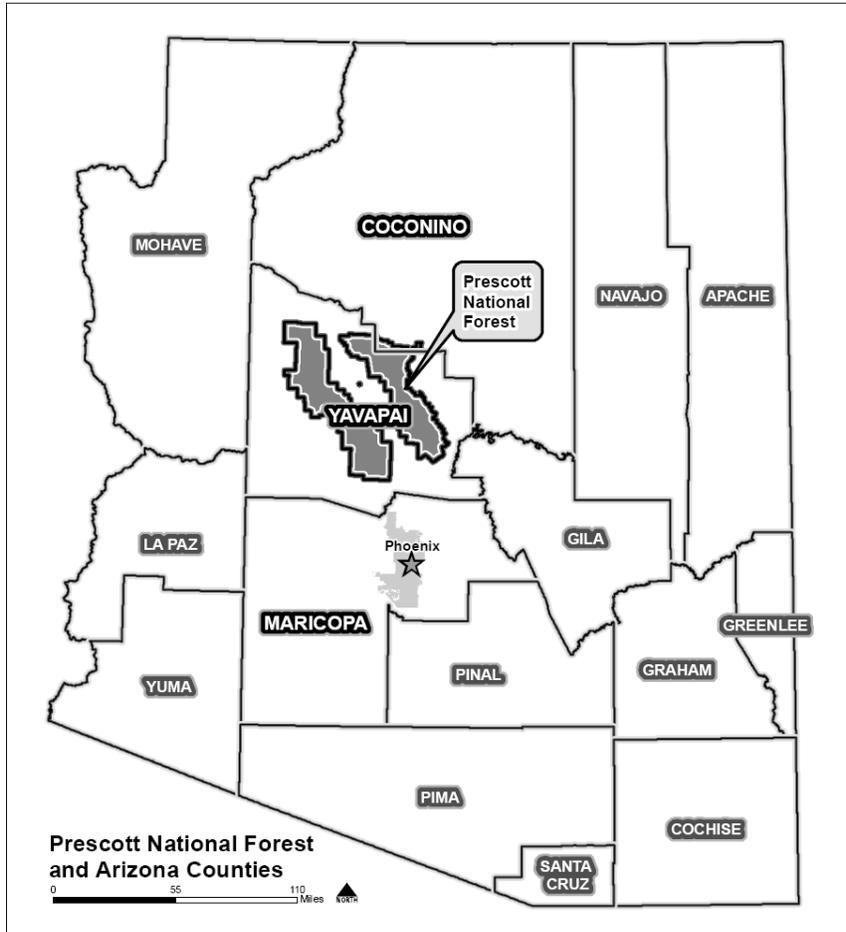


I. SOCIAL CONDITIONS AND TRENDS

This section focuses on the profile of the social environment surrounding the PNF. Figure 1 shows the boundaries of the PNF. The boundaries of PNF extend into Coconino and Yavapai Counties in northern and central Arizona. With approximately 1.25 million acres, the PNF is the second smallest national forest in the Southwestern Region and the sixth largest in total area of the national forests in Arizona. The PNF managed lands are in two roughly equal land segments in Yavapai County. The majority of the PNF is located in Yavapai County and a small portion (approximately 3% of the Forest) of the northeast corner is in Coconino County.

Figure 1. Map of Forest Boundaries and Counties



The social assessment area is Yavapai County. Coconino County was excluded due to the small percentage of Forest land that is within Coconino County and the lack of visitors from Coconino County. The Recreational Uses section includes Maricopa County information because there are visitors that travel from that area to recreate on the PNF.

The Social Conditions and Trends section of this document will focus on three areas:

- o **Demographic Conditions and Trends** (total population, male and female population, age distribution, race and ethnic distribution, migration, visitors to the PNF, and housing)
- o **National Forest Land Uses and Land Users Trends** (land use and ownership, transportation and corridors, land and special uses, open space, commodity industries, and recreation use)
- o **Community Engagement with the PNF** (this section describes the interaction between community groups and the Forest)

The PNF evaluated the contribution to sustainability of each of these three areas by determining if the trend was stable or changing and if the PNF can or cannot influence or support the trend.

Historical Context

Archaeological remains suggest that Arizona was first occupied by American Indians about 12,000—8,000 B.C. The earliest people to occupy central Arizona were hunters and gatherers known to archaeologists as Paleo-Indian. These people lived a highly mobile lifestyle, and expended effort hunting large mammals like mastodons and mammoths. Following the Paleo-Indian period, another hunter and gatherer group known as “Archaic” emerged. They too lived a mobile lifestyle, but these people tended to focus their hunting opportunities on smaller game since by that time the large Pleistocene mammals had disappeared. This nomadic way of life was thought to have lasted about 8,000 years, or from about 8,000 B.C to 100 A.D.

The introduction of agriculture may have occurred in central Arizona about 2,000 years ago, but there is clear evidence of agricultural settlements during what is termed the ‘formative period’, or about 100 A.D to 800 A.D. The introduction of agriculture gave rise to more aggregated, sedentary settlements in the Prescott area which are associated with what archaeologists refer to as the “Prescott Culture.” Early Prescott Culture occupations, which tend to date from about 800A.D. to 1150 A.D., consisted of pithouse hamlets, followed in later years--1150A.D. to around 1300 A.D.--by larger multi-roomed and multi-storied pueblos. Sometime around 1300 A.D., the American Indian population in and around the Prescott region seemed to have declined, or at least reshuffled, for reasons not entirely understood.

The first Spanish explorer to enter Arizona (circa 1536) was likely Cabez de Vaca. Franciscan friar Marcos de Niza reached the state in 1539; he was followed by Francisco Vásquez de Coronado, who led an expedition from Mexico in 1540 in search of the seven legendary cities of gold, reaching as far as the Grand Canyon. Despite extensive exploration, the region was neglected by the Spanish in favor of the more fruitful area of New Mexico. Father Eusebio Kino, a Jesuit, founded the missions of Guevavi (1692) and Tumacacori (1696), near Nogales, and San Xavier del Bac (1700), near Tucson. The Spanish Empire, however, expelled the Jesuits in 1767, and those in Arizona subsequently lost their control over the indigenous people.

The Arizona region came under Mexican control following the Mexican War of Independence from Spain (1810–1821). In the early 1800s, mountain men, trappers and traders such as Kit Carson, trapped beaver in the area, but otherwise there were few settlers. In the Treaty of Guadalupe Hidalgo (1848), ending the Mexican War (1846–1848), Mexico relinquished control of the area north of the Gila River to the United States. This area became part of the U.S. Territory of New Mexico in 1850. The United States, wishing to build a railroad through the area south of the Gila River, bought the area between the river and the south boundary of Arizona from Mexico in the 1853 Gadsden Purchase (University of Arizona 2005, Columbia Electronic Encyclopedia 2007).

In 1863 Arizona was organized as a separate territory, with its first, temporary capital at Fort Whipple in Prescott. Prescott became the capital in 1865. The capital was moved to Tucson in 1867, back to Prescott in 1877, and finally to Phoenix in 1889.

The region had been held precariously by U.S. soldiers during the intermittent warfare (1861–1886) with the Apaches, who were led by Cochise and later Geronimo. General George Crook led the battle against the Apaches in 1882–1885, and in 1886 Geronimo surrendered to federal troops. In 1875 The U.S. Army transferred an estimated 1,500 Yavapai and Dilzhe'e Apache from the Rio Verde Indian Agency to the San Carlos Indian Agency 180 miles away. They remained at San Carlos for 25 years; when finally released only a fraction made it back to their homeland. Upon arrival they learned their land was taken over by Anglo settlers and was no longer controlled by their people (University of Arizona 2005, Yavapai County 2006).

In 1863 when gold was discovered in the Bradshaw Mountains surrounding Prescott. The mountains were then heavily mined and timber was severely cut. This occurred despite federal laws forbidding the cutting of timber from the public domain (Wilson 1990).

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While the problem of wide-spread timber theft was remedied fairly quickly, problems of grazing and overgrazing continued for years. The area's cattle industry began in 1869 when James Baker drove a herd of 300 cattle from New Mexico into the upper end of the Verde River, north of Jerome. In response to heavy demands for beef, thousands of head of cattle were brought into the area. Within 6 years, livestock was one of Arizona's leading industries (Forest Service 2006f).

In 1891, Congress passed legislation authorizing the president to set aside from the public domain, forest reserves to protect timberlands and watersheds. The Prescott Forest Reserve, predecessor to the PNF, was established on May 10, 1898, by a proclamation issued by President William McKinley. The establishment of the Reserve came in response to the community's need to protect its domestic watershed. In October, 1899, the Reserve was greatly enlarged to offer additional protection for the timberlands (Forest Service 2006f). In 1908, the PNF (Reserves were established as National Forests in 1905) absorbed the Verde National Forest. The Verde National Forest was established the previous year to protect the watershed of the Verde River (Forest Service 2006f).

The PNF management emphasis during World Wars I and II was on commodity production to support the war efforts. The Civilian Conservation Corp was active on the PNF during the Great Depression constructing facilities such as Horse Thief Basin Recreation Area. With the rapid growth of Phoenix metropolitan area since the 1960s, Crown King and Prescott have become

popular summer home areas. With the development and wider use of off-highway vehicles (OHVs) in the 1980s, demand for motorized recreation began a rapid increase that continues to present. Rapid population increase during the 1980s and especially the 1990s brought increased demand for a wide variety of uses on PNF (Wilson 1990) (ATV Info 2008).

Today, the PNF is 1.25 million acres and lies within Yavapai and Coconino Counties. Administratively, the PNF is comprised of three Ranger Districts: the Bradshaw Ranger District, the Chino Valley Ranger District, and the Verde Ranger District. Roughly half of the Forest lies west of the city of Prescott, Arizona, in the Juniper, Santa Maria, Sierra Prieta, and Bradshaw Mountains. The other half of the Forest lies east of Prescott and takes in the Black Hills, Mingus Mountain, Black Mesa, and the headwaters of the Verde River. (Forest Service 2006f).

Demographic Conditions and Trends

Total Population

According to U.S. Census figures from 1980 to 2000, Yavapai County population grew by 146% (from 68,145 to 167,517), which exceeded the state’s population growth. Data from the 1980 to 2000 census and population projections from 2010 to 2030 are presented in Table 1 in the form of total population, percentage change, and population projections for Yavapai County and the state of Arizona. Table 1 suggests that population growth at the county and state level is expected to continue although at a somewhat lower rates than were experienced over the last two decades. Yavapai County is projected to increase to 278,426 and will see growth at 41%.

Table 1. 1980 – 2030 Decennial Population for County, Place and State

Decennial County, Place, Population & Population Projections 1980 – 2030						
County/Place/State	1980	1990	2000	Projected 2010	Projected 2020	Projected 2030
Yavapai County	68,145	107,714	167,517	198,052	240,849	278,426
Prescott	20,055	26,427	33,938	---	---	---
Prescott Valley	2,284	8,858	23,535	---	---	---
Arizona	2,718,215	3,665,228	5,130,632	6,145,108	7,363,604	8,621,114

1980-2030 Percent Change						
County/Place/State	1980-1990	1990-2000	2000-2010	2010-2020	2020-2030	
Yavapai County	---	58%	56%	18%	22%	16%
Prescott	---	32%	28%	---	---	---
Prescott Valley	---	288%	166%	---	---	---
Arizona	---	35%	40%	20%	20%	17%

Source: NRIS Human Dimensions 2008 <http://www.city-data.com/city/Arizona.html>

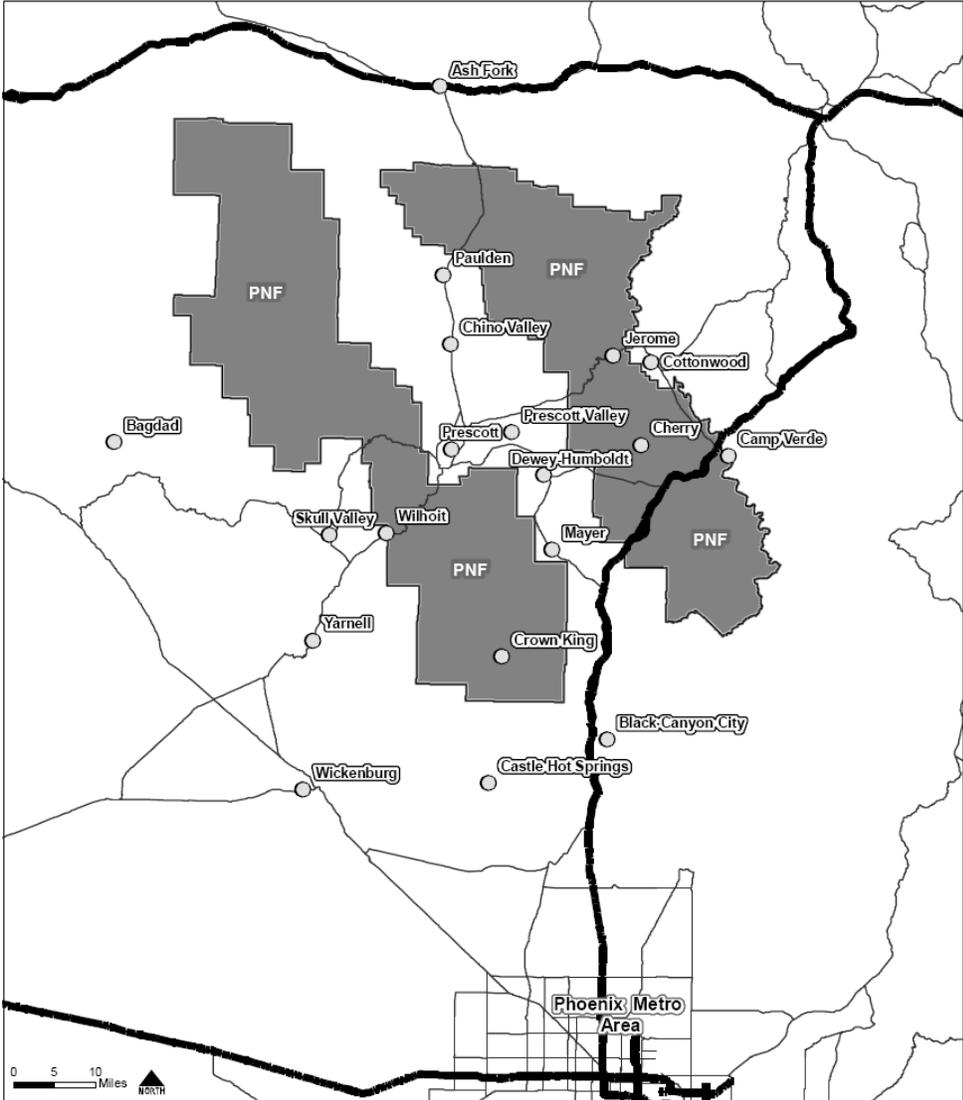
The demographic history of the area surrounding the PNF, and the region as a whole, represents one of sustained and rapid growth. Yavapai County has, in general, grown steadily over the past ninety years with the exception of fluctuations during the 1940s and 1950s. The state has grown from 120,000 residents to well over 5 million (U.S. Census Bureau 2005). Yavapai County itself has grown from 13,799 residents at the turn of the 20th Century to 68,000 in 1980 to nearly 170,000 today (U.S. Census Bureau 1995 and 2005).

In 2006, Adams-Russell Consulting identified and interviewed focus group members within the PNF. Participants of the ABV Focus Group (Adam-Russell Consulting 2006) were asked open ended questions about changes in local communities within the past twenty years. Participants described population growth in Yavapai County as “explosive”, “like a people bomb went off,” and in other terms indicating an assessment of a social environment feeling the effects of population growth.

Analysis of U.S. census and county demographic data show that most of the growth in the County has occurred and will likely continue in the towns of Prescott, Prescott Valley, Chino Valley,

Dewey Humboldt, Clarkdale, Cottonwood, Camp Verde, and the nearby unincorporated areas near these communities (Figure 2). Limited private lands combined with increasing population suggest there will be an increased demand for access, recreation, and other uses of PNF resources.

Figure 2. Map of Communities near the Prescott National Forest



Age Distribution

The age distribution was divided into three categories: the 0-14 cohort⁶ represents the non-working population; the 15-64 cohort represents the workforce population; and the 65 years and older cohort represents the retired population.

Table 2 shows the percentages within each cohort from the 1990 and 2000 Censuses. Yavapai County and Arizona both saw a decline that was less than 1% in the 0-14 cohort from 1990 to 2000. Yavapai County 0-14 age cohort is below the state percentage.

Yavapai County’s workforce population (15-64) increased from 58% to 61%. Compared to the state’s workforce population at 65 %, Yavapai County falls below the percentage at 61 %.

In Yavapai County, the population has gotten older since 1990. The median age in 2000 was 45 years, up from 42 in 1990 and higher than the state’s median age of 34 (Headwaters Economics 2007, Yavapai County 2005).

From 1990 to 2000 the 65 and over population declined from 24 % to 22 %. Although Yavapai County declined in the 65 and over age cohort, the county’s 22 % is significantly higher than the state at 13 %.

There is a general aging of the population and it may be expected to place new demands on PNF, since recreational uses and interests may change.

Table 2. Age as a Percentage of Population

		1990			2000		
Age Group		Total	Male	Female	Total	Male	Female
Yavapai County	Total	100%	49%	51%	100%	49%	51%
	0 - 14	18	9	9	17	9	8
	15 - 64	58	29	29	61	30	31
	65 yrs & over	24	11	13	22	10	12
ARIZONA	Total	100%	49%	51%	100%	50%	50%
	0 - 14	23	11	11	22	11	11
	15 - 64	64	32	32	65	33	32
	65 yrs & over	13	6	6	13	6	7

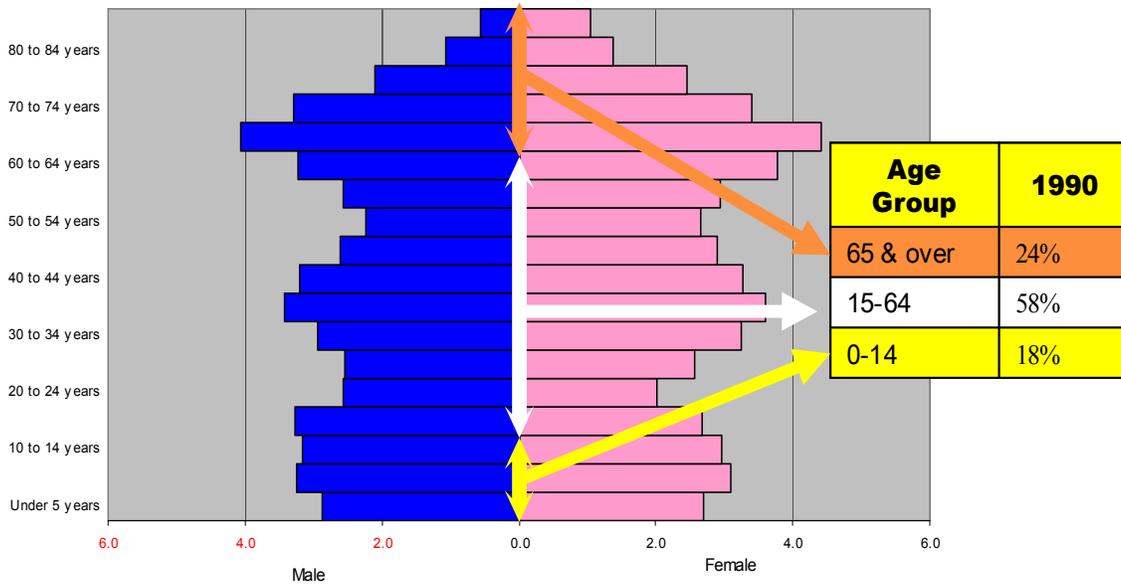
Source: www.census.gov - QTP1 Age Group and Sex: 1990 & 2000

Figures 3 and 4 show population pyramids with percentages within each age cohort from the 1990 and 2000 censuses. Population pyramids illustrate the total population in five year age cohorts by age and sex. This is a tool for understanding the structure and composition of populations because they graphically illustrate many aspects of a population. This can give insight into trends over time by their portrayal of the relative number of people in a particular age cohort. The blue (left)

⁶ Age Cohort in this section is referring to a group of persons sharing a demographic characteristic such as gender, educational attainment, or age group. In this case age cohort is referring to three age groups: 0-14, 15-64, and 65 and over age groups.

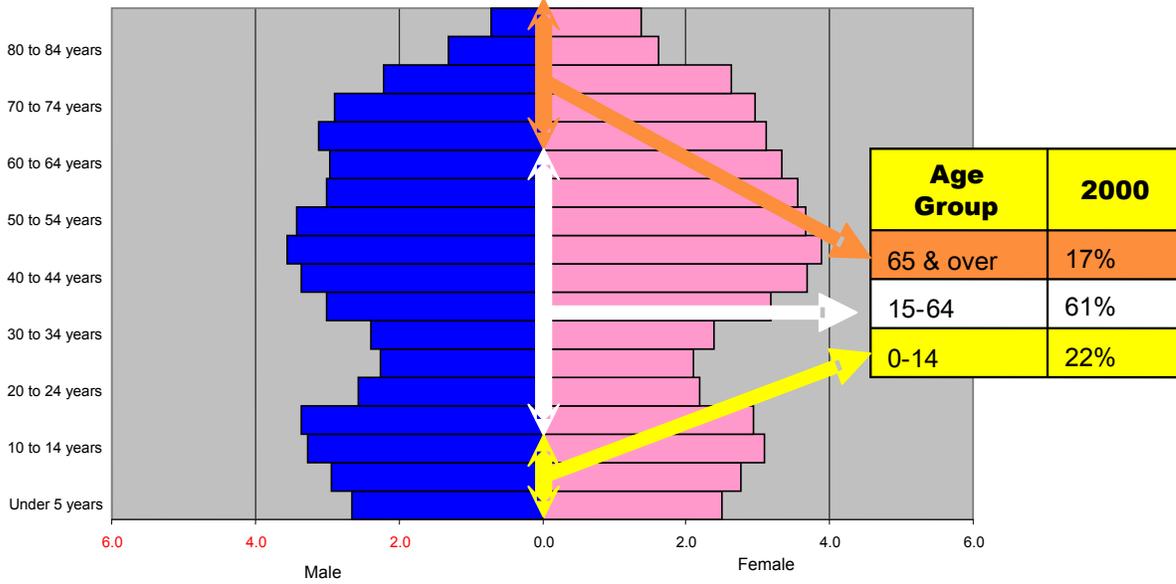
portion of the pyramid reflects the male population and the pink (right) portion of the pyramid reflects the female population. The population pyramids are based on the total population for Yavapai County in 1990 and 2000.

Figure 3. 1990 Yavapai County Population Pyramid



Source: www.census.gov - 1990 Table QT-P1: Age Groups & Sex

Figure 4. 2000 Yavapai County Population Pyramid



Source: www.census.gov - 2000 Table QT-P1: Age Groups & Sex

Figures 3 and 4 show that the Yavapai County's population is concentrated at about 40 years and older; this is an indicator of an aging population. This could affect the demand for various services, amenities, and uses of the PNF. Examples might include the shifting demand for types of motorized recreation and demand for "quiet". The migration of retirees, and particularly those who reside in the wildland-urban interface, will place new demands on the PNF, such as interactions related to smoke management and prescribed burning. The population in the assessment area may be expected to place new demands on the PNF⁷. For example there is high representation of people aged 25 or less compared to their share of the population in recreational pursuits such as team sports and driving off-road. On the other hand, recreational pursuits with high representation of those 65 and older are walking, big game hunting, and motor boating. (Cordell et al 2002). In addition, retirees may have the leisure time to volunteer their services or may become involved in partnerships with the PNF. Finally aging populations present new challenges for governments, as those retiring from the workforce expect to receive services funded by revenues from a workforce that is shrinking as a percent of the total population (Wan He et al. 2005). A high level of services may be expected, while PNF management capacity may not allow for fulfilling that expectation.

The Confab group (2007) concluded from their field work that Yavapai County is experiencing the early stages of the expected "baby boomer" retirement bulge. People are beginning to retire (or semi-retire) at a relatively young age, moving into the study area, and bring their retirement and investment incomes with them.

Race and Ethnic Distribution

Race and ethnicity are defined as separate concepts by the U.S. Census Bureau. People of a specific race may be of any ethnic origin, and people of a specific ethnic origin may be of any race. Racial groups in this section include the following six groups: White, African American, American Indian, Asian and Pacific Islander, Other, and Multiple Races. The population of Hispanic origin is defined by the U.S. Census Bureau for statistical purposes as a separate group and may be of any race (Hobbs and Stoops 2002, Leefers et al. 2004).

The past fifty or sixty years have seen only moderate racial diversification in the state of Arizona. Of the total population in Arizona, the Hispanic population has increased from 19% in 1990 to 25% in 2000 (Table 4). Despite an especially rapid influx in the two decades following WWII and an average population growth rate of 49% per decade, African Americans remained static at 3% of the population in 2000, less than 1% above their relative numbers in 1940. Although the percentage of Native Americans in the Arizona population has decreased, the absolute number is now greater than six times the 1940 figure. What makes the percentage appear to decrease is the fact that Arizona's total population has grown from 499,261, in 1940, to an estimate of more than 6,000,000, in 2006.

As shown in Table 3, between 1990 and 2000, the Hispanic population increased by 164% in Yavapai County, increasing their share of the total population from 6% to 10%.

⁷ The relationships between age and pursuit of outdoor recreational activities is generally found to be an inverse relationship, with younger people more active in their pursuit of outdoor recreational activities. However, the importance of age varies depending upon the type of activity (Bergstrom 1991, Cordell 2002).

Table 3. Racial/Ethnic Composition by County, and State

1990	ETHNICITY		RACIAL GROUP					Total
	Non-Hispanic	Hispanic	White	African American	American Indian	Asian or Pacific Islander	Other	
Yavapai County	100,815	6,899	103,106	321	1,740	490	2,057	107,714
Arizona	2,976,890	688,338	2,963,186	110,524	203,527	55,206	332,785	3,665,228
2000								
Yavapai County	151,141	16,376	153,933	655	2,686	989	9,254	167,517
Arizona	3,835,015	1,295,617	3,873,611	158,873	255,879	98,969	743,300	5,130,632

Source: NRIS - Human Dimensions & 1990 and 2000 Census Bureau

Table 4 shows the percentage by racial and ethnic composition for Yavapai County and the state of Arizona. Despite substantial increases in individuals identifying themselves as “Other” or more than one race and Hispanic ethnicity, whites remain the predominant racial group in the State and Yavapai County.

Table 4. Percent Racial/Ethnic Composition by County and State

1990	ETHNICITY		RACIAL GROUP					Total
	Non-Hispanic	Hispanic	White	African American	American Indian	Asian or Pacific Islander	Other	
Yavapai County	94%	6%	96%	0%	2%	0%	2%	100%
Arizona	81%	19%	80%	3%	6%	2%	9%	100%
2000								
Yavapai County	90%	10%	91%	0%	2%	1%	6%	100%
Arizona	75%	25%	76%	3%	5%	2%	14%	100%

Source: NRIS - Human Dimensions & 1990 and 2000 Census Bureau

With increases in ethnic diversity of the population there may be increasing demands for new or different recreation experiences (Chavez 1993). Field interviews with members of the Hispanic Chamber of Commerce of Prescott Valley and discussions with PNF employees suggest that, while there is interest in the PNF when the subject is raised, the Hispanic community is not aware of available opportunities the PNF could provide them and little communication exists with PNF (Forest Service 2008g).

Migration and Movement Trends

Net migration data show that population growth (people moving from outside the area) in Yavapai County has been especially strong. Between 1990 and 2000 Yavapai County’s total population

grew by nearly 56%, or an increase of 167,517 residents. Of that growth, 32% moved into Yavapai County (in migration). Of the 32% of new residents, 20% moved from a different state and 12% were from the same state but different county⁸ (University of Arizona 2005).

The greatest numbers of individuals moving from out of state came from the West and the Midwest; however, Yavapai County reported a significant increase in the number of migrants from the Northwest between 1990 and 2000. Finally, Yavapai County also reported significant increases in the number of individuals migrating from “elsewhere” (different countries) over the same period.

Confab (2007) concluded that many new residents interviewed have little or no connection to the local geography, did not have a connection to national forests where they came from and have little first-hand experience with forest management. However, many newcomers have time, energy, and resources to recreate on the PNF.

In addition, Adams-Russell Consulting (2006) reported that participants in focus groups suggested that the volume and pace of population growth is outpacing the ability of communities to integrate new residents into existing lifestyles and value systems. They suggested that a result is some noticeable “social fragmentation” and conflicts with traditional lifestyles. Some newer residents were perceived not to appreciate issues about water, fire susceptibility and other environmental characteristics. Others were perceived to lack a “land ethic” that was often taught as part of the experience of growing up in these rural communities. These differences were perceived to contribute to some of the “abusive” uses of forest lands; and to interfere with productive harmony.

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 (i.e. schools, water systems, and medical facilities) and public land managers to provide for the wide array of services, such as protection from wildfire. This is particularly true in areas where potential conflicts in value systems between established community interests and recently arrived new residents can create friction over natural resource management. For example, “many newer migrants and visitors place higher importance on aesthetic values and recreation while potentially lacking the historical and cultural connection to a working landscape characteristic of farmers, ranchers, and loggers” (McCool and Kruger 2003).

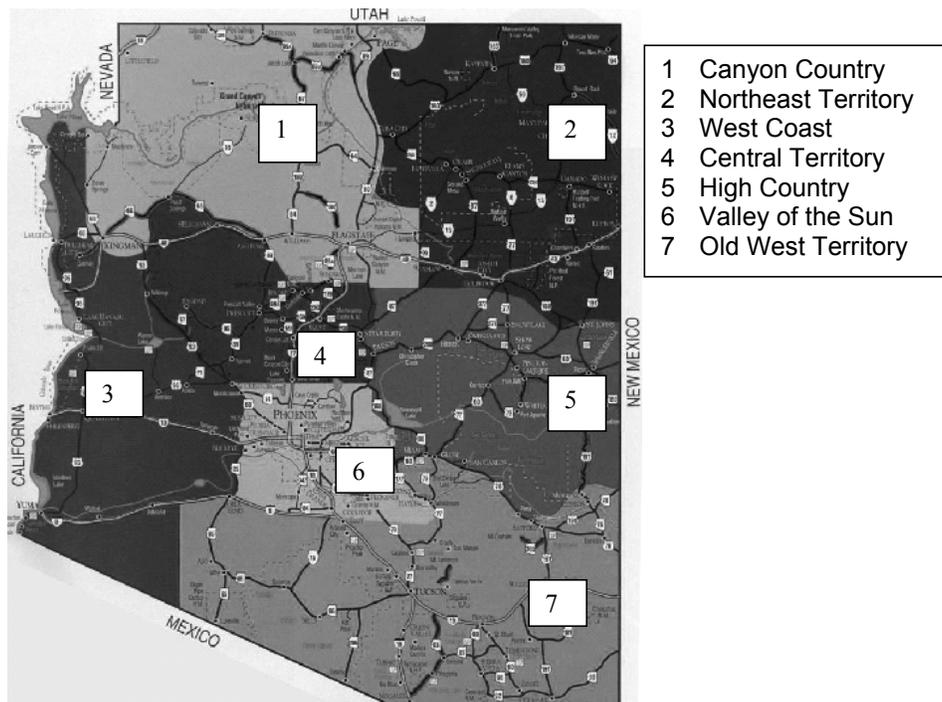
Visitors to Prescott National Forest

The Arizona Office of Tourism (AZOT) has seven distinct tourism regions. Figure 5 is a map of the seven regions located in Arizona. AZOT has traditionally gathered and reported visitation statistics within these regions rather than by counties. The area of assessment of the PNF is located primarily within the region referred to as the “Central Territory.” The 2003 profile for the Central Territory reported 1.9 million domestic overnight leisure visitors, representing a 41% increase over the 1.35 million domestic overnight leisure visitors a decade earlier. This placed the Central Territory as the fifth most visited region in the state in terms of the number of domestic overnight visitors. Approximately 77% of Central Territory visitors came to the area for leisure while the

⁸ Unlike the population pyramids, the in-migration calculations do not include the five and under age group. In each decennial Census (1990 and 2000), respondents are asked about their county and state of residence in the previous five years. Thus information on in-migration reflects only those who are five years and older.

remaining 23% were visiting on business (AZOT 2004). This suggests that visitor use is increasing in the area, and of those using the PNF, recreational activities exceed those related to business.

Figure 5. Map of Arizona Tourism Regions



In 2002, 40% of domestic visitors to the Central Territory came from within Arizona while 25% were visitors from California. New Mexico, Nevada, Texas, Washington, and Florida also contributed significant numbers of tourists. AZOT data confirm that the Central Territory is a predominantly outdoor-based activity destination with 59% of visitors engaging in sightseeing and 52% participating in nature activities (camping, eco-travel, visiting national and state parks). The flow of visitors is greatest during spring and summer with 55% of FY 2002 visits taking place between the months of April and September (AZOT 2004a).

According to National Visitor Use Monitoring (NVUM) data, the 1.25 million acres of the PNF received approximately 772,000 visits during fiscal year 2002. While only one NVUM survey has been performed, this was completed during an atypical year—due to severe drought and fire danger, the Forest was closed for over six weeks. The majority of visitors to PNF are male (67%). Visitors are predominately white (95%). Most visitors, an estimated 76%, are between the ages of 31 and 70, and an estimated 25% are over the age of 50. None of the visitors interviewed in NVUM surveys were from a foreign country (Kocis et al. 2003). According to NVUM, the largest percentage of respondents who provided zip code information was from Yavapai County,

accounting for 19% of the survey respondents. Eleven percent of the visitors were from Maricopa County and only 1% of the visitors were from the Flagstaff area (Forest Service 2007b).

Visitor trends for the PNF are not clear. The most recent NVUM data for FY2002 was utilized; new NVUM data is now being collected but is not yet available. However, AZOT and Arizona State Parks information shows increasing numbers of visitors to the area.

Housing

Housing characteristics for the area of assessment supply further evidence of a trend towards rapid growth. In Yavapai County, the decade between 1990 and 2000 saw significant increases in total housing units (49%), seasonal housing units, and median home value (62% from \$85,300 to \$138,000), compared to a 52% total housing change for the State of Arizona. As would be expected, the number of housing units in all counties has increased as population has increased. The housing stock (the total number of residential units, including mobile homes, available for non-transient occupancy) expanded by 33% in Yavapai County (University of Arizona 2005).

Attitudes towards housing development vary. Some see increased housing as an opportunity for jobs and other economic benefits while others see it as loss of open space. The Attitudes, Beliefs, and Values (ABV) focus group participants expressed opinions that the change in demographics prevented integrating new residents into community values. An added contribution to the lack of productive harmony expressed by project participants was an assessment of what is sometimes termed the “gangplank syndrome.” One participant described this as follows: *“They come here and then they don’t want to see any more development. They want everything that brought them here to stay the same and they don’t want anyone else to come. They are slamming the door behind them.”* (Adams-Russell Consulting 2006).

As a result of continued growth, city boundaries are continuing to expand and overtake rural areas. Unincorporated areas are experiencing continued residential development, including both planned subdivisions and unplanned lot-splitting (dividing a parcel of land into five or fewer parcels). Proposed developments like Yavapai Ranch could result in “new towns” in relatively remote rural settings. Development on lands adjacent to PNF will continue to place significant demands on Forest resources. A primary example is the expansion of the wildland urban interface. This has increased concerns for protecting homes from wildfires in the forest. It also has increased the difficulty of restoring fire to forest ecosystems while reducing smoke impacts to nearby residents whose homes are most at risk

How do trends in Demographic Conditions affect the Sustainability of the PNF contribution to the Social condition?

- Yavapai County population growth exceeded growth for the State of Arizona (Table 1, p. 16). This trend is likely to continue but the rate will decline somewhat. Demand for more facilities, such as those related to a variety of trail uses, is expected to increase.
- There has been a small increase in total ethnicity in Yavapai County. The Hispanic population has increased from 6% to 10% of the total population from 1990 to 2000 (Table 4, p. 21). This trend is likely to continue. With increases in ethnic diversity of the population there may be increasing demands for new or different recreation experiences (Chavez 1993).
- With continued migration of retirees to Yavapai County, it is likely that the median age of 45 will remain higher than state’s median age of 34 or increase slightly. The general aging

of the population in Yavapai County (Headwaters Economics 2007, Yavapai County 2005) may place new demands on the PNF, since recreational uses and interest may shift. Kordel et al (2002) found that those over 65 were more likely to engage in activities such as walking or hunting compared to other age groups.

- New residents may also have different expectations about uses of the PNF, such as a desire for aesthetics and recreation but little connection to ranching or logging. (McCool and Kruger 2003).
- In addition to an increase in population in the analysis area, visitors to the PNF are also increasing, potentially changing the recreational experience by increasing crowding at popular sites and trails on the PNF. Due to resource limitations, the PNF may not be able to meet all recreation demands.
- Housing units have increased and approval and construction of additional subdivisions within the County will continue this trend in the future (University of Arizona 2005, Yavapai County 2008). With the increase in housing it is likely that more homes will be located in the Wildland Urban Interface. Concerns about maintaining access to PNF lands, protecting structures from fire, and carrying out fuel management activities in that area will increase.

National Forest Land Use and Users Trends

Land Use and Land Ownership

National forest lands account for 15% of the land in Arizona. The PNF is located primarily within Yavapai County and a small portion of Coconino County. As a whole, land ownership within Yavapai County closely resembles overall ownership patterns for the state of Arizona. PNF managed lands account for the largest percentage of total land ownership in Yavapai County and private lands are 25% of the total county land area (Table 5). This suggests the potential for intensive public interest about PNF management issues.

ABV focus group participants noted that population growth exists in relationship to limited private land for development. About 25% of the lands in Yavapai County are in private ownership and the remainder is either public or Indian owned lands. A high rate of population growth combined with limited lands for development is a noteworthy characteristic of this social environment that also sensitizes residents to land development, land exchange, and land use issues. For example, participants suggest they expect “substantial” population growth and increased development in the Chino Valley portion of the county, which is also perceived to result in increased urban interface with PNF lands (Adams-Russell Consulting 2006).

Table 5. County Land Ownership

County	BLM	FS	State	Private	Indian	Other Public Lands	Total Area (acres)
Yavapai	12%	38%	24%	25%	<1%	1%	5,200,000

Source: University of Arizona 2005

Some citizens in local communities have expressed concerns to the PNF for retaining National Forest lands within or adjacent to their communities in order to prevent development and retain open space. Verde Valley citizens, in particular, want to retain the viewsheds around their area as unchanged (Yavapai County 2006). Concerns over PNF land exchanges may be associated more with the potential land uses and not the actual acreages involved. Land exchanges from 1988 to April 2008 have resulted in approximately 3,487 acres being acquired by PNF and 2,487 acres being conveyed to other ownership (Forest Service 2008d). Land exchanges have been completed to address consolidation of Forest ownership, fulfill legislative mandates, acquire lands that are of high resource value, or to address municipal purposes (i.e. provide land for a regional landfill).

Yavapai County land use 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 desire by some 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. Additional information on infrastructure related to the PNF is discussed in the following section.

The ABV focus groups (Adams-Russell Consulting 2006) stated that traditional lifestyles, closely associated with the land, once characterized this region. Cattlemen, miners, and those who made a living from the land contributed essential values to community lifestyles. In addition, ranching has been an important contribution to the history, values, and lifestyles in local communities. However, ranching is perceived to be in decline. Some ranches have been sold for subdivision and development.

Smaller communities are considering incorporation to protect their interests as development increases adjacent to their boundaries. Examples are Dewey-Humboldt (incorporated 2004), Black Canyon City (incorporation vote failed 2005), and Cordes Lakes (incorporation vote failed 2008). Inclusion of PNF administered lands within city boundaries, demand for land and increasing infrastructure needs all impact PNF. If PNF ownership and private ownership are intermixed, increasing development leads to difficulty of managing PNF lands and potential demands for land exchanges by developers.

Transportation, Forest Access, and Utility Corridors

Yavapai County and ADOT are responding to the increased demand for transportation from the increasing population. Some proposed alternatives have roads and infrastructure potentially crossing the PNF. The Central Yavapai Metropolitan Planning Organization (CYMPO), Arizona Department of Transportation (ADOT), and the Verde Valley Regional Land Use Plan cite the difficulty of transportation planning in the region given its vast geographic scale, population growth and pace of development, and constrained transportation funding (ADOT 2004; CYMPO 2007; Yavapai 2006).

Yavapai County saw a 100% increase in Vehicle Miles Traveled⁹ (VMT) between 1990 and 2000, mirroring the region's relatively strong population growth over the same period (ADOT 2000). County comprehensive plans suggest that the current road system is inadequate to meet future needs. Some alternative options pass through the PNF where they could impact open space values as well as fragment habitat for hunted species. (CYMPO 2008).

As populations grow and as private lands and State Trust lands are developed, recreation use will shift to and intensify on nearby public and National Forest lands. These trends will continue. One consequence of this shift in ownership patterns has been that local hunters and recreationists have lost some traditional national forest access across those lands.

An access issue for the PNF concerns private property owners adjacent to forest boundaries. Individual property owners adjacent to the PNF sometimes create private access to the national forest, creating social trails and illegal motorized trails. While motorized access of this type is an illegal use, non-motorized access is not prohibited but may result in resource damage.

A second access issue is the need to acquire easements across non-Forest Service lands to gain access to the PNF for management purposes. Historically, roads on State Trust lands may have been used for access or informal permission was granted by private land owners. As these lands become developed or change ownership, the PNF may lose access. Overall, county and state roads provide adequate access to the majority of the Forest; however, there may be cases where the PNF will need to acquire easements.

The PNF is one of the few forests in Region 3 to have completed a comprehensive roads analysis; motorized cross-country travel has been restricted. The 1986 PNF Land and Resource Management Plan was amended to restrict motorized use to designated roads and trails (Forest Service 2004). The PNF is currently preparing a Motorized Vehicle Use Map to ensure compliance with the 2005 Travel Management Rule (TMR) (Forest Service 2005). Non-essential and non-system roads are being obliterated as funding is available. This may conflict with the trend in demand for increased motorized use on the PNF (See Recreation Use, p. 30).

Utility corridors are increasing to meet local, regional and national needs. Many of these corridors cross the PNF. Current examples include the Transwestern Pipeline and the 69kV Copper Canyon powerline. Fiber optic service to Poquito Ranch development and electric services to Yeager Estates and Sycamore Ranch developments are being proposed. Proposals for utility corridors to housing developments are increasing. Utility companies have expressed interest in additional utility corridors across the PNF.

Lands and Special Uses

Special-use authorizations include permits, term permits, leases, and easements, which allow occupancy, use and privileges on NFS land. The authorization is granted for a specific use of the land for a specific period of time. Uses include commercial filming, camps, access roads across Forest lands to private in holdings, easements for utility corridors, outfitter & guide services, research, mineral exploration and development, and recreation residences.

⁹ VMT-- A measure of the extent of motor vehicle operation; the total number of vehicle miles traveled within a specific geographic area over a given period of time.

The PNF has one permitted shooting range. When the permit expires in 2014 for this facility and it is not expected to be renewed. Concerns over safety and noise by owners of adjacent homes that were built long after the shooting range was in operation have influenced the decision by the PNF not to renew the permit. Shooting range advocates are seeking other sites on the PNF to locate a new, permitted facility.

Open Space

Preservation of open space is an important land use issue within the Forest Service (Forest Service 2006). The Forest Service Open Space Conservation Strategy includes Forest Service participation in community growth planning to reduce ecological impacts and wildfire risks. (Forest Service 2007)

Local governments in Yavapai County are also concerned about open space. Policies aimed at preserving open space have been mentioned in the Yavapai County General Plan. These methods include the encouragement of “clustered development,” the purchase of development rights, and the dedication of land such as conservation easements (Yavapai County 2003). In addition, the Verde Valley Regional Land Use Plan (Yavapai County 2006) in its mid- and long-term implementation actions includes consultation with PNF to find ways of preserving open space. One mid-term action is to seek to have the PNF avoid exchange of existing PNF parcels to acquire land elsewhere in the State.

Other discussions indicate that people associate conversion of public to private land with concerns about water availability, protecting viewsheds, and maintaining a rural character (Appendix A). These concerns can be related to retaining open space, since people associate change from public to private ownership as a precursor to development, especially where landownership is intermixed between the PNF and private ownership.

The PNF faces challenges in managing land parcels that are not contiguous with the majority of the PNF. Illegal uses such as unauthorized OHV use and trash dumping make meeting responsibilities for managing such parcels for “wildland” character difficult and expensive.

It is possible that land exchanges or acquisition through the Land and Water Conservation Fund and Forest Legacy programs may be used as a tool by the PNF to retain or increase land in “open” condition, however, management concerns would need to be addressed. Demand is also likely to increase for potential land exchanges for development or for associated utilities and access.

Commodity/Consumptive Uses

Commodity/consumptive 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 harvest, and mining are being slowly succeeded in policy and management by an emphasis on non-consumptive uses (Davis 2001). Available information from the PNF only partly substantiates these national trends. Permitted Animal Unit Months ¹⁰(a calculated number that reflects the different needs of cows, cows with calves, yearlings, etc.) ranged from 56,700 (2003) to 164,400 (2007) over the period from 1998 to 2007 (Forest Service 2008b). Over the same

¹⁰ Animal Unit Month (AUM) - The unit of measure of the feed required for an animal unit (which is defined as a mature cow weighing 1,000 lbs. or its equivalent) on the range for 1 month. This is further defined as 800 pounds of air-dried forage.

period of time, actual use varied from 53,600 (2003) to 146,000 (2001). Timber harvest from PNF lands has increased slightly in recent years.

Livestock Grazing: In fiscal year 2002, 7,750 operators were permitted to graze livestock on a total of about 95 million acres of available FS-administered land nation-wide (Vincent 2008).¹¹ As Davis (2001) notes, the number of permits issued for livestock grazing on public lands has decreased slightly overall in recent years; the PNF mirrors this trend. Grazing permits are usually 10 year term permits. The 1986 PNF Land and Resource Management Plan identified 977,000 acres as being capable and suitable for livestock grazing and this acreage has remained relatively stable. In 1986, the PNF issued 57 grazing permits. In 2008, 54 permittees were issued a total of 60 permits (Forest Service 2008b).

Forest Products and Timber Production: The goal of forest management on the PNF is to achieve and maintain forest health, and achieve resource benefits such as fuels reduction in the WUI and ecosystem restoration. Commercial products from these activities include sawtimber, small-diameter wood, and fuelwood. Permits in 2000 for both small-diameter wood (1,562 ccf, hundred cubic feet) and commercial fuelwood (1,575 ccf) have increased since 1990; there have been commercial fuelwood contracts every year since 1990 on the PNF.

From 1986 through the 1991, the PNF issued seven timber sale contracts, selling 7,580 ccf. From 1991 to 2000, there was only one small sale due to the lack of market for the timber in the area. There were three additional sales from 2000 through 2002.

In 2002 a pallet mill opened in Phoenix and one in Ash Fork in 2007; these mills provide a market for forest products and timber sales increased slightly. Additionally, in 2003 the Healthy Forest Restoration Act and Healthy Forest Initiative were passed to assist the national forests in achieving fuels reduction. This was at approximately the same time as a peak bug kill on the PNF. During the period from 2003 through the 2nd quarter of 2008, the PNF issued 22 timber sale contracts for 39,021 ccf. Much of this volume was in salvage timber sales as fuel reduction (Forest Service 2008c). Current levels are now expected to stabilize at about 3,600 ccf per year.

The need for fuels reduction will continue as beetle-killed pines increase the potential for catastrophic wildfires, ongoing drought is likely to continue and the number of people living in the PNF wildland-urban interface increases. Timber sales are expected to continue in the Camp Wood, Mingus Mountain, and Prescott Basin ponderosa pine areas but at a slightly lower level to maintain lowered tree densities. Opportunities for fuel reduction and restoration using timber management are limited to areas of gentler slopes mostly near WUI areas. Operability in other areas, such as the Bradshaw Mountains, is often limited due to steep slopes.

From 2001 through 2nd quarter of 2008, the PNF issued 7,428 firewood permits, trending upward from 679 in 2001 to 1,207 in 2007. The PNF also issues 450 Christmas tree permits annually (Forest Service 2008c). Illegal timber cutting is a common infraction. The Law and Regulations Offense Statistics (Forest Service 2005a) reported that there were 326 incidents of illegal cutting or damaging trees or other forest products between 1995 and 2005. This type of activity appears to be trending upward with an average of 33 incidents per year reported for the period between 1995 and 2004 and 123 occurring in 2005 (Forest Service 2005a).

¹¹ Data given are the most recent available.

Mining: Currently, mining activities on the PNF include flagstone, recreational gold placer mining, and one permitted limestone operation. In addition, there are 1,800 active placer¹² claims and 1,484 active lode¹³ claims with 10 tunnel site claims. Claims can be up to 20 acres per placer or lode claim. Saleable¹⁴ permits have decreased from an annual average of 60 issued between 2003 and 2005 to 37 permits in 2007 (USDI 2008).

Recreation Use

Increased population growth in Yavapai County has the potential to put a higher demand on PNF recreation opportunities such as camping areas and trails. If not properly managed, overcrowding and resource damage could occur in some areas. With increasing demand, and subsequent crowding, wilderness use could increase as people seek new areas to recreate. Displacement of recreation users could occur and wilderness use could increase. Over the last two decades motorized vehicle recreation use has become popular and has increased on the PNF. Increases in retirement age citizens and seasonal visitors may, in turn, increase demand for age specific recreation opportunities such as a shift to more motorized recreation or a desire for quiet recreation that is less remote.

Unmanaged recreation has also been identified by the FS as one of four “key threats” to the nation’s forests and grasslands. As participation in outdoor recreation increases, the FS predicts that recreation pressure on undeveloped areas in most of the Southwest and Rockies regions will be heavy. Much of this pressure can be traced back to increasing population trends throughout the West. The use of OHVs (discussed below) is seen as a major component of unmanaged use (Forest Service 2005c).

Recreation use has increased steadily throughout the history of the national forests. Over the past few decades, the growth in recreation has been truly extraordinary. Participation in camping has increased from about 13 million people in 1960 to 19 million people in 1965 to almost 58 million people in 1994-95 (Cordell et al. 2004). Nationally, there were 209 million national forest visits in 2001. The forests of the Southwest Region (Region 3) received 19.5 million visits (Forest Service 2001e).

The PNF has a unique mix of climate zones that provide for a “cool zone” relief from the Arizona sun in the summer and a “warm zone” in the winter. This allows for year-round recreation on the PNF (Forest Service 2008e). The PNF recreational niche identifies trail and day use as a primary use by visitors; 50% of these visitors are from within a 20-mile radius. The PNF had 771,772 annual visitors in 2002 (Kocis et al. 2003). Primary recreational activities on the Forest include hiking/walking, overall relaxation, nonmotorized activities, fishing and wildlife viewing. Driving for pleasure is a common use on the PNF; NVUM data reported that 20% of those surveyed participated in this activity with 5% of respondents reporting driving for pleasure as their primary activity (Kocis et al. 2003).

¹² Mining of material from alluvial deposits (i.e. panning). Deposits in unconsolidated material and many nonmetallic bedded or layered deposits, such as gypsum and high calcium limestone, are also considered placer deposits.

¹³ Deposits in veins or well defined boundaries.

¹⁴ Saleable mineral materials include common variety of sand, stone, gravel, pumice, pumicite, clay, rock, and petrified wood.

Developed Recreation Sites: The PNF has eighteen developed sites where facilities are provided and most have a fee associated. The most highly used developed areas are Granite Basin Recreation Area, Thumb Butte, and Lynx Lake Recreation Area, the latter receiving by far the most visitors of any developed site on the PNF. Lynx Lake Recreation Area has three fee areas which have received over 65,000 visitors annually for the past 5 years. Total visitation at developed sites, including campgrounds, trailheads, and day use areas, has remained relatively stable in recent years ranging from 204,900 in 2005 to 219,300 in 2004 during the period between 2002 and 2007 (Taken from information on fees paid).

Dispersed Recreation Sites: Designated dispersed sites are found in the Prescott Basin, surrounding the town of Prescott. These are areas where no fee is required, there are no facilities; and visitors may only camp where posted. In the area outside the Prescott Basin dispersed recreation use is more flexible. Camping is allowed for up to 14 days without a permit or fee and does not need to be in a designated area.

While recent NVUM data is not yet available, signs of increased use include visual observations at designated dispersed campsites as well as many popular dispersed sites, such as on Mingus Mountain. These sites show signs of compaction and the site's disturbance footprint appears to be expanding with increased use. In addition, most, if not all designated dispersed sites are full every weekend in the summer. This indicates that demand may be nearing capacity.

OHV Users: The 2005 Travel Management Rule provides regulations to help manage OHV use on the National Forests. Implementing the rule, forests would establish a system of roads, trails, and areas designated for motor vehicle use and would prohibit OHV use that is off the designated system or inconsistent with the designations. The PNF has restricted cross-country travel by OHVs since 1989 (Forest Service 2004) and is currently working on issuing a motorized vehicle use map that will implement the 2005 Travel Management Rule. Forests adjacent to the Prescott (Tonto, Coconino, and Kaibab) are also implementing the 2005 Travel Management Rule.

On public lands throughout the country, the use of OHVs has increased in popularity and is now a major concern to many forest managers. Between 1982 and 2000, OHV users increased more than 109% nationally (Cordell et al. 2004). In 1995, a GAO study found OHV use on federal lands to be generally under-managed.

OHV recreational use state-wide has increased by roughly 350%, or nearly 39% per year since 1998 (Arizona State Parks 2003). During this time funding for OHV recreation has grown by an average of 4%, essentially only keeping pace with inflation. The funding and OHV recreation management is not keeping pace with the dramatic increase in OHV recreation in Arizona.

According to Arizona State Parks (Arizona State Parks 2003):

- 27% of households in Yavapai County are OHV users; state percentage is 21%.
- 9% of all Arizona OHV trip destinations for past 12 months were to Yavapai County
- 1,195,742 OHV Recreation Days occur annually in Yavapai County; 10% of Arizona's total
- 416,824 OHV Recreation Days (35%) are from Yavapai County residents.
- 778,918 OHV days (65%) are from other Arizona residents traveling to Yavapai County

According to FY2002 NVUM, 5% of PNF visitors identified OHV travel as their primary activity but only about 1% used designated OHV facilities, such as Alto Pit play area. Current NVUM data is being collected but is unavailable at this time to determine trend. However, based on State Parks data above, it is likely that OHV use is increasing on the PNF. This assumption is supported by observations of areas such as Crown King, where OHVs clog roads and trails on summer weekends.

Additionally, the increasing land development near Phoenix means that less land is available with more people trying to use it. The sheer pressure of numbers as well as new restrictions in Maricopa County for fugitive dust control (Arizona State Parks 2007) appears to be bringing more OHV users to the PNF.

As numbers of OHV users increase, the PNF will likely see an increase in user conflicts (motorized vs. nonmotorized). Demand for additional designated motorized trails could also increase when neighboring Forests implement prohibition of cross-country travel by OHVs.

Wilderness Users: With the Wilderness Act of 1964, Congress laid the foundation for a National Wilderness Preservation System comprised of federal lands, “where the earth and its community of life are untrammelled by man, where man himself is a visitor and does not remain”. Wilderness areas are designated by Congress and are generally protected from commercial enterprises, road construction, mechanical vehicles, and structural development.

As a result of these management requirements, wilderness areas are open to some uses (e.g., primitive camping, backpacking, horseback riding, hunting, and fishing) and closed to others (many extractive uses, bicycling, and off-highway vehicles). For those reasons, the decision to designate a roadless area as Wilderness can be controversial. However, many forest users value the solitude and isolation, closeness to nature, and self-reliance experienced in wilderness areas. Activities available in wilderness or primitive areas attract millions of visitors nationally.

The Forest has eight separate wilderness areas, comprising almost 116,000 acres. NVUM data for the PNF included 147 interviews over 32 days. From this information, there were 60% male and 40% female visitors with 97% in the white race/ethnicity category. The largest age group of visitors (25.4%) was 51-60 years old. PNF annual data collected for the wilderness areas show the Granite Mountain wilderness area receiving by far the highest visitation, likely due to the close proximity and easy access from the city of Prescott. Voluntary sign-in forms for Granite Mountain counted 5,644 visitors in 2006 and 4,474 visitors in 2007; however, it is estimated that only 10-15% of visitors sign in. Overall, the number of visitors to Wilderness has been fairly stable over the last 4 years that data has been collected by the PNF.

Wildlife Users: Wildlife viewing is a more common activity than fishing or hunting on the PNF. NVUM data from 2002 show that 60% of the visitors interviewed participated in some sort of wildlife viewing activity; however, only 6% described it as their primary activity. Approximately 9% of visitors interviewed fished (with nearly all of those describing it as their primary activity), and about 6% hunted. Five percent used a developed fishing site or dock (Kocis et al. 2003a). The demand for wildlife viewing opportunities on the PNF is expected to remain stable.

How do trends in Land Use and Users affect the Sustainability of the PNF contribution to the Social condition?

- o National Forest lands account for 38% of land in Yavapai County. With other agencies and tribal ownership providing about 37% ownership, private lands make up only 25% of the County. A high rate of population growth combined with limited lands for development is a noteworthy characteristic of this social environment that also sensitizes residents to land development, land exchange, and land use issues (Adams-Russell Consulting 2006).
- o Additional utility corridors have been implemented (e.g., Transwestern pipeline) and are being proposed (electric services to Yeager Estates and Sycamore Ranch). Increasing numbers of utility and transportation corridors could increase habitat fragmentation for game species like pronghorn and could affect viewsheds.
- o Access to the PNF may be directly affected by increases in population and development. Residents who live near the Forest boundary may create social trails and unintentionally create resource damage. In addition, access for Forest management may be affected as lands change hands and informal agreements to use roads that cross land under non-Forest Service land ownership may require obtaining easements.
- o The PNF, local governments and individuals have interest in retaining lands as open space in areas surrounding communities, especially in the Verde Valley. Land exchanges can be viewed either as a tool to enhance open space retention, or as a means of releasing public land for development and community growth.
- o Timber harvest is carried out primarily to achieve fuel reduction near the wildland-urban interface, to improve habitats, or to restore ecosystems. The need for fuels reduction will continue as beetle-killed pines increase the potential for catastrophic wildfires and the number of people living in the WUI increases. In addition, as concerns about smoke management persist, the PNF may need to address fuel build-up using mechanical means in addition to prescribed fire.
- o Due to population growth in assessment area there is potential for higher demand for PNF resources, especially those related to recreation. Over the last two decades motorized recreation vehicles have become popular; consequently their uses on the PNF have increased. If not properly managed, overcrowding and resource damage could occur in many areas. Increases in retirement age citizens and seasonal visitors may, in turn, increase demand for age specific recreation opportunities such as desire for walking trails near population centers or providing an increased number of designated dispersed camping areas. (Cordell et al. 2002).

Community Engagement with Prescott National Forest

The purpose of this section is to describe the relationship between the PNF and its neighboring communities of place and interest and to identify whether current trends may lead to a need for change. Knowledge of local communities is of interest to the PNF due to the importance of the reciprocal relationship that exists between the Forest and these communities. In addition, in some instances, there are legal authorities that require interaction with external communities.

Communities of Interest and Forest Partnerships

Since Congress set aside the Prescott Forest Reserve in 1891, communities within and adjacent to the PNF boundary have had close relationships with the Forest. Traditionally, the PNF served as the source of natural resources for families and employment. Uses such as mining, timber harvest, and grazing have relied upon the forests. While these uses have decreased in number and size,

some communities still have this relationship. The recreation and open space the PNF provides is used by communities to draw newcomers to settle in the area. The Forest Service manages watersheds that contribute to surface water reservoirs and aquifers. PNF recreational opportunities, open space, and attractive viewsheds also contribute to the quality of life enjoyed by residents of Yavapai County.

Government to Government Relationships

Tribal use of National Forest lands includes activities such as gathering resources for traditional medicines, ceremonial items, craft items, and other traditional uses, and collecting resources such as pinyon nuts and fuel wood for personal use. Some tribal members relate experiences where increased housing near the PNF has blocked access to traditional areas (Forest Service 2008a)

In 2003, the National Tribal Relations Task Force recommended a legislative proposal to make provisions for traditional tribal use on Forest Service land. These provisions include: (a) authorization to provide Forest products free of charge, when used for traditional and cultural purposes, (b) authorization to temporarily close from public access National Forest System land for traditional and cultural purposes, and (c) an exemption from the Freedom of Information Act to protect confidential information relating to reburials, sites, or resources of traditional or cultural importance. The Farm Bill authorizing this proposal was enacted on May 22, 2008 as Public Law 110-234.

The PNF Heritage program works closely with local Tribes to consult on projects, and to work through the FS processes to accommodate special needs. While the PNF routinely consults with the Hopi Tribe, the Hualapai Tribe, the Yavapai Prescott Indian Tribe, the Yavapai-Apache Nation, the Fort McDowell Indian Community, and the Tonto Apache Tribe, more could be done to develop a relationship that allows people to more freely interact and share their needs and concerns. Individuals from various tribal entities assist the PNF as volunteers, but there is no formal partnership agreement that addresses the relationship with the PNF. This trend is expected to remain stable. Engaging the tribes in forest planning could provide a means to improve relationships.

Local, State, and Federal Agencies

Partnerships have been developed with local communities, county governments and state and federal agencies. These partnerships provide expertise, expanded understanding of forest management, and enhance the ability of finding grant funding for activities in the PNF. Examples include the following:

- **Wildlife Habitat**--The PNF cooperates with state and federal agencies, adjacent forests, and non-profit conservation organizations to improve wildlife habitat. An example is the current project to improve habitat for pronghorn on the PNF in conjunction with Bureau of Land Management (BLM) and private lands. Participating agencies include Arizona Game and Fish, Bureau of Land Management, and Tonto National Forest.
- **Wildfire Protection**--Cooperative efforts are focused on coordinating wildfire protection and prevention including fuels reduction programs through the Yavapai Communities Wildfire Protection Plan. Agencies participating include Yavapai County; Central Yavapai Fire District; City of Prescott; Volunteer Fire Departments of Crown King, Mayer, Cherry, Skull Valley, Groom Creek and others; Bureau of Land Management (BLM); Bureau of

Indian Affairs; Arizona State Land Department Division of Forestry; and multiple Homeowners groups.

- Community Planning--The PNF participates with the Verde Valley Regional Planners Group in sharing information of interest to those in the Verde Valley, interacting with government entities, and discussing land use concerns related to the Verde Valley Regional Land Use Plan. Issues of interest include transportation, open space, housing, and interaction with land management agencies. Representatives include Yavapai County; City of Sedona; Town of Camp Verde; Town of Clarkdale; City of Cottonwood; Town of Jerome; Communities of Cornville, Beaver Creek, Big Park, Red Rock/Dry Creek; and the Yavapai Apache Nation.
- Heritage--The Heritage Site Steward Program coordinates volunteers as part of an agreement between the PNF and the State Historic Preservation Office.
- Trails--Yavapai County provides equipment and materials to assist with construction of selected trail heads such as the Aspen Creek trail head.

Trends for accomplishing forest management with agencies are expected to remain stable or increase slightly depending on issues to be resolved and funding opportunities.

Interest Groups

Special interest groups provide hours of needed work that might not be done otherwise. Information for Fiscal Year 2007 indicates that approximately 30,500 hours of work were accomplished by individual or group-sponsored volunteers (Forest Service 2007c). Accomplishing work with groups and individuals helps to build relationships with people and provide an avenue for information exchange and increased understanding of aspects of forest management. An overview of activities and interest groups is provided below.

Recreation-related interests

- Many groups have assisted in trail management in some way. The Back Country Horsemen, Yavapai Trails Association, and Arizona Wilderness coalition have cooperated with the PNF to construct and maintain trails and trailheads in the Granite Mountain and Juniper Mesa Wilderness.
- The Arizona Off-Highway Vehicle Coalition participates in maintenance and construction of motorized trails including trail construction at Alto Pit and in the Williamson Valley area.
- A group of retired individuals called the Over the Hill Gang maintain and construct trails as volunteers.
- Arizona Volunteers Outdoors recently did trail maintenance and construction near Lynx Lake at Salida Gulch.
- Volunteers have acted as Campground Hosts at all developed campgrounds on the PNF for years. Others volunteer to clean and check on designated camp sites (dispersed) within the Prescott Basin.

Trash

- Stewards of Public Lands, Upper Agua Fria Watershed Partnership, Paulden Area Community Organization, and others have organized trash pick-up days including the use of heavy equipment and disposal of tons of waste from the PNF.

Fire prevention

- The Prescott Area Wildland Urban Interface Commission promotes wildfire prevention, shares the value of restoring controlled fire to ecosystems with others, and provides information and assistance to homeowners to do fuel reduction within the Wildland Urban Interface.
- Individual volunteers assist in finding campfires that are left burning and with fire prevention education, especially during periods of extreme fire danger.

Heritage

- Volunteers coordinated through the Site Steward Program visit known cultural resource sites to record potential changes or additional needs for protection.
- The PNF has an agreement with Prescott College, Yavapai College, and Sharlot Hall museum to maintain and operate the Walnut Creek Station—an historic ranger station that sponsors educational sessions related to cultural resources.

Trends indicate that the number of volunteers is increasing; total volunteer hours worked increased by 6% from Fiscal Year 2006 to 2007 (Forest Service 2006g and 2007c). It also appears that with the increasing interest in management of the PNF, organized groups have specific activity-oriented interests. For example, people are not only interested in trails, but separate interest groups focus on horseback riding, OHV riding, 4-wheel drive vehicle use, hiking, or mountain biking.

Challenges related to Community Engagement

Information gathered on the nature of the relationships between the PNF and communities reveals a complex mix of both formal and informal networks with interests and issues regarding forest management. In addition to wider public concern for issues such as water availability, open space, wildlife protection, and fire prevention (Appendix A), a growing number of special advocacy groups are seeking to participate directly with the PNF Forest Plan Revision and implementation activities.

Volunteers

Numbers of volunteers and organized interest groups have been increasing as a result of two demographic changes: 1) increase in population in Yavapai County and 2) higher proportion of people within the county over the age of 65 compared to the state of Arizona (Tables 1 and 2, pp. 16 and 18). Volunteer demographics indicate that approximately 80% of current volunteers are age 55 and older (Forest Service 2006g and 2007c)

People 55 and older may have more time to participate in PNF natural resource management. Work by Komar and Shultz (Confab, 2007) suggests that there are more individuals in communities that would like to be involved as volunteers to assist in Forest management activities than have been signed up as volunteers. Examples of areas where people would like to help include increased participation in trail planning, maintenance, and construction; addressing litter and illegal trash dumping; and developing and providing environmental education, especially for children. While the Forest has a relatively large number of volunteers assisting with land

management, it lacks the capacity to coordinate a volunteer program of the size that communities could potentially provide.

Wildland Urban Interface

The Prescott Area Wildland Urban Interface Commission (PAWUIC), begun in 1990, has been successful in raising awareness of the need for fuel reduction in the Wildland Urban Interface (WUI) as well as promoting the need for controlled burns as a fuel reduction method and restoration tool. The PNF participates with PAWUIC members in fuel reduction coordination and joint training, as well as wildfire response coordination and ensuring use of standardized fire-fighting equipment.

Currently, controlled burns are the most cost-effective and ecologically compatible method of decreasing fuels and thus decreasing wildfire risk in areas surrounding communities. Given housing increases of 49% between 1990 and 2000 in Yavapai County, many of these structures lie within the WUI. In addition, with the movement of people from other places to Yavapai County (32% of the 56% increase in population from 1990 to 2000), some newcomers have little understanding of the risks of living in the WUI. It appears that smoke aversion and the risk of escaped prescribed fires are more problematic to them than the risk of wild fire. With its emphasis on working with homeowners associations, PAWUIC assists in making people aware of risks. However, issues related to smoke management and prescribed burning will persist.

Communication of Appropriate Forest Uses

Changing population demographics increase the need to provide information and other opportunities to help newcomers and visitors understand national forests and the resources associated with them. With the movement of people to Yavapai County and the increased recreational activities from Phoenix visitors, many do not understand the need to protect resources and are not knowledgeable of the rules that limit or mitigate effects of PNF's uses. Providing effective communication will continue to be a challenge.

How Does Community Engagement affect the Sustainability of PNF Contributions to the Social Condition?

- o The PNF recognizes the importance and value of Tribal relationships. As the state's population grows, so will issues of importance to area Tribes. For example, access to important areas is being impacted and may need to be addressed. There will be a corresponding increase in the need for communication and cooperation between the PNF and Tribes.
- o Communities within and surrounding the PNF will continue to interact with and influence management of the PNF. This relationship may intensify as the population grows and more demands are placed on the PNF's resources. Issues related to smoke management and prescribed burning will persist.
- o Although the PNF will continue to provide the resource base for activities and uses, the agency's ability to meet needs of users is limited. Numbers of volunteers are increasing and the PNF's capacity to coordinate volunteer programs may be exceeded. The PNF could enhance its process of working with partners and volunteers to increase its capacity to provide some services.
- o Changing population demographics increase the need to develop improved relationships between the PNF and communities in order to provide information and opportunities for newcomer and visitor understanding of national forests and their resources.