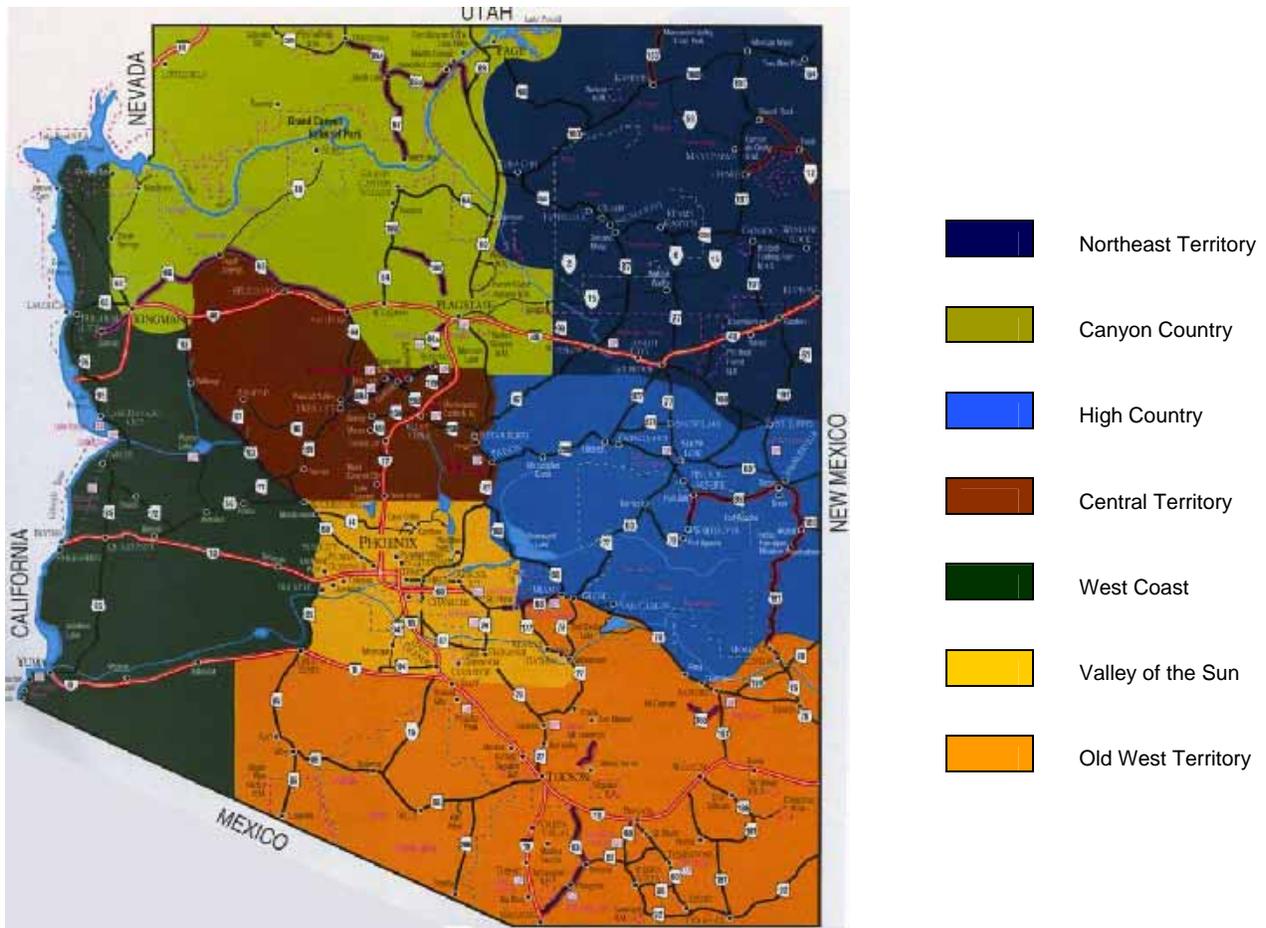


Figure 6. Map of Arizona Tourism Regions

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 five 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 represents 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).

Reported census data demonstrate a strong correlation between individuals who identify themselves as being of multiple racial background as well as Hispanic origin. Notably, the decade between 1990 and 2000 saw significant increases in individuals of multiple race four of the five counties, mirroring the overall trend for the states of Arizona and New Mexico (Table 6). Similarly, the growth in Hispanic populations exceeded the overall population growth rates for within these same counties. The exception to this trend was Catron County, which reported a minimal increase in multiple race population and a slight decline in the Hispanic population between 1990 and 2000. Navajo County experienced the most significant increases in both multiple race and Hispanic populations with growth rates of 154.54% and 44.63% respectively. In spite of marked increases in both multiple race and Hispanic populations for each county, Table 7 shows that Native American populations constitute a relatively large portion of county populations, particularly when compared to the state as a whole. Despite a slight decrease in proportional representation, Native Americans remain a clear ethnic majority in Apache County. Although Native Americans are no longer the majority ethnic population of Navajo County, they remain the largest group at over 47% of the population. The clear exception to the overall ethnic diversity of the region is Greenlee County, which more closely resembles the overall ethnic composition of the state of Arizona.

Educational attainment for the population 25-years of age and older is shown for each of the five counties in Table 8. The data show that both Coconino and Greenlee Counties exceed the overall state percentage of high school graduates while Apache and Navajo Counties fall well short of the statewide average. While the percentage of individuals with a Bachelor's degree or higher is greater for Coconino County than the state as a whole, Apache, Navajo, and Greenlee Counties all fall below the statewide percentage in this category. Table 8 shows that Apache County is most restricted in educational attainment with 18.78% of the 25-and-over population achieving less than a 9th-grade education.

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

Ethnicity	Apache County			Coconino County			Greenlee County		
	1990	2000	% Change	1990	2000	% Change	1990	2000	% Change
American Indian or Alaska Native	47,798	53,375	11.67%	28,270	33,161	17.30%	154	142	-7.79%
Asian or Pacific Islander	17	132	676.47%	724	1,018	40.61%	45	16	-64.44%
African American or Black	112	173	54.46%	1,255	1,215	-3.19%	27	44	62.96%
Multiple Races	1,148	2,207	92.25%	4,086	7,545	84.65%	860	2,006	133.26%
White	12,516	13,536	8.15%	62,256	73,381	17.87%	6,922	6,339	-8.42%
Hispanic	2,407	3,119	29.58%	9,768	12,727	30.29%	3,425	3,681	7.47%
Ethnicity	Navajo County			Catron County, NM			Arizona		
	1990	2000	% Change	1990	2000	% Change	1990	2000	% Change
American Indian or Alaska Native	40,528	46,532	14.81%	54	102	88.89%	204,589	255,879	25.07%
Asian or Pacific Islander	208	331	59.13%	0	12	n/a	54,127	98,969	82.85%
African American or Black	812	857	5.54%	0	5	n/a	110,062	158,873	44.35%
Multiple Races	1,949	4,961	154.54%	37	57	54.05%	328,768	743,300	126.09%
White	34,161	44,752	31.00%	2,521	2,699	7.06%	2,967,682	3,873,611	30.53%
Hispanic	5,539	8,011	44.63%	728	688	-5.49%	680,628	1,295,617	90.36%
Ethnicity	New Mexico								
	1990	2000	% Change						
American Indian or Alaska Native	134,035	173,483	29.43%						
Asian or Pacific Islander	14,372	20,758	44.43%						
African American or Black	29,818	34,343	15.18%						
Multiple Races	188,282	376,209	99.81%						
White	1,148,562	1,214,253	5.72%						
Hispanic	576,709	765,386	32.72%						

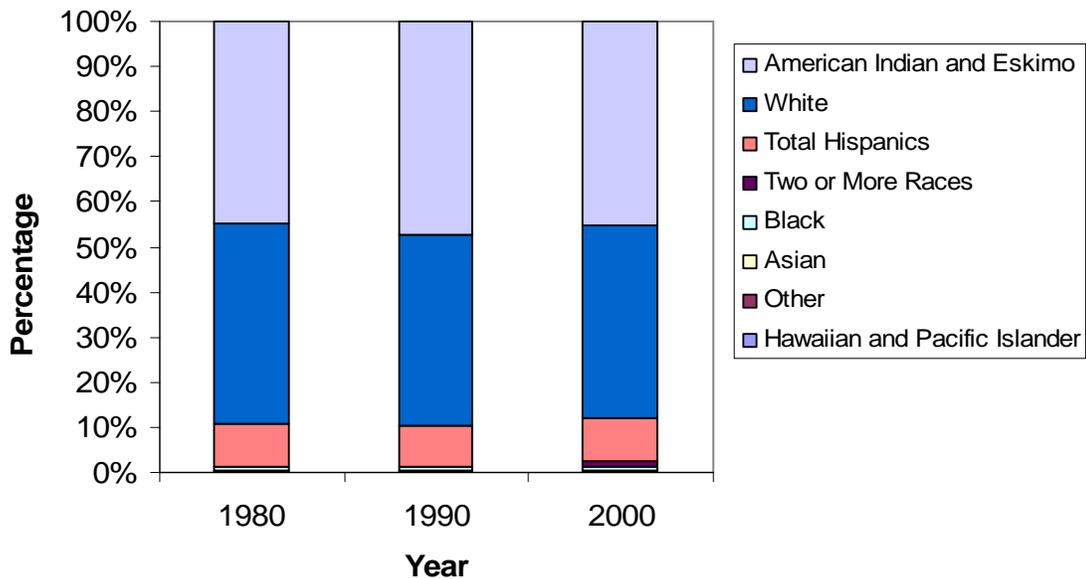
Source: NRIS - Human Dimensions

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

Ethnicity	Apache County			Coconino County			Greenlee County		
	1990	2000	Change	1990	2000	Change	1990	2000	Change
American Indian or Alaska Native	77.61%	76.88%	-0.72%	29.27%	28.51%	-0.76%	1.92%	1.66%	-0.26%
Asian or Pacific Islander	2.76%	0.19%	-2.57%	0.75%	0.88%	0.13%	0.56%	0.19%	-0.37%
African American or Black	0.18%	0.25%	0.07%	1.30%	1.04%	-0.25%	0.34%	0.51%	0.18%
Multiple Races	1.86%	3.18%	1.32%	4.23%	6.49%	2.26%	10.74%	23.47%	12.73%
White	20.32%	19.50%	-0.82%	64.45%	63.09%	-1.37%	86.44%	74.17%	-12.27%
Percent Non-white	79.68%	80.50%	0.82%	35.55%	36.91%	1.37%	13.56%	25.83%	12.27%
Hispanic	3.91%	4.49%	0.58%	10.11%	10.94%	0.83%	42.77%	43.07%	0.30%
Ethnicity	Navajo County			Catron County, NM			Arizona		
	1990	2000	Change	1990	2000	Change	1990	2000	Change
American Indian or Alaska Native	52.19%	47.74%	-4.45%	2.11%	2.88%	0.77%	5.58%	4.99%	-0.59%
Asian or Pacific Islander	0.27%	0.34%	0.07%	0.00%	0.34%	0.34%	1.48%	1.93%	0.45%
African American or Black	1.05%	0.88%	-0.17%	0.00%	0.14%	0.14%	3.00%	3.10%	0.09%
Multiple Races	2.51%	5.09%	2.58%	1.44%	1.61%	0.17%	8.97%	14.49%	5.52%
White	43.99%	45.91%	1.92%	96.45%	95.37%	-1.08%	80.97%	75.50%	-5.47%
Percent Non-white	56.01%	54.05%	-1.96%	3.55%	4.63%	1.08%	19.03%	24.50%	5.47%
Hispanic	7.13%	8.22%	1.09%	28.40%	19.42%	-8.99%	18.57%	25.25%	6.68%
Ethnicity	New Mexico								
	1990	2000	Change						
American Indian or Alaska Native	8.85%	9.54%	0.69%						
Asian or Pacific Islander	0.95%	1.14%	0.19%						
African American or Black	1.97%	1.89%	-0.08%						
Multiple Races	12.43%	20.68%	8.25%						
White	75.81%	66.75%	-9.06%						
Percent Non-white	24.19%	33.25%	9.06%						
Hispanic	38.06%	42.08%	4.02%						

Source: NRIS - Human Dimensions

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



Source: NRIS - Human Dimensions

Figure 7. Five-county Assessment Area Racial/Ethnic Composition, 1980-2000

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

	Apache County		Coconino County		Greenlee County		Navajo County	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Population 25 years and over	36,217	100.00%	65,976	100.00%	5,207	100.00%	54,215	100.00%
Less than 9th grade	6,801	18.78%	4,596	6.97%	330	6.34%	6,514	12.02%
9th to 12th grade, no diploma	6,365	17.57%	6,108	9.26%	582	11.18%	9,113	16.81%
High school graduate (includes equivalency)	9,008	24.87%	14,279	21.64%	1,828	35.11%	15,036	27.73%
Some college, no degree	7,543	20.83%	17,344	26.29%	1,450	27.85%	13,673	25.22%
Associate degree	2,390	6.60%	3,891	5.90%	382	7.34%	3,218	5.94%
Bachelor's degree	2,641	7.29%	12,316	18.67%	372	7.14%	4,020	7.41%
Graduate or professional degree	1,469	4.06%	7,442	11.28%	263	5.05%	2,641	4.87%
Percent high school graduate or higher	n/a	63.60%	n/a	83.80%	n/a	82.50%	n/a	71.20%
Percent bachelor's degree or higher	n/a	11.30%	n/a	29.90%	n/a	12.20%	n/a	12.30%
	Catron County, NM		Arizona		New Mexico			
	Number	Percent	Number	Percent	Number	Percent		
Total Population Over 25	2,651	100.00%	3,256,184	100.00%	1,134,801	100%		
Less than 9th grade	195	7.36%	254,696	7.82%	104,985	9.25%		
9th to 12th grade, no diploma	380	14.33%	364,851	11.20%	134,996	11.90%		
High school graduate (includes equivalency)	770	29.05%	791,904	24.32%	301,746	26.59%		
Some college, no degree	649	24.48%	859,165	26.39%	259,924	22.90%		
Associate degree	175	6.60%	219,356	6.74%	67,001	5.90%		
Bachelor's degree	334	12.60%	493,419	15.15%	154,372	13.60%		
Graduate or professional degree	154	5.81%	272,793	8.38%	111,777	9.85%		
Percent high school graduate or higher	n/a	78.40%	n/a	81.00%	n/a	0.789		
Percent bachelor's degree or higher	n/a	18.40%	n/a	23.50%	n/a	0.235		

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 five counties and selected places are presented in Table 9. Total housing units in 2000 range from a high of 53,443 in Coconino County to a low of 2,548 in Catron County. Housing density and median home value within Greenlee and Apache Counties are significantly lower than neighboring counties and the state as a whole. Table 9 also shows significant increases in seasonal housing units for both Apache and Navajo Counties between 1990 and 2000. Growth in seasonal housing units within the area of assessment was most dramatic in Snowflake and Pinetop-Lakeside, both of which saw increases of over 1,000%. Finally, the median home value and the rate at which it increased were both significantly higher for Coconino County than for the state of Arizona as a whole. Within the area of assessment, median home values increased most significantly in the cities of Flagstaff, Sedona, and Pinetop-Lakeside.

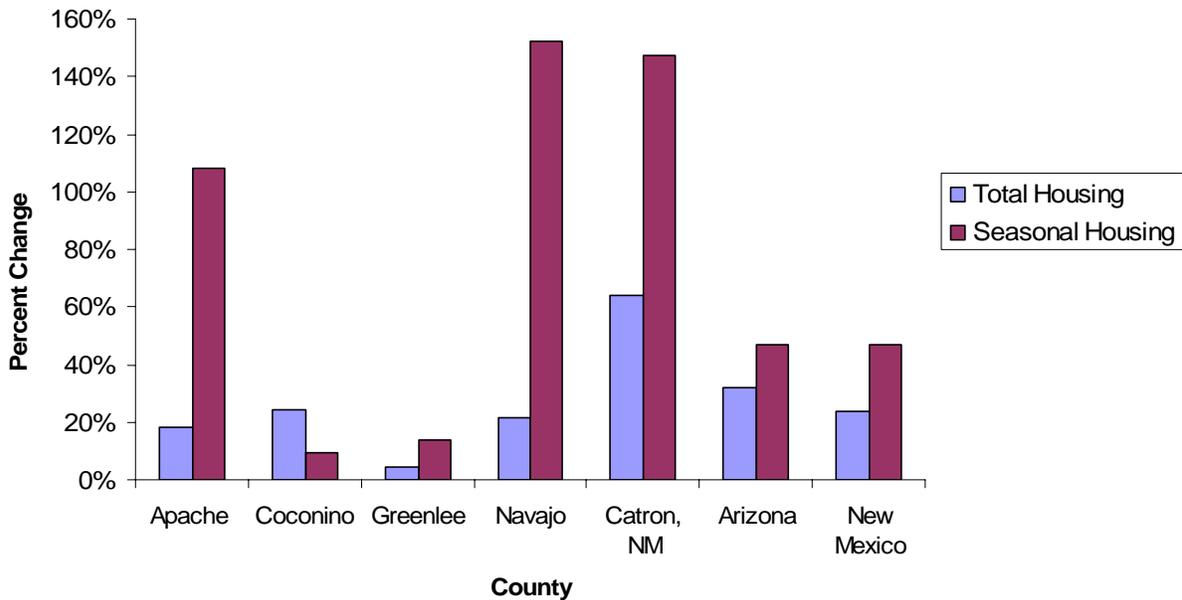
Table 10 suggests that population growth at the county and state level is expected to continue although at somewhat lower rates than were experienced over the last two decades. The population growth for each county is expected to be significantly less than statewide rates of growth with the possible exception of Coconino County and its projected increase of 26.66% between 2000 and 2010. Although the population of Navajo County is expected to experience an upward trend between 2010 and 2020, growth rates will likely remain well below the state average.

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
Apache County	26,731	31,621	18.29%	3,134	6,530	108.36%	2.39	2.82	18.30%	\$16,600	\$41,700	151.20%
Eagar	1,504	1,696	12.77%	83	157	89.16%	147	150	2.04%	\$68,100	\$89,400	31.28%
St. Johns	1,237	1,388	12.21%	72	51	-29.17%	187	210	12.30%	\$57,000	\$69,000	21.05%
Springerville	840	902	7.38%	32	37	15.63%	73	78	6.85%	\$57,200	\$80,200	40.21%
Coconino County	42,914	53,443	24.54%	8,361	9,155	9.50%	2.30	2.87	24.55%	\$82,600	\$142,500	72.52%
Flagstaff	16,313	21,430	31.37%	925	977	5.62%	258	337	30.62%	\$90,300	\$161,000	78.29%
Sedona	4,658	5,709	22.56%	430	446	3.72%	237	307	29.54%	\$159,600	\$253,700	58.96%
Page	2,307	2,606	12.96%	33	76	130.30%	139	157	12.95%	\$91,700	\$138,600	51.15%
Williams	1,118	1,224	9.48%	40	52	30.00%	39	28	-28.21%	\$64,800	\$100,300	54.78%
Fredonia	464	428	-7.76%	7	18	157.14%	91	58	-36.26%	\$54,300	\$77,900	43.46%
Greenlee County	3,582	3,744	4.52%	109	124	13.76%	1.94	2.03	4.53%	\$40,700	\$62,700	54.05%
Clifton	1,246	1,114	-10.59%	14	12	-14.29%	84	75	-10.71%	\$31,700	\$49,900	57.41%
Morenci	762	731	-4.07%	12	13	8.33%	942	902	-4.25%	\$67,500	n/a	n/a
Navajo County	38,967	47,413	21.67%	5,160	13,007	152.07%	3.91	4.76	21.68%	\$51,500	\$77,000	49.51%
Show Low	3,116	4,388	40.82%	984	1,190	20.93%	113	158	39.82%	\$67,700	\$106,100	56.72%
Whiteriver	1,064	1,335	25.47%	0	3	n/a	97	75	-22.68%	\$30,800	\$35,400	14.94%
Snowflake	1,158	1,515	30.83%	9	104	1,055.56%	39	49	25.64%	\$64,700	\$92,500	42.97%
Pinetop-Lakeside	2,307	2,756	19.46%	86	1,153	1,240.70%	207	245	18.36%	\$74,700	\$121,100	62.12%
Heber-Overgaard	n/a	3,185	n/a	n/a	1,878	n/a	n/a	458	n/a	n/a	\$110,500	n/a
Catron County	1,552	2,548	64.18%	258	638	147.29%	.22	.37	68.18%	\$41,000	\$82,000	100%
Reserve	n/a	263	n/a	n/a	n/a	n/a	n/a	469	n/a	n/a	\$67,700	n/a
Arizona	1,659,430	2,189,189	31.92%	96,687	141,965	46.83%	15.00	19.0	26.67%	\$79,700	\$121,300	52.20%
New Mexico	632,058	780,579	23.50%	21,778	31,990	46.89%	5.00	6.0	20.00%	\$69,800	\$108,100	54.87%

Source: NRIS - Human Dimensions

[p://www.epodunk.com/cgi-bin/genInfo.php?loclIndex=17798](http://www.epodunk.com/cgi-bin/genInfo.php?loclIndex=17798)



Source: NRIS - Human Dimensions

Figure 8. Percent Change 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.	Projected		Projected		Projected	
	2000	2010	% Change	2020	% Change	2030	% Change
Apache County	69,423	76,645	10.40%	85,766	11.90%	94,707	10.42%
Coconino County	116,320	147,352	26.68%	169,343	14.92%	189,868	12.12%
Greenlee County	8,547	9,605	12.38%	10,271	6.93%	10,984	6.94%
Navajo County	97,470	99,979	2.57%	111,946	11.97%	123,460	10.29%
Catron County, NM	3,543	4,063	14.68%	4,459	9.75%	4,752	6.57%
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 predominantly 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 ASNF 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 significantly

influence the character, or quality, of those goods and services. Research shows that areas with an abundance of natural-resource based amenities (forested mountains, rivers, lakes, 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, migrants 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 collected data for ASNF which show substantial increases in both the retirement-age population and the number of seasonal housing units throughout the areas characterized by small, rural towns.

Although the potential for population growth can 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 and may 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 ASNF 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 not influence 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).