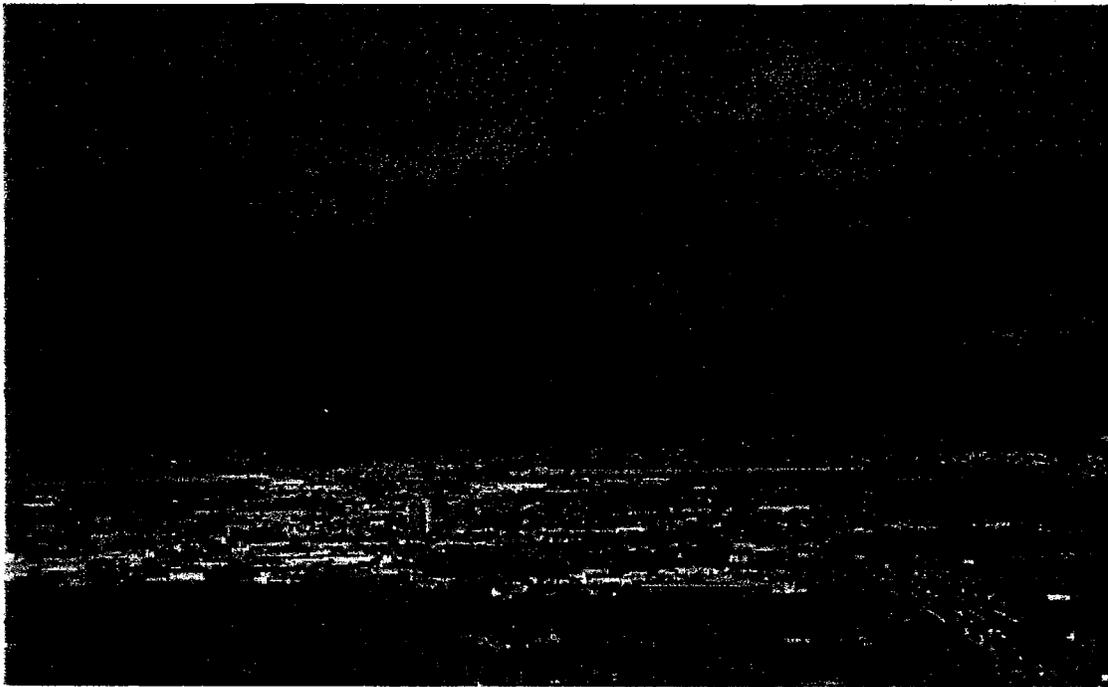


**The Potential Economic Impacts
of Wilderness in
Doña Ana County, New Mexico**



February 24, 2006

ABOUT THE SONORAN INSTITUTE

The Sonoran Institute promotes community decisions that respect the land and people of the West. Working with communities since 1990, we believe people make the best decisions about their future when they look at the big picture, work collaboratively and create practical, local solutions.

The Institute encourages public participation, civil dialogue and practical solutions that benefit each community as a whole. We believe informed and engaged citizens boost the resilience of a community's economic and natural systems.

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Promoting community decisions that respect the land and people of the West.

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EXECUTIVE SUMMARY

A growing number of people and businesses are drawn to Doña Ana County, New Mexico because of the stunning natural environment, ample recreation opportunities, and high quality of life afforded by public lands. And more and more of them are able to stay and succeed in business because the area also offers educational opportunities, access to larger markets, and a resilient and expanding economy.

The people, economy, and land-use patterns of Doña Ana County are changing. Families, retirees, and business owners from across the U.S. and neighboring Mexico are joining long-time county residents, resulting in a rapidly expanding population. The economy is evolving from a heavy reliance on government and agriculture, and becoming more diversified. A range of services and professional jobs account for most new employment, and the largest source of personal income now comes from non-labor sources such as retirement and investments.

As the population and economy of Doña Ana County change, the role of public lands – their value and uses – in the county’s economy is also in transition. Public lands account for nearly 69 percent of the land base in the county. In addition to traditional activities like grazing, residents benefit from the open space and environmental services provided by these lands. In fact, the public lands in Doña Ana County constitute a significant competitive advantage in today’s market where a growing number of people are making business location decisions based on quality of life considerations.

And yet, as Doña Ana County’s population grows and develops more of its land base, remaining open lands in the county are becoming more precious. Recognizing this, county residents have worked together to produce an open space and trails system plan for Doña Ana County.¹ The plan addresses core natural areas such as the Organ Mountains, which frame Las Cruces; traditional agricultural lands along the Rio Grande; and a set of trails, corridors, and waterways that connect these areas.

One way to protect Doña Ana County’s competitive economic advantage is to preserve some of the area’s most important natural landscapes. And one of the most protective land classifications is federally designated Wilderness. This report uses five types of analysis to evaluate how Wilderness designation might benefit Doña Ana County. Based on this investigation, we conclude that protecting a portion of the county’s public lands as Wilderness (and a related National Conservation Area) is likely to have positive effects on future prosperity – and that the more public lands afforded these protections the better for the area economy.

The report also concludes that protecting important public lands should be one piece of a larger strategy to enhance economic prosperity, including higher paying jobs, in Doña Ana County. This larger strategy includes advanced education and workforce training opportunities, better access to capital, stimulating entrepreneurship, support for industry clusters, affordable housing for working families, and, perhaps most importantly, cooperation among community leaders to carry out these initiatives.

Wilderness designation – along with protection of other types of open space such as agricultural land, parks, and riparian areas – is an important step toward maintaining the area’s quality of life and will likely enhance Doña Ana County’s competitive advantage now and in the future.

INTRODUCTION

The West is a great place to live and do business. The region is among the fastest growing in the country, the economy as a whole is vital and expanding, and many towns and cities are surrounded by distinctive and compelling landscapes.

The West is also changing rapidly. The population, types of economic activities, and competitive advantage of the West have shifted significantly in response to new preferences, global pressures, and emerging market opportunities.

The ingredients of yesterday's successes are not necessarily well suited to the challenges and opportunities of today. Many traditional industries such as commodity-based businesses and manufacturing are struggling, while a variety of service industries, ranging from engineering to health services, are flourishing. Competing on the basis of cost alone is no longer a successful strategy for many businesses and communities. Increasingly, an emphasis on skills, entrepreneurialism, and quality of life provide a solid foundation for economic prosperity.

An examination of small cities in the West like Las Cruces suggests that proximity to a larger metropolitan area, educational institutions and an educated workforce, effective transportation infrastructure such as interstates and commercial airports, and public lands, especially protected public lands, are all ingredients associated with economic opportunity and prosperity.

As Doña Ana County residents consider a bill to preserve permanently eight Wilderness Study Areas, and a citizen proposal to include Broad Canyon, East Portillo Mountains, and the Organ Mountain foothills, there is considerable interest in the likely economic impacts of newly designated Wilderness, and how protected public lands will contribute to the area's competitive advantage.

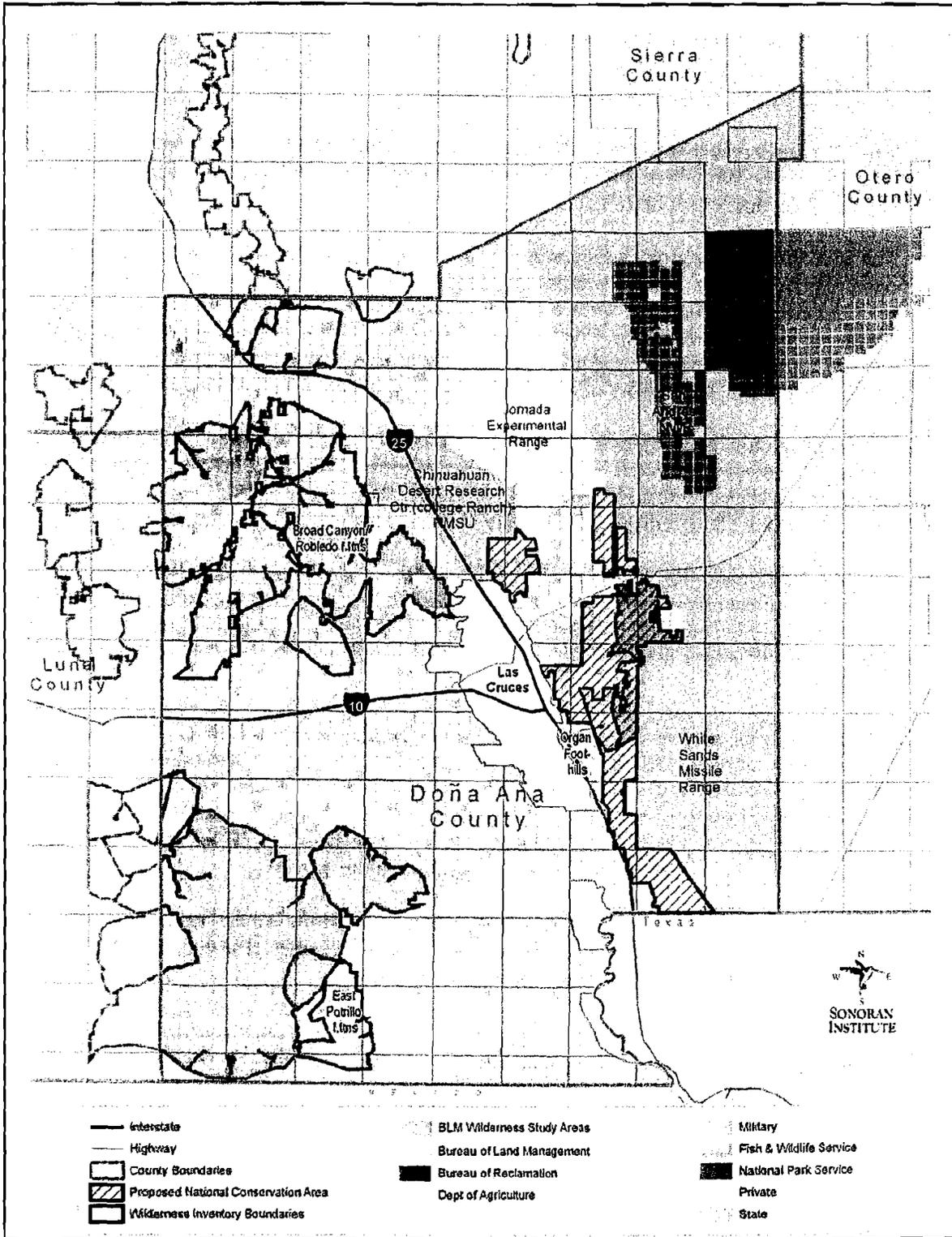
This report employs several different types of analysis to answer this question. We examine findings from studies on the role of public lands in local economies across the West, inspect the Doña Ana County economy in depth to determine strengths and weaknesses, and use comparative and longitudinal analysis. With each of these analyses we provide information that will be useful to the public, elected officials and business owners as they evaluate proposals to establish Wilderness and other types of public lands protection in the county.

The Sonoran Institute hopes that this report helps stimulate informed discussion on the future of Doña Ana County's economy, the relative importance of environmental amenities, and the need to work together to achieve common goals.

West-wide findings indicate:

1. Protected public lands help make economies vibrant, and the more protected the better;
2. Protected public lands constitute a competitive advantage when combined with solid infrastructure, innovative talent, and engaged local leadership; and
3. Prosperity and growth cannot rely only on protected public lands.

Map: Proposed Wilderness in Doña Ana County, New Mexico



METHODS AND DATA SOURCES

METHODS

We use five approaches to understand the potential impacts of Wilderness designation:

COMPARISON TO THE REST OF THE WEST	We examine the findings from a West-wide study – <i>Prosperity in the 21st Century West</i> – on the role of protected public lands in local economies to determine if larger trends showing the benefits of protected areas are likely to apply to Doña Ana County.
DESCRIPTIVE ANALYSIS	We inspect the Doña Ana County economy over a 30-year time period to see what role Wilderness might play in future economic development.
BEFORE AND AFTER WILDERNESS STUDY AREAS	We analyze the economy of Dona Ana County before and after Wilderness Study Areas were established to evaluate the effect of Wilderness-like management of public lands on the area’s economy.
PEER COUNTY ANALYSIS	We compare the economic performance of peer counties in the West with and without Wilderness to see if counties similar to Doña Ana have benefited from Wilderness.
BEFORE AND AFTER WILDERNESS	We examine the economies of peer counties before and after Wilderness designation to evaluate the effect of Wilderness on area economies.

More detail on methods is available at the beginning of each section of the report.

DATA SOURCES

The analysis in this report is based on published data from the following sources:

- U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information Service (BEA REIS);
- U.S. Department of Commerce, Bureau of the Census: 1990 and 2000 Census of Population and Housing (Census);
- U.S. Department of Commerce, Bureau of the Census: County Business Patterns (CBP); and
- U.S. Department of Labor, Bureau of Labor Statistics (BLS).

All income figures are adjusted for inflation so as to be comparable longitudinally.

For the peer county analysis we linked social and economic variables from the above sources with spatial layers organized in a geographic information system.

Prosperity in the 21st Century West: The Role of Protected Public Lands is a shortened, “user-friendly” version of a larger report, entitled *Public Lands Conservation and Economic Well-Being*. This 160-page study features detailed statistical methods and results, four case studies, and a thorough literature review. Both reports are available on our website: www.sonoran.org.²

ANALYSIS AND FINDINGS

COMPARISON TO THE REST OF THE WEST

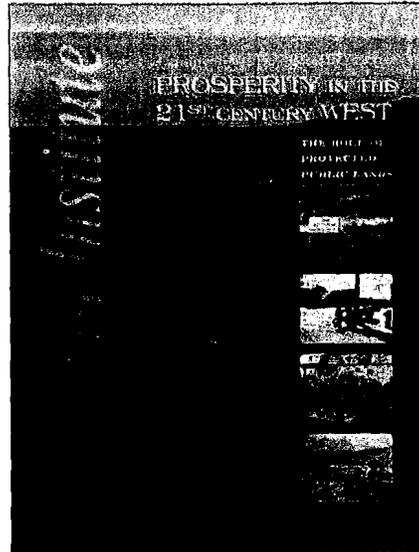
This section draws upon previous Sonoran Institute research into the relationship between protected public lands and local economic prosperity across the West, and assesses the applicability of this research's findings to Doña Ana County.

The analysis indicates that the current and future economy of Doña Ana County is well-positioned to benefit from Wilderness designation since many of the other factors identified across the West as necessary for growth in personal income and improvements in per capita income are already in place.

Prosperity in the 21st Century West

In 2004, the Sonoran Institute released two publications, *Public Lands Conservation and Economic Well-Being* and *Prosperity in the 21st Century West: The Role of Protected Public Lands* (hereinafter, the *Prosperity* reports; available for download at www.sonoran.org).

The *Prosperity* reports use various statistical analyses – regression analysis, correlations, and comparisons of averages – to examine the relationship between various types of protected public lands and economic growth in all 417 counties in the 11 Western states (excluding Alaska and Hawaii). These reports also evaluate county economies in terms of their degree of isolation from metropolitan areas, the amount and type of public lands they contain, and their relative economic performance in terms of growth in personal income. The reports also examine the importance of protected public lands relative to other variables that need to be in place for economic growth, as well as factors that must be in place to attract higher-wage jobs.



The *Prosperity* reports conclude that Wilderness, National Parks, National Monuments, National Conservation Areas and other protected public lands, set aside for their wild land characteristics, can and do play an important role in stimulating economic growth – and the more public land in protected status the better for the economy. However, environmental amenities by themselves are not enough. While protected public lands can serve as an asset that stimulates growth, other factors also need to be in place, including:

- An educated workforce
- Access to metropolitan areas via highways
- Access to commercial airports
- Employment in relatively high wage service industries
- Economic diversity
- In-migration of newcomers

These findings indicate that protected public lands are part of a successful mix of ingredients that combine to make county economies vibrant. They also indicate that by themselves protected

public lands are not enough to ensure economic growth and prosperity. As the next section of this report shows, Doña Ana County has most of these factors in place.

Relevance for Doña Ana County

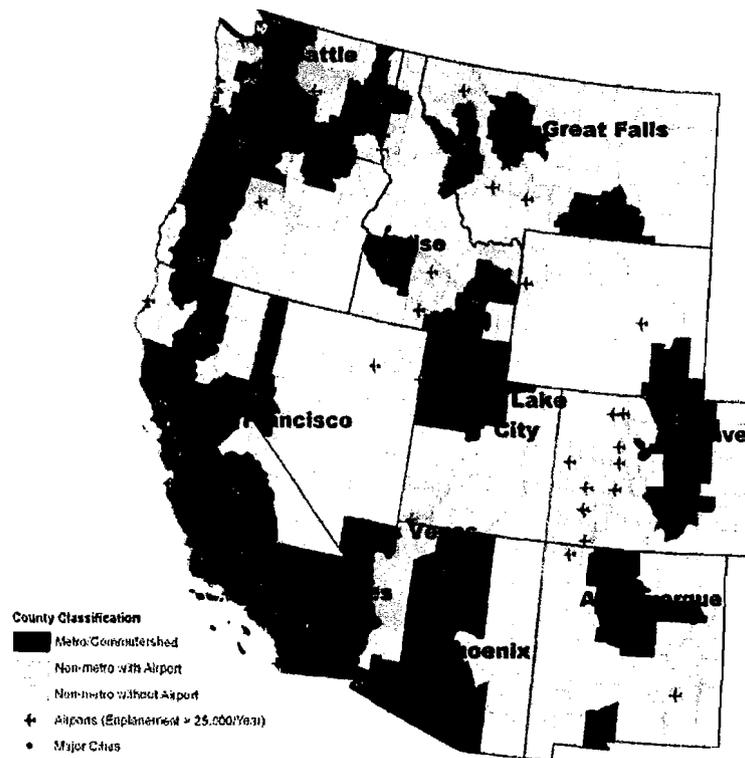
The *Prosperity* reports classified the West into three types of counties, based on population, distance from metropolitan areas, and transportation networks:

Metropolitan or within a metropolitan commuter shed: Counties with an urban population greater than 50,000 (a size commonly used by the Bureau of the Census for defining a metropolitan area) or within an hour's drive of such an area (also referred to as "metro/commutershed");

Rural with an airport or within an airport commuter shed: Counties with a population of less than 50,000, but having an airport with daily commercial flights and enplanements (passengers boarding) greater than 25,000 passengers per year,³ or within an hour's drive of such an airport (referred to as "non-metro with airport"); and

Rural without an airport and not within an airport commuter shed: Counties with a population of less than 50,000, but more than an hour's drive from metropolitan areas and without easy access to regularly scheduled commercial air service (referred to as "non-metro without airport").

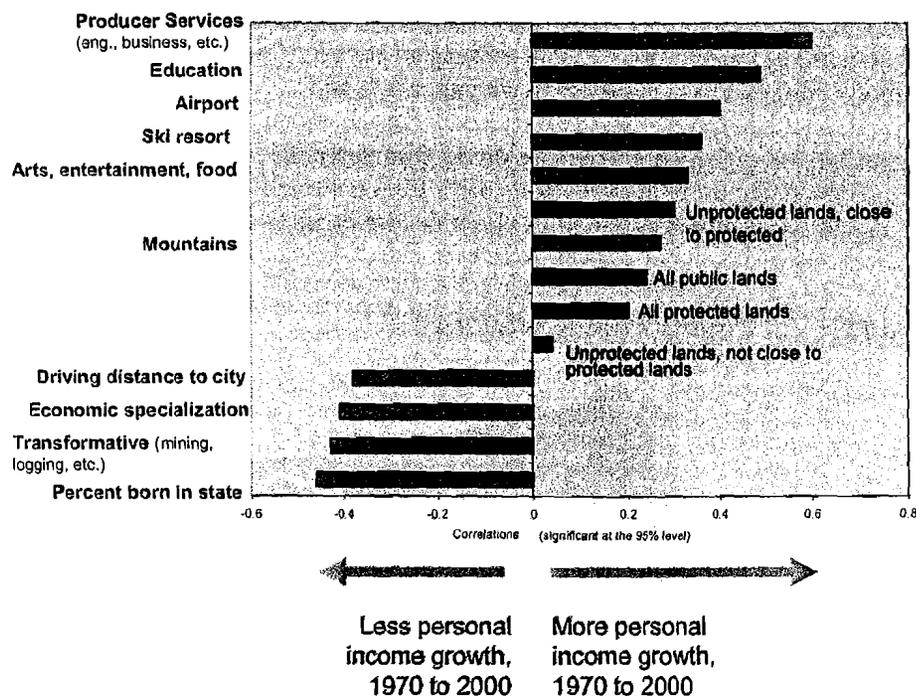
Map: Three Types of Counties in the Western U.S.⁴



Although much of Doña Ana County appears rural, under our classification system it is a metro/commutershed county, as the map on the previous page indicates. This classification is based on the county's population of 182,551 (2003 BEA REIS), Las Cruces's population of 74,267, and its location less than an hour's drive from El Paso, a city of 563,662 (2000 US Census) with an international airport. It is also well-connected to larger markets via I-25 and I-10, which intersect in Las Cruces.

As the figure below illustrates, public lands and other factors tend to influence personal income growth in the western U.S. This figure represents an aggregate of all three types of counties described above: metropolitan, non-metro with easily accessible air service, and non-metro without accessible air service.

Correlations Between Real Growth in Total Personal Income, 1970 to 2000, and Factors Influencing Economic Growth (Different Public Lands Management Shown in Red).



The above figure shows that public lands of all types correlate positively with growth in personal income. Protected public lands such as Wilderness are a factor that counties with above average income growth tend to have in common. An even stronger correlation is noted for unprotected public lands close to protected lands, because these are likely to be areas that allow for more types of commercial development such as ski resorts and other forms of large-scale tourism.

When metropolitan, non-metro connected and non-metro unconnected counties are analyzed separately, a slightly different picture emerges. Rural counties with airports are in a position to trade on their competitive advantage more successfully than those without. The latter often lack other building blocks of economic prosperity such as a well-educated workforce and access to markets.

The picture is also less clear for metropolitan counties because there is so much activity in the economy that it is difficult to separate out the effects of protected public lands. This does not mean that protected areas lack positive benefits; it simply means that their effects are more difficult to quantify. No evidence was found that having more protected public lands hurt economies in any of the 417 western counties included in the analysis.

The figure on the previous page also indicates a number of factors that counties with more rapid personal income growth tend to have in common – that is, a cluster of variables correlated with personal income growth.

Doña Ana County has most of these factors already in place. These include an airport with commercial service within an hour's drive (in El Paso); high numbers of jobs in the arts, entertainment, and food sectors; mountains; and a higher-than-average percentage of the population with a college degree (22.3% of adults over age 25, versus the national average of 14.5%). The county also has a mix of high-wage producer services jobs (i.e., high skill jobs associated with the production of a good such as engineering) and lower-wage consumer services jobs (e.g., hotel and restaurant employment). And, Doña Ana County has broad expanses of public lands under different types of protection and usage.

Factors that correlate with slower than average growth in personal income are also illustrated in the same figure. Doña Ana County lacks many of these negative factors: in addition to Las Cruces being a vibrant and diverse city of about 75,000 residents, it is less than an hour's drive from El Paso's metro area with over half a million residents. The economy is diverse (see Descriptive Analysis section) and depends little on transformative industries such as mining. In addition, a relatively low proportion, only 39 percent, of its residents were born in the state, meaning that it is an attractive location for newcomers.

COMPARISON TO THE REST OF THE WEST – FINDINGS

The analysis indicates that the current and future economy of Doña Ana County is well-positioned to benefit from Wilderness designation since many of the other factors necessary for growth – and for capitalizing on Wilderness as an economic asset – are already in place.

Organ Mountains at Sunset

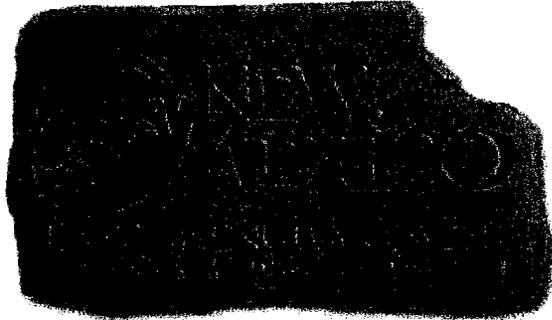


TOURISM

The Land of Enchantment is a recognized destination for domestic and international visitors attracted to the state's historic, cultural, and natural wonders. As a result, tourism is an important industry, creating jobs, income, and tax revenue, for the state of New Mexico and Doña Ana County.

According to the Travel Industry Association, travel-related activities in New Mexico generated 55,000 jobs and \$858 million in wages in 2002. And the New Mexico Department of Finance and Administration reports that the city of Las Cruces generated over \$1.2 million in tax revenue from the New Mexico Lodgers Tax in 2004.⁵

Among the fastest growing sectors of the tourism trade are natural- and heritage-based leisure travel. Most studies on visitor motivations point to natural areas and historic sites as the top reasons why people visit an area.⁶



There is no standard industrial classification category for 'tourism' *per se* because it involves so many types of activities, but accommodation and food services, and arts, entertainment and recreation are a good proxy. In Doña Ana County, these sectors combined for more than 7,000 jobs and over \$100 million in personal income in 2003 (BEA REIS). And they are growing economic sectors.

"Tourism involves much more than marketing," writes Ed McMahon of the Urban Land Institute and an expert of sustainable tourism. "It also involves making destinations more appealing. This means conserving and enhancing a destination's natural tourism assets. In other words, protecting the environment."⁷

Tourism-related jobs have traditionally been associated with relatively low wages. This is the case today in Doña Ana County where leisure and hospitality jobs pay substantially below average wages in the area (BLS). However, for individuals and communities looking for jobs, tourism may be a good place to start given the natural endowments of the region.

In addition, tourism is significant not only for the short-term benefits of leisure-related travel. As the Literature Review section of Appendix C makes clear, many individuals and business owners who eventually relocate to an area come first as tourists. Further, these new residents identify natural amenities as among the top reasons they choose a new community. This trend has led a growing number of analysts to suggest that economic development is not merely a function of "jobs first, then migration," but "migration first, then jobs." See Appendix C for more information on this general topic.

DESCRIPTIVE ANALYSIS – DOÑA ANA COUNTY

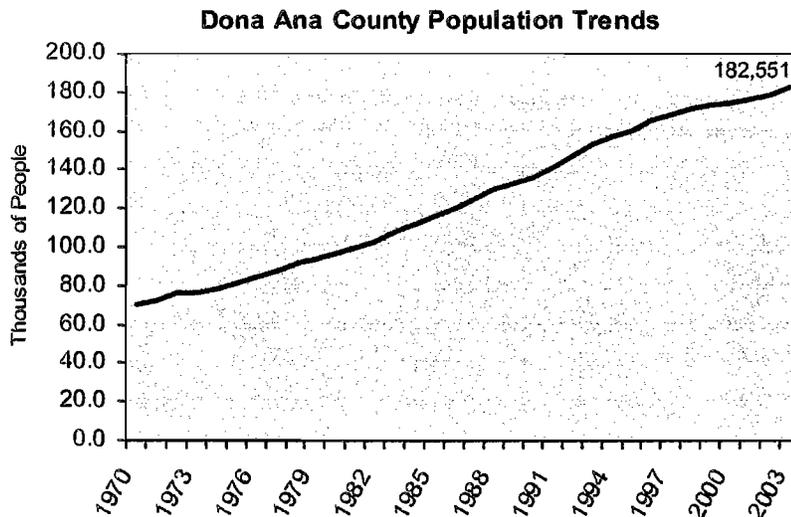
This section takes a detailed look at Doña Ana County's social, demographic, and economic trends, identifies its strengths and weaknesses relative to the state and nation, and pays special attention to what role Wilderness and other open space protections might play in the county's future economic development.

Data is shown for:

- Population growth
- Ethnicity
- Age distribution
- Migration
- Education
- Employment
- Unemployment
- Personal income
- Earnings per job
- Per capita income
- Wages
- Economic diversity

Population Growth

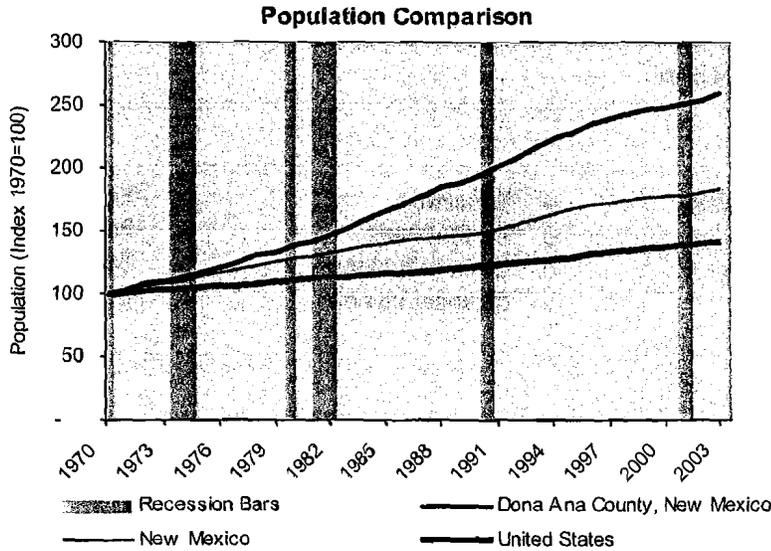
Like many metropolitan counties in the western U.S., the population of Doña Ana County has been growing rapidly, with 160 percent more residents in 2003 than in 1970, as the figure below illustrates. The county's population has grown fairly steadily over the past three decades at an average rate of 2.9 percent per year, to its 2003 total of 182,551. County population is projected to increase to approximately 345,458 by the year 2030, according to the Bureau of Business and Economics Research at the University of New Mexico.⁸



Source: BEA REIS

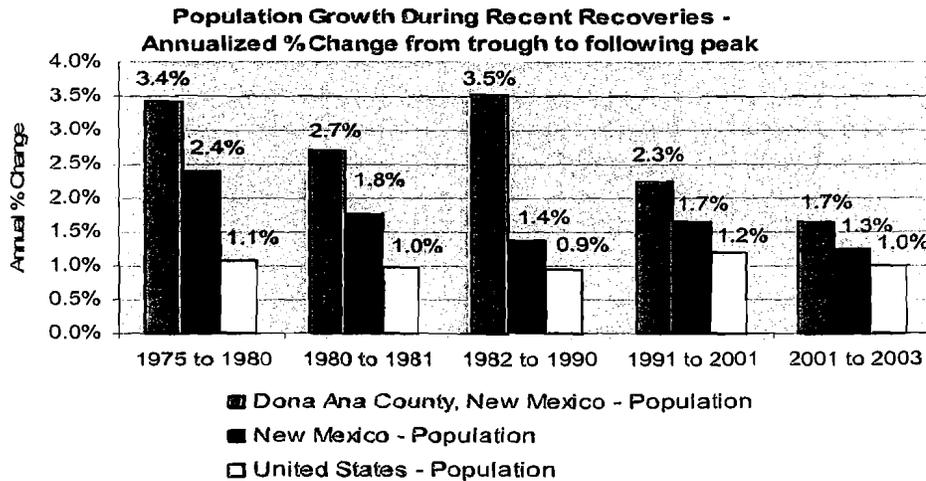
As Las Cruces and other communities grow, open space is becoming more scarce: population density increased by 29 percent, from 32 to 42 people per square mile, between 1990 and 2000.

Doña Ana County has grown more rapidly than the state of New Mexico and the U.S. since the 1970s, as shown below.



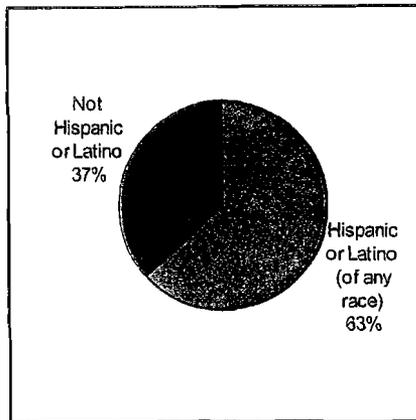
Source: BEA REIS

The figure below shows that the county population has consistently grown at a faster rate than the state and the nation after major recessionary periods.



Source: BEA REIS

Ethnicity

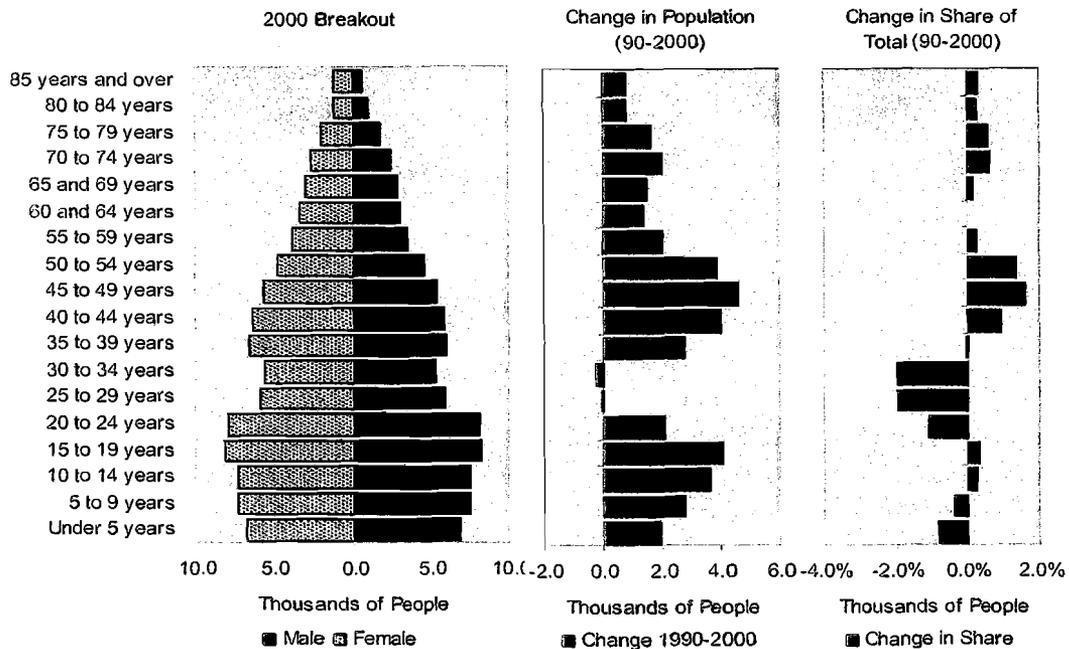


The population of Doña Ana County is largely Hispanic and bilingual. As this figure shows, 63 percent identified themselves as Hispanic in the 2000 Census, while 37 percent said that they were non-Hispanic. Fifty-four percent of the county's population speaks another language (most often Spanish) in addition to English.

Source: BEA REIS

Age Distribution

As the population of Doña Ana County grows, it is also aging, although not as much or as rapidly as the state and nation. The county's median age went from 27.9 to 30.2 years from 1990 to 2000. Changes in population numbers among different age groups are illustrated below.



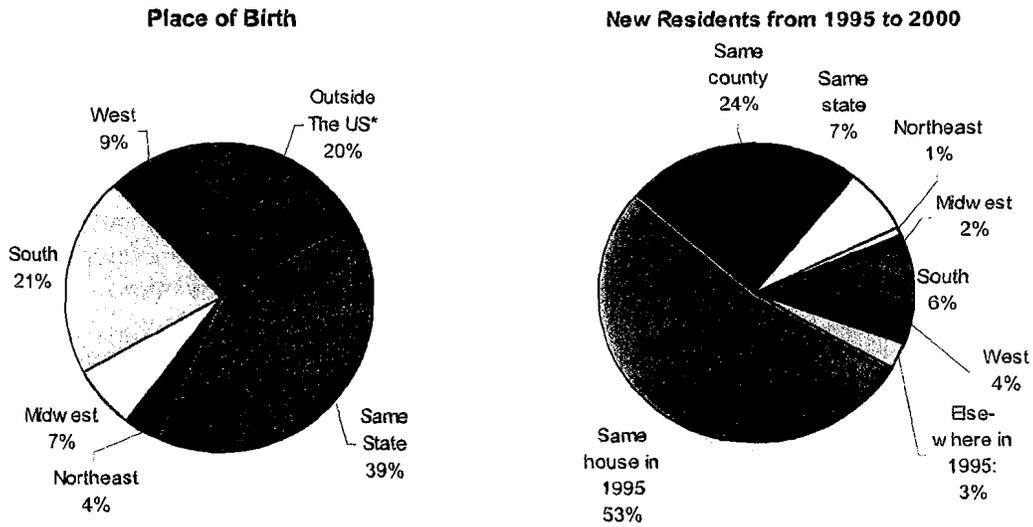
Source: Census

Despite the aging trend underway, Doña Ana County has a large college-age population. The county also has a large youth population that is growing.

Another trend is the increase in Baby Boomers, those aged 40-59 in 2000 (i.e., born between 1946 and 1964). This group showed the fastest increase both in numbers and share of total, growing by 63 percent, or 12,456 residents, from 1990 to 2000.

Migration

Less than half of the county's residents in 2000 were born in New Mexico. The county has experienced an influx of residents from the southern U.S. and outside the U.S. (primarily Mexico), followed by other states in the West, Midwest, and Northeast.



Source: Census

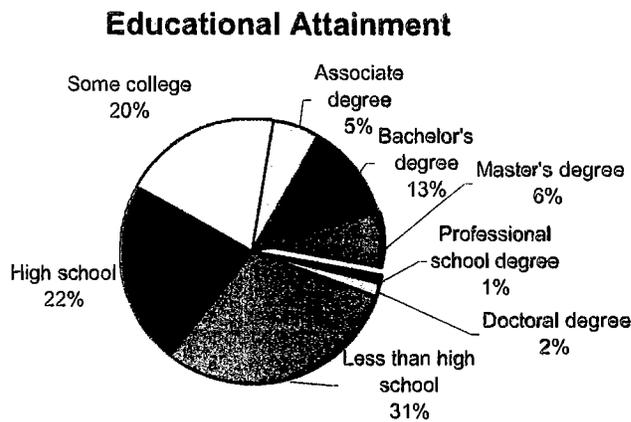
Nearly one-quarter of the population of Doña Ana County moved to the area between 1995 and 2000. Even among residents who were in the county before 1995, only slightly over half lived in the same house in 2000 as they did in 1995.

Education

The table and figure below show the educational attainment of Doña Ana County's adult population. According to the 2000 Census, 22.3 percent of the county's adults over age 25 had a Bachelor's degree or higher (compared to 14.5 percent of the nation as a whole). The county has relatively high numbers of residents with graduate degrees as well, no doubt owing in part to the presence of New Mexico State University's approximately 15,000 students and 6,000 employees. However, nearly one-third of the adult population did not have a high school diploma, and 22 percent had not advanced beyond high school. As a result, there is a pronounced gap between education levels of the county's adult population.

Educational Attainment	Number	%
Less than high school	29,922	30%
High school	22,404	22%
Some college	19,905	20%
Associate degree	5,393	5%
Bachelor's degree	13,040	13%
Master's degree	6,423	6%
Professional school degree	1,266	1%
Doctoral degree	1,540	2%
Total	99,893	

Universe: Population 25 years and over

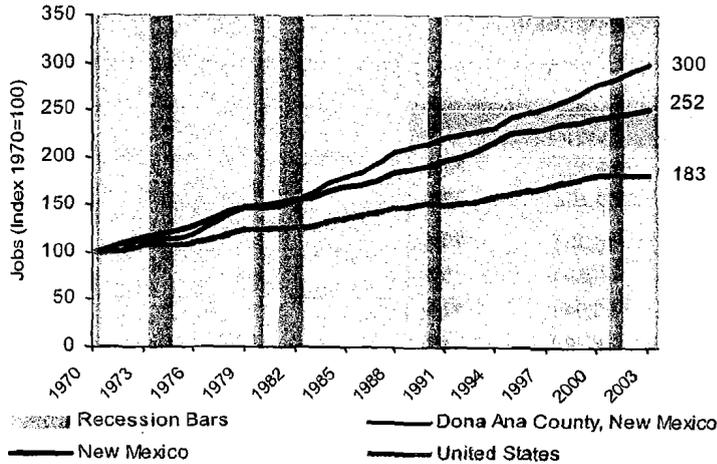


Source: Census

Employment

As the figure below illustrates, job growth in Doña Ana County has been faster than the state and the nation over the past 20 years, in keeping with the county's rapid population growth. National recessions (represented by darker vertical bars) appear to have little effect on the rate of job growth, indicating a resilient economy.

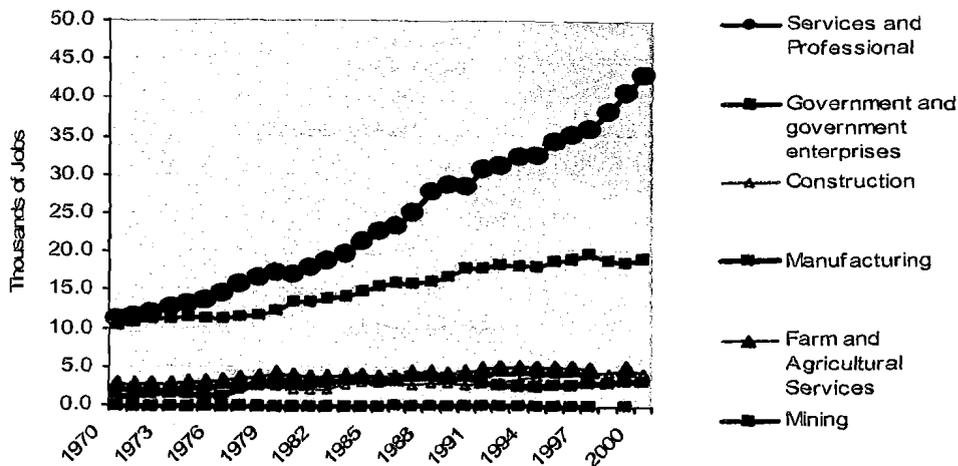
Employment Growth in Doña Ana County Compared to the State and Nation, 1970 to 2003.



Source: BEA REIS

The figure below summarizes how employment by major industry sector in Doña Ana County has changed over the past 30 years. The employment base has shifted from heavy reliance on government and agriculture to a more diversified economy that includes a wide range of services and professional sector jobs:

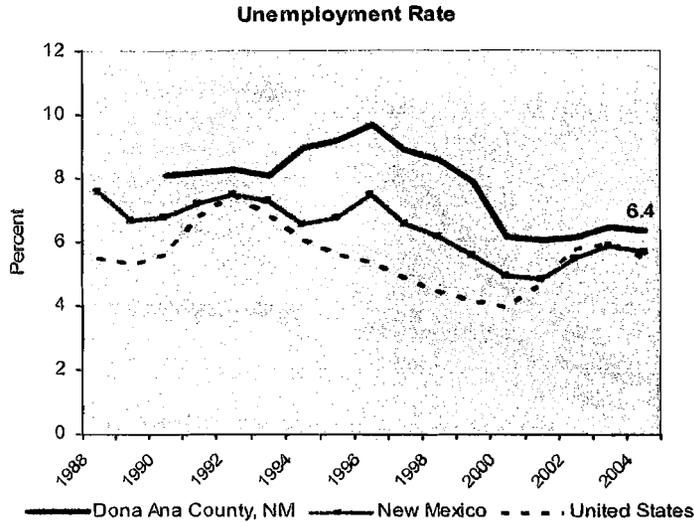
Employment by Sector in Doña Ana County, 1970-2000.



Source: BEA REIS

Unemployment

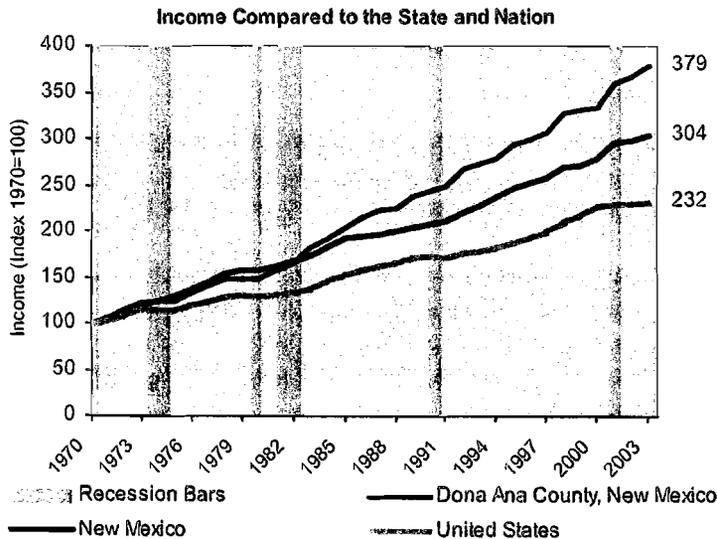
In 2004, the unemployment rate in Doña Ana County was 6.4 percent, compared to 5.7 percent in the state and 5.5 percent in the nation. This is an improvement over the county's rate for much of the 1990s, when it reached a high of 9.7 percent.



Source: BLS

Personal Income

Doña Ana County Personal Income Compared to the State and Nation.

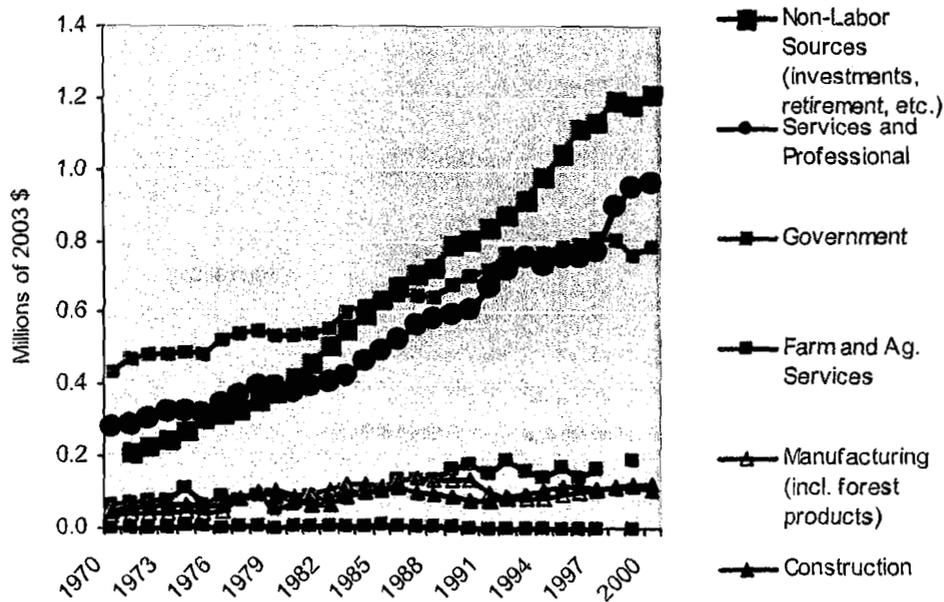


Source: BEA REIS

Personal income (which includes both employment earnings and non-labor income) in Doña Ana County has grown faster than that of the state and nation for the past 20 years. Growth does not appear to be overly affected by national recessions.

While services and professional industries make up the largest employment sector in Doña Ana County, non-labor sources (that is, income derived from investments, retirement, government transfer payments, etc.) are the most significant and fastest-growing source of income, accounting for 34.8 percent of all personal income earned in the county, as well as 44 percent of the growth in personal income from 1970-2000. While this may seem high, it is lower than the median U.S. county, which derives 37.4 percent of its personal income from non-labor sources.

Personal Income Change in Doña Ana County, 1970-2000.

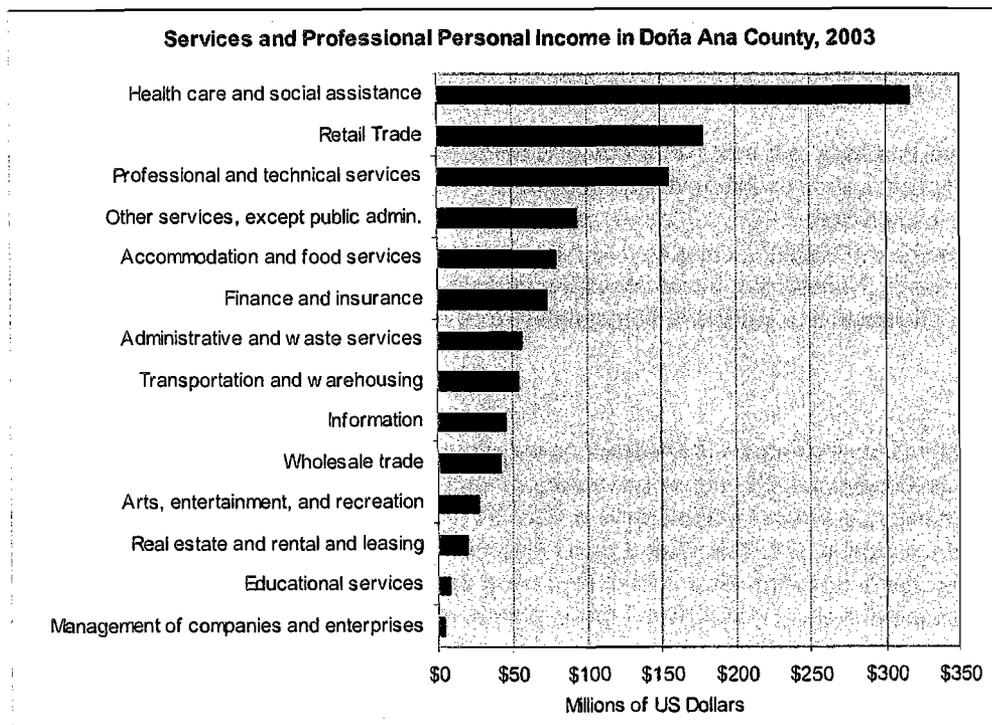


Source: BEA REIS

The services and professional sector is the second largest and second fastest-growing source of income in the county, accounting for 29.8 percent of total income in the county and 29 percent of the growth from 1970-2000. This figure grew particularly quickly in the late 1990s.

Government is the third largest source of income. Despite the fact that there are far fewer government jobs than services and professional ones, public employment generates only slightly less personal income. This indicates that, on average, government jobs are better paying than services jobs. The jump in services and professional income in the late 1990s appears to be due to more and better-paid jobs in health care.

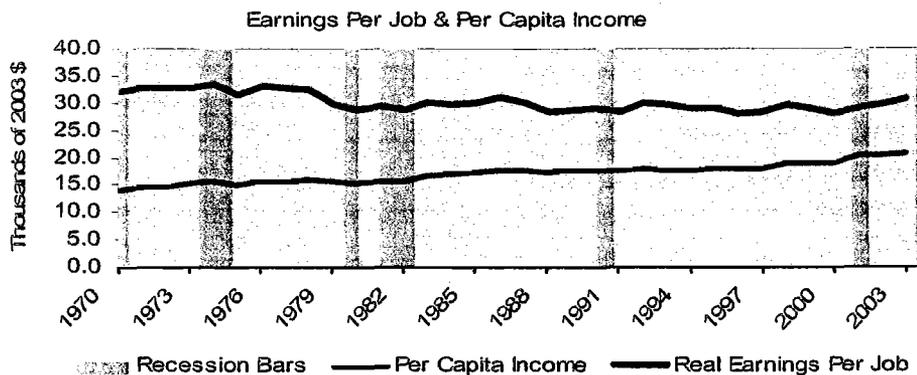
The figure below is a helpful way to look at the types of industries classified under services and professional sectors and their relative scale. Note that some of these sectors are high paying like professional and technical services while others are low paying like accommodation and food services (for more on wages see the wages section below).



Source: BEA REIS

Average Earnings Per Job and Per Capita Income

The figure below compares the average earnings per job in Doña Ana County with per capita income. Average earnings per job (adjusted for inflation) have fallen from \$32,290 in 1970 to \$30,839 in 2003, which is lower than the state median of \$34,894 and the national median of \$42,532.



Source: BEA REIS

The figure on the previous page shows that per capita income (total personal income in the county divided by total population; also adjusted for inflation) has risen from \$14,222 in 1970 to \$20,756 in 2003. However, it was still lower than the state average of \$24,995 and the national average of \$31,472.

In Doña Ana County, per capita income has risen while average earnings per job have declined over time because total personal income includes non-labor income sources like transfer payments, dividends, and rent. In other words, non-labor sources of income have caused per capita income to rise, even though people are earning less per job.

It is worth noting that the cost of living in Doña Ana County remains lower than some areas of New Mexico, such as Albuquerque and Santa Fe, and is also lower than many comparable areas of the United States. In Las Cruces, the income required to qualify for the median home is approximately \$25,000, compared to Albuquerque and Santa Fe where it is \$36,000 and \$51,000, respectively.⁹ Therefore, lower per capita income and average wages per job in Doña Ana County may still equate to a similar or better standard of living than other areas with higher incomes.

Wages

The table below provides more detail on employment and wages in Doña Ana County. It shows that the average annual pay for private-sector employment (excluding federal, state, and local government, as well as the military) is \$22,102. Average pay for Goods-Producing positions is slightly lower, at \$20,453. Within the Goods-Producing category, jobs in natural resources and mining (including agriculture) have the lowest annual average of \$13,309, while those in construction average \$23,436 and those in manufacturing pay a higher-than-average \$26,738.

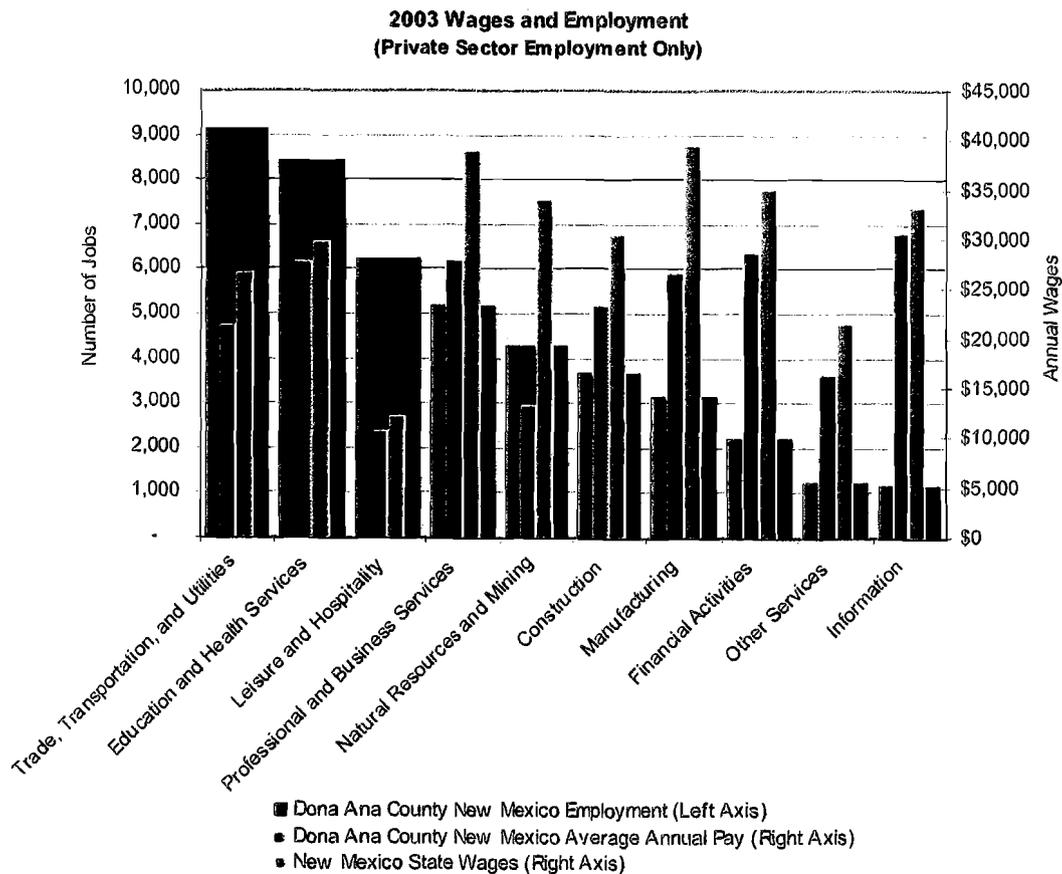
Wages and Employment in 2003 (Private Sector Only)			
	Employment	% of Total	Average Annual Pay
Total, all industries	44,570	100%	\$ 22,102
Goods-Producing	11,059	25%	\$ 20,453
Natural Resources and Mining (Incl. Ag.)	4,275	10%	\$ 13,309
Construction	3,661	8%	\$ 23,436
Manufacturing	3,123	7%	\$ 26,738
Service-Providing	33,511	75%	\$ 22,646
Trade, Transportation, and Utilities	9,108	20%	\$ 21,337
Information	1,136	3%	\$ 30,734
Financial Activities	2,201	5%	\$ 28,759
Professional and Business Services	5,181	12%	\$ 28,036
Education and Health Services	8,408	19%	\$ 27,747
Leisure and Hospitality	6,237	14%	\$ 10,800
Other Services	1,216	3%	\$ 16,495

Source: BLS

Service-Providing jobs, on the other hand, average slightly higher annual pay at \$22,646. There is considerable variation within the sector, ranging from a low of \$10,800 for leisure and hospitality jobs, to a high of \$28,036 for those in the information field.

The figure below puts the same information into context by illustrating the number of jobs in each field and their average annual pay, and comparing pay rates to those of New Mexico as a whole. The graph shows that Doña Ana County has a large number of workers in trade, transportation, and utilities who are paid less (approximately \$22,000 per year) than the New Mexico average of about \$28,000. The county also employs many workers in education and health services who earn close to the state average of around \$28,000 per year.

The figure below also shows the high number of low-wage workers in leisure and hospitality jobs, and the relatively low number of workers in higher-paid positions such as information, financial services, and manufacturing. Average wages in Doña Ana County are lower than the New Mexico average in all sectors, but the disparity is especially large in professional and business services, natural resources and mining, and manufacturing.



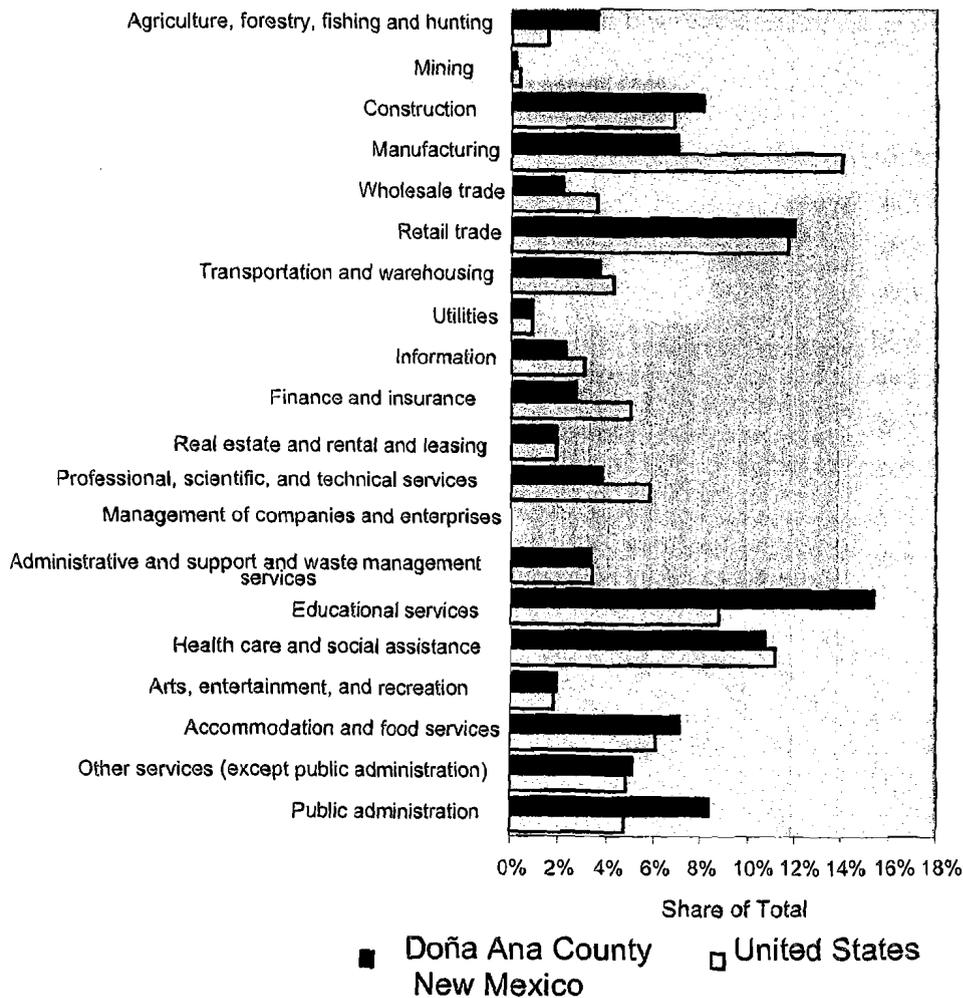
Source: BLS

Economic Diversification

Doña Ana County is more economically diverse than the median U.S. county, which contributes to its resilience against economic downturns. As the figure below illustrates, Doña Ana County has considerably more agriculture, educational services (due in part to the presence of New Mexico State University, the state's second largest institution of higher education), and public administration than the median U.S. county. It also has slightly more construction, retail trade, arts, entertainment and recreation, and accommodation and food services than the median.

However, the county has fewer jobs in some sectors that are likely to be highly paid, such as information, professional, finance and insurance, as well as scientific and technical services. It also has far fewer jobs in manufacturing than the median U.S. county.

Employment Share of Total



DESCRIPTIVE - FINDINGS

The profile of Doña Ana County indicates that the economy has a number of strengths:

- A growing population
- The ability to recover well from recessions
- An ethnically diverse population
- The ability to attract new migrants
- Growth in the higher earnings age group (years 40 - 59)
- A relatively well educated workforce*
- Growth in jobs and real personal income
- Declining unemployment
- A diverse service economy, with both high- and low-wage services
- On average, higher-wage service-providing than goods-producing industries
- Rising per capita income
- Affordable housing, relative to other metro areas in the state
- A diverse economy

*Doña Ana County educational levels are both a strength *and* a weakness: compared to the state and nation, the county adult population has a higher rate of college education (22%); at the same time, 22 percent of adults have not advanced beyond high school and 30 percent have less than a high school education.

As a whole the county is growing and robust. The region is successfully making a transition to a more service-based set of economic activities, is diverse and resilient, has rising per capita income and access to educated workers, maintains a high-value agricultural sector, and may be poised to develop an aerospace cluster of industries.

However, there are also weaknesses. These include a large segment of the workforce that is not adequately educated, declining earnings per job as a result of lower-wage service jobs outstripping the generation of higher-wage services and other occupations, and growing affordability challenges for working families.

Capturing and creating more higher-paid jobs in the future is likely to depend on whether a larger portion of the workforce can successfully access higher education, and whether better-educated workers and entrepreneurs find Doña Ana County an appealing place to work, live, and raise their families.

With these strengths and weaknesses in mind, there are good reasons to think that protecting natural amenities and making Doña Ana County a more attractive place to live and conduct business will create more high-wage economic opportunities.

The high-wage service sectors jobs, emerging aerospace cluster, and growing retirement age population will all likely benefit from the addition of protected natural amenities that make the region more attractive to people and businesses alike.

BEFORE AND AFTER WILDERNESS STUDY AREAS – DOÑA ANA COUNTY

This section compares the performance of the local economy in the five years before and after designation in 1980 of over 200,000 acres of Wilderness Study Areas (WSAs) in Doña Ana County. Although there were some WSA designations in 1993, we chose the period before and after 1980 because it represents the bulk of the acreage designated as WSAs in Doña Ana County.

The findings show that after designation of WSAs in 1980, the economy of the county grew significantly in terms of real personal income, as well as population and real per capita income, but slowed down slightly in terms of annual change in employment. The overall long-term health of Doña Ana's economy was not measurably impacted by the designation of WSAs.

The Potential Economic Impact of Wilderness Study Areas (WSA)

With the passage of the Federal Lands Policy and Management Act (FLPMA) in 1976, the BLM was mandated by Congress to inventory and accord interim protections to Wilderness quality lands as Wilderness Study Areas. To qualify as a WSA land must be public and managed by a federal land management agency, and be at least 5,000 acres in size. The land must also be in a natural condition with characteristics that have ecological, geological, scenic, scientific or historical value, and there must be opportunities for solitude and primitive recreation. Pursuant to FLPMA, BLM must manage these lands in a way that protects their Wilderness characteristics.

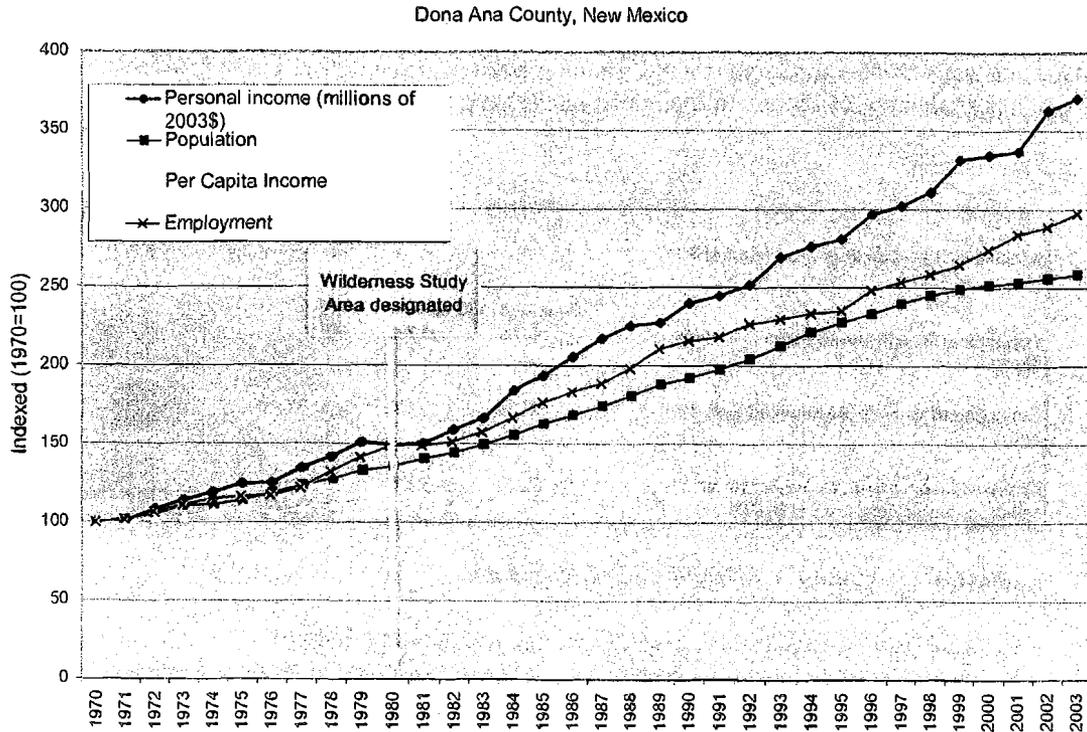
The designation of 206,000 acres of public lands in Doña Ana County as WSAs in 1980, therefore, offers a useful view of the likely impacts of Wilderness designation today.

Wilderness Study Area (WSA)	Acreage in Doña Ana County	Year Designated
Sierra de las Uvas	11,068	1980
Robledo Mountains	13,028	1980
Aden Lava Flow	25,846	1980
Mt. Riley	8,489	1980
West Potrillo Mountains	140,662	1980
Organ Mountains	7,212	1980
Organ Needle	5,958	1993
Peña Blanca	4,781	1993
TOTAL	217,044	
TOTAL in 1980	206,305	

As the figure and table on the next page show, for the five years prior to the establishment of WSAs, changes in real per capita income were, on average, 0.2 percent per year. In the five years after the WSA designations, per capita income increased to a growth rate of 3 percent per year. In similar fashion, real average annual changes in total personal income grew from 4 percent before 1980 to 7 percent per year after designation of WSAs.

The figure and table below also illustrate that after designation of WSAs in Doña Ana County population continued to grow at the same pace. Employment slowed a little during the early 1980s, but then picked up again towards 1983.

The general slow-down of the economy in the early 1980s coincides with two recessionary periods: from January 1980 to July 1980, and July 1981 to November 1982. A remarkable aspect of the county's economy is how brief the slowdown was, and how vigorously the economy has grown since the early 1980s. It is also apparent that although population, employment and personal income increased steadily, the growth of per capita income has lagged behind.



Source: BEA

Average Annual Change, Five Years Before WSA Designation, and Five Years After.

Indicator	Before	After
Employment	5%	4%
Per Capita Income	0.2%	3%
Personal income (millions of 2003\$)	4%	7%
Population	4%	4%

BEFORE AND AFTER WILDERNESS STUDY AREAS – FINDINGS

The data indicate that the establishment of 200,000+ acres of Wilderness Study Areas (lands effectively managed as Wilderness) in 1980 coincided with a period of sustained economic growth and had no visible negative effects on the Doña Ana economy.

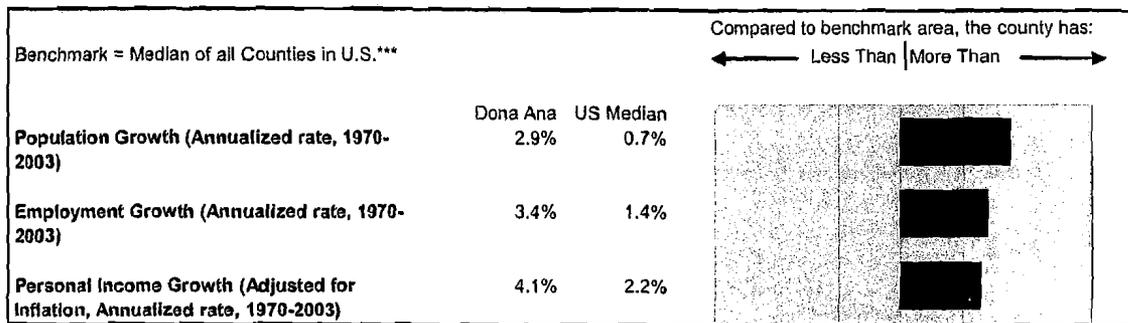
PEER COUNTY ANALYSIS – WITH AND WITHOUT WILDERNESS

The following analysis identifies a set of “peer” counties, i.e., counties similar to Doña Ana County. It then examines how counties that have Wilderness compared to those that do not.

The results show that counties similar to Doña Ana County that have land designated as Wilderness outperform those that do not in terms of population, employment and personal income growth, as well as higher per capita income and average earnings per job.

Methods

1. A detailed county profile was produced of Doña County, New Mexico. This profile shows various ways Doña County stands out from the median U.S. county. These exceptional attributes guide the selection of factors to include in identifying peer counties.



Some of the county’s differentiating features are:

- a. Fast growth in population, employment, and personal income;
 - b. A high proportion of the county’s residents self-identified in the last census as either Hispanic or Latino (63%);
 - c. A high proportion of personal income from non-labor sources (35%);
 - d. A high proportion of personal income from employment in government (15%);
 - e. Presence of a university; and
 - f. Most of the population is within an hour’s drive of a commercial airport that offers daily service to various hubs and metropolitan areas.¹⁰
2. A map was drawn (see the following page) using the eight criteria listed above. Fourteen peer counties in the West were identified (of which three had significant Hispanic or Latino populations). Peer counties are identified in blue.

3. The peer counties identified were:

With Wilderness ¹		Without Wilderness	
County	State	County	State
Coconino	Arizona	Bannock	Idaho
Pima ²	Arizona	Benton	Oregon
Montezuma	Colorado	McKinley	New Mexico
Marion	Oregon	Roosevelt ^{2,3}	New Mexico
Lewis & Clark	Montana	Whitman ³	Washington
Bernalillo ²	New Mexico		
Cache ³	Utah		
Pierce	Washington		
Kittitas	Washington		

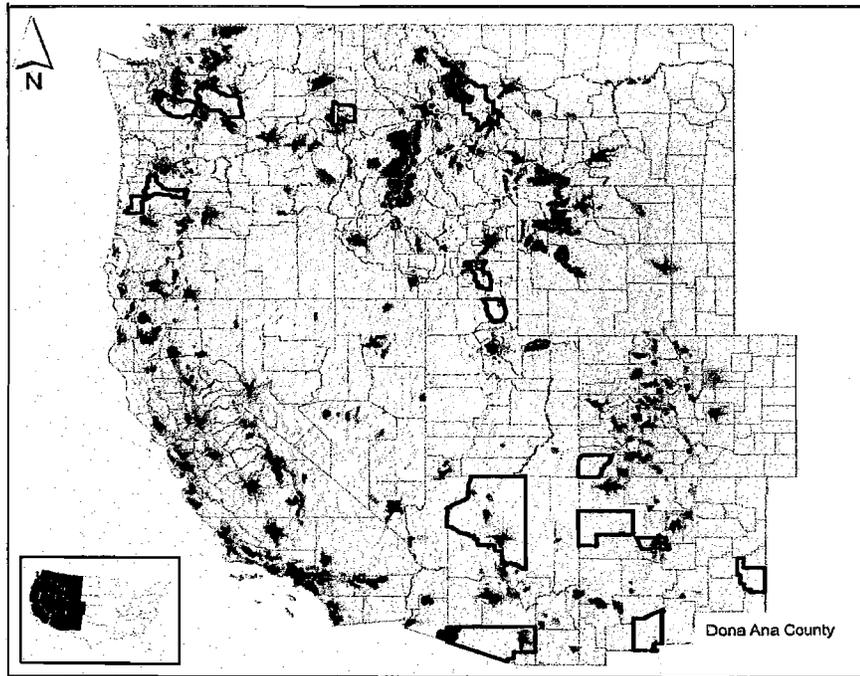
¹ All with USDA Forest Service Wilderness, except Montezuma County, with National Park Service Wilderness

² With high proportion of population self-identified as Hispanic or Latino (over 25%).

³ Remote; over an hour's drive from airport.

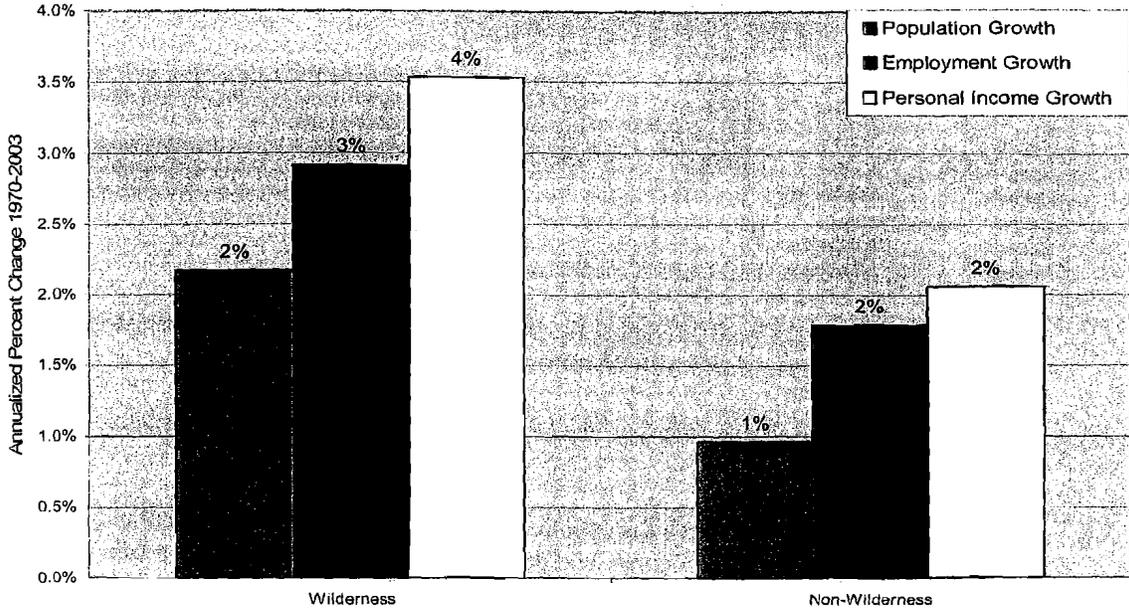
4. A layer was added to the map indicating the presence of Wilderness areas. The sample of 14 counties was split in two: those with Wilderness, and those without.
5. Aggregated economic profiles were produced of both the Wilderness peers and non-Wilderness peers.
6. Comparisons were made between the counties based on annual growth of population, employment and real personal income, and per capita income and earnings per job (see figures on previous page).

Map: Peer Counties to Doña Ana County.

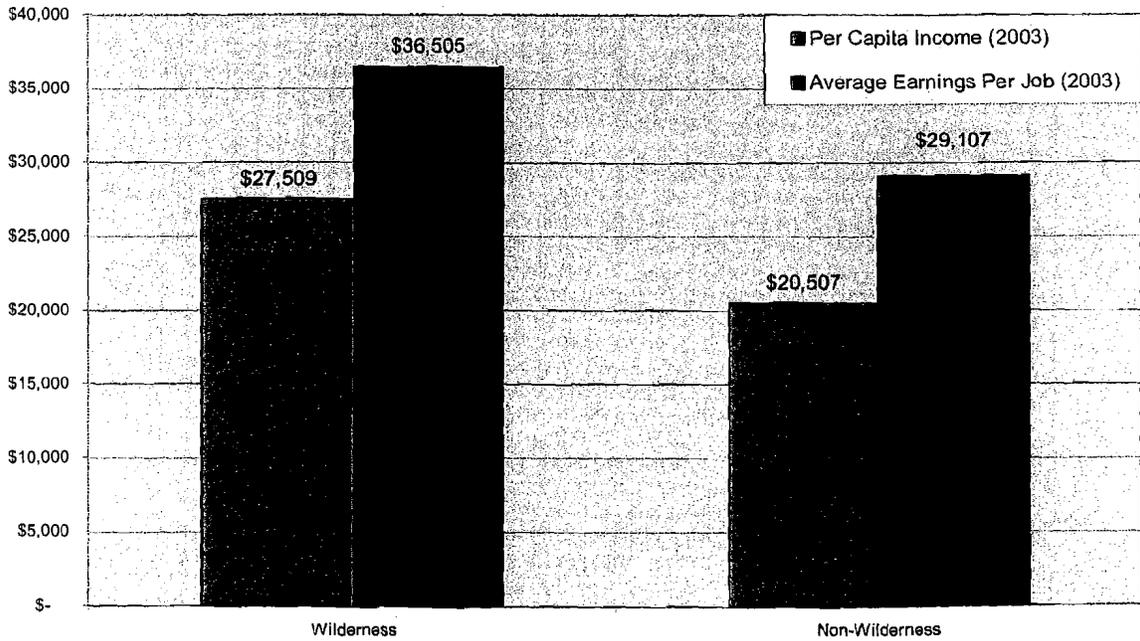


County Boundaries	Wilderness Areas
Airports > 25,000 Emp.	AGENCY
Distance	FS Wilderness
< 15 min.	FS Wilderness Study Area
< 30 min.	BLM Wilderness
< 1 hr.	BLM Wilderness Study Area
Red patches = access to airports.	FWS Wilderness
	NPS Wilderness

Dona Ana, New Mexico - Peer Counties:
Comparison of Counties With Wilderness to Those Without



Dona Ana County, New Mexico - Peer Counties:
Comparison of Counties With Wilderness to Those Without



Source: BEA REIS

PEER COUNTY – FINDINGS

Counties similar to Doña Ana County with Wilderness experienced faster annual growth of population, employment, and real personal income, from 1970 to 2000, than those peers without Wilderness.

Peer counties with Wilderness also outperformed those without Wilderness in per capita income and average earnings per job in 2003.

It is tempting to conclude from the data that the reason peer counties with Wilderness outperform those without Wilderness is because a portion of the county has been set aside for permanent protection and conservation management.

Some caution is warranted in the interpretation of these findings: a correlation does not imply a cause and effect relationship. It does not guarantee that the economic prosperity in Doña Ana County will automatically rise following the designation of Wilderness.

As the Comparison to the Rest of the West section illustrates, other factors need to be in place for Wilderness to serve as an economic asset. Fortunately, Doña Ana County has most of those other variables in place.

Broad Canyon Petroglyphs



BEFORE AND AFTER WILDERNESS – PEERS

The analysis in this section compares the economic performance of Doña Ana peer counties with Wilderness before and after designation to determine if Wilderness had a negative or positive effect on measurable indicators of economic performance.

The results indicate that in the peer counties analyzed Wilderness designation is associated with overall and long-term economic growth.

Examples of Counties similar to Doña Ana with Wilderness:

NAME	Acreage	County	State	Date Established	Agency
Fossil Springs Wilderness	1,566	Coconino	AZ	1984	Forest Service
Kachina Peaks Wilderness	18,870			1984	Forest Service
Kanab Creek Wilderness	61,857			1984	Forest Service and BLM
Kendrick Mountain Wilderness	8,205			1984	Forest Service
Munds Mountain Wilderness	12,918			1984	Forest Service
Paria Canyon-Vermilion Cliffs Wilderness	94,169			1984	BLM
Red Rock-Secret Mountain Wilderness	17,144			1984	Forest Service
Saddle Mountain Wilderness	41,792			1984	Forest Service
Strawberry Crater Wilderness	11,275			1984	Forest Service
West Clear Creek Wilderness	15,263			1984	Forest Service
Wet Beaver Wilderness	793			1984	Forest Service
Total Wilderness Acreage Designated in 1984	283,852				
Wilderness % of County Acreage (11,914,880 acres)	2%				
Organ Pipe Cactus Wilderness	614,832	Pima	AZ	1978	National Park Service
Pusch Ridge Wilderness	56,768			1978	Forest Service
Total Wilderness Acreage Designated in 1978	671,598				
Wilderness % of County Acreage (5,879,040)	11%				
Mesa Verde Wilderness	8,611	Montezuma	CO	1976	National Park Service
Total Wilderness Acreage Designated in 1976	8,611				
Wilderness % of County Acreage (1,303,680)	1%				
Scapegoat Wilderness	209,712	Lewis & Clark	MT	1972	Forest Service
Total Wilderness Acreage Designated in 1972	209,712				
Wilderness % of County Acreage (2,215,040)	9%				
Sandía Mountain Wilderness	25,857	Bernalillo	NM	1978	Forest Service
Total Wilderness Acreage Designated in 1978	25,857				
Wilderness % of County Acreage (746,240)	3%				
Opal Creek Wilderness	34,020	Marion	OR	1996	Forest Service
Total Wilderness Acreage Designated in 1996	34,020				
Wilderness % of County Acreage (757,760)	4%				
Mount Naomi Wilderness	40,840	Cache	UT	1984	Forest Service
Wellsville Mountain Wilderness	13,056			1984	Forest Service
Total Wilderness Acreage Designated in 1984	53,895				
Wilderness % of County Acreage (745,600)	7%				
Alpine Lakes Wilderness	72,975	Kittitas	WA	1976	Forest Service
Total Wilderness Acreage Designated in 1976	72,975				
Wilderness % of County Acreage (1,470,080)	5%				
Clearwater Wilderness	14,399	Pierce	WA	1984	Forest Service
Glacier View Wilderness	2,996			1984	Forest Service
William O. Douglas Wilderness	391			1984	Forest Service
Total Wilderness Acreage Designated in 1976	17,786				
Wilderness % of County Acreage (1,470,080)	2%				

Methods

The table on the previous page shows examples of counties in the West where Congress has designated Wilderness areas. This is the same list of “peer counties” that were used in the previous section. The majority of the areas are on Forest Service lands, while some are on BLM or National Park Service lands. The percent of a county’s land base in Wilderness varies from two percent to 11 percent. While some of these counties have additional Wilderness areas within their boundaries, we chose Wilderness areas that were designated within a period of time for which reliable economic data is available (1970 to 2004).

It is difficult to find a county in the West that is exactly like Doña Ana County. However, Coconino County, Arizona and Cache County, Utah are the most similar. Peers were defined by similarities in:

- Annual growth of population, employment and personal income;
- Structure of the economy (percent of employment or personal income from non-labor sources, service industries, government);
- Transportation infrastructure (access to an interstate highway and a commercial airport with daily service); and
- The presence of a university.

In addition, each peer also has, like Doña Ana’s relationship to El Paso, a nearby larger metropolis, i.e., Phoenix and Salt Lake City. We also looked for comparisons between the size of the population and the percent of the population identified in the 2000 Census as Hispanic, but this proved more difficult to do while simultaneously adhering to the other economic criteria mentioned above.

County Examples

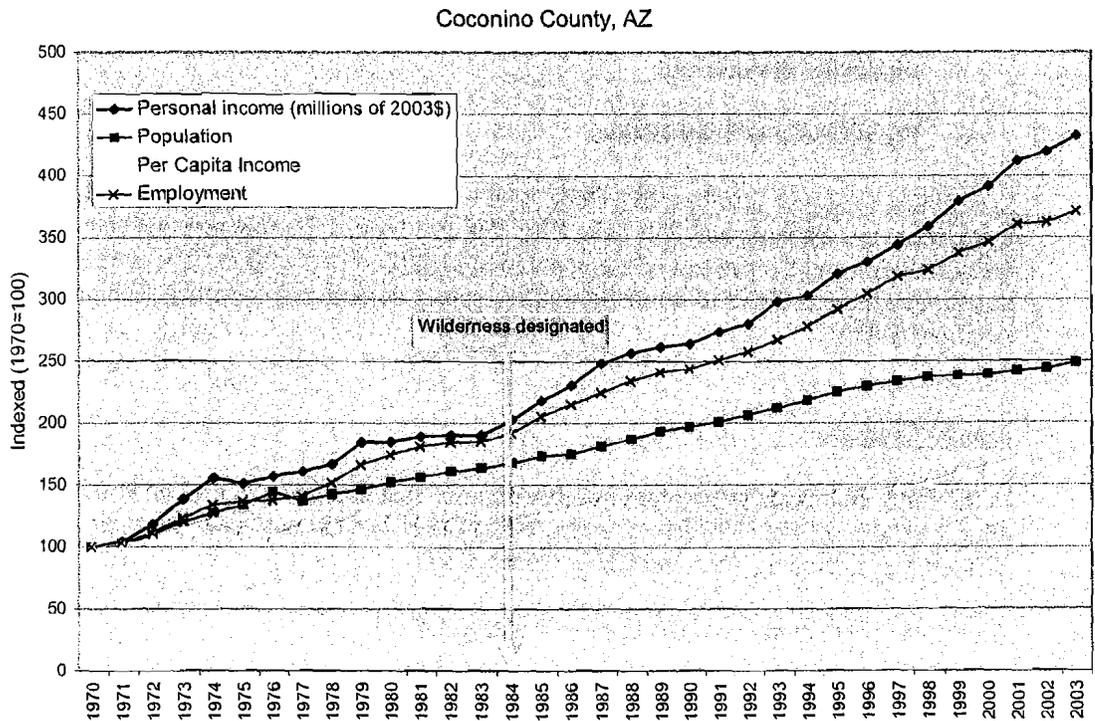
In the following pages we explore in further detail what happened to the economy of a county after the designation of Wilderness areas, using Doña Ana County’s closest peers that contain Wilderness: Coconino, AZ, and Cache County, UT.

Additional peer county analysis is shown in Appendix A.

Coconino County, Arizona

Coconino County is similar to Doña Ana in the following ways: it has a comparable population (over 121,000; Doña Ana County has over 182,000); similar number of workers (over 73,000, compared to over 81,000 in Doña Ana County); and it has a university, access to an airport with daily commercial service and an interstate highway. In both counties non-labor income (retirement, investments, etc.) is 63 percent of total personal income, and personal income from people employed in government is 23 percent of total. Both counties have also been growing at a similar rate since 1970. From 1970 to 2003, the average annual rate of growth in the population, employment and real personal income in Coconino County was 2.8 percent, 4 percent, and 4.5 percent, respectively. This compares with a rate of 2.9 percent, 3.4 percent, 4.1 percent, respectively, for Doña Ana County.

In 1984, Coconino County had eleven Wilderness Areas designated, totaling 283,852 acres, or two percent of the county's land base. Employment, per capita income and total personal income and population grew faster in the five years following Wilderness designation than in the five years prior. The long-term trend graph indicates a sharp rise in personal income and employment, starting in 1984, and sustained through the 1980s and 1990s.



Average Annual Change, Five Years Before Wilderness Designation, and Five Years After.

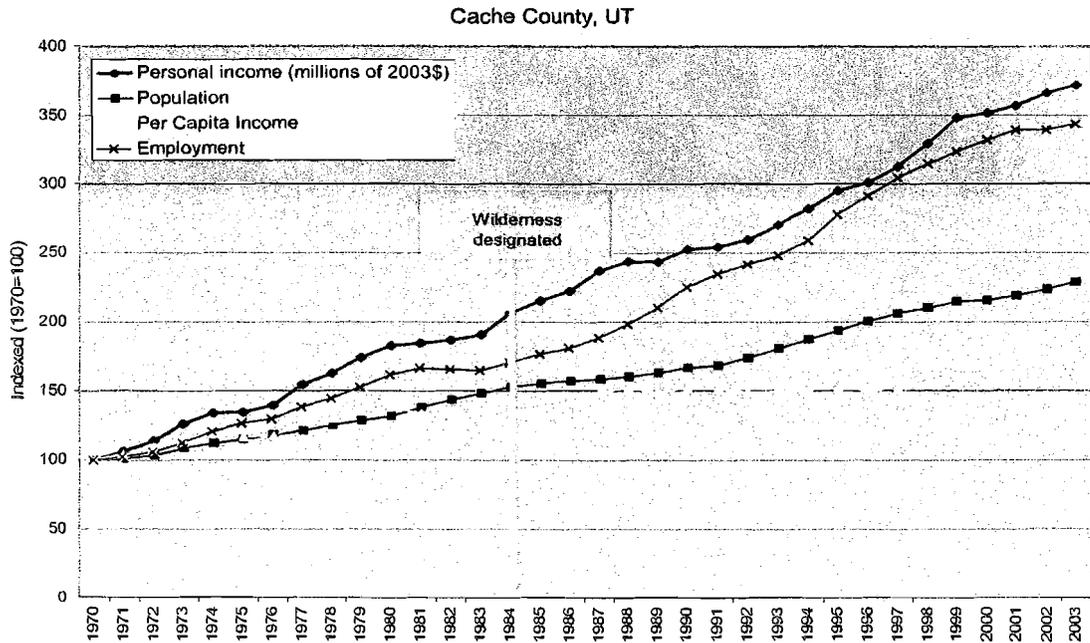
Indicator	Before	After
Employment	3%	4%
Per Capita Income	-1%	1%
Personal income (millions of 2003\$)	2%	4%
Population	3%	3%

Source: BEA REIS

Cache County, Utah

Cache County is similar to Doña Ana County in the following ways: it contains a major university and is within reach of a large metropolis (Salt Lake City). Both counties also have ready access to an interstate highway and a commercial airport. From 1970 to 2003, the average annual growth rates in population, employment and real personal income in Cache County were 2.5 percent, 3.8 percent, and 3.9 percent, respectively (compared to 2.9 percent, 3.4 percent, 4.1 percent, respectively, for Doña Ana County). The economic structure of the two counties is also similar: in both, over a third of total personal income is from non-labor sources, and government employment is relatively high (17% in Cache County, 25% in Doña Ana County); and service industry represents half of all employment. There are differences between the two counties. The population of Cache County is smaller (36,000, compared to over 182,000 in Doña Ana), and only 6.3% self-identified in the 2000 Census as being Hispanic.

In 1984, two Wilderness Areas were designated in Cache County, Utah, totaling 53,895 acres, or seven percent of the county's land base. In the four years immediately following these designations, the average annual growth of personal income and population slowed, while employment and per capita income rose. In the decades that followed the designation of the Wilderness, all four indicators of the economy showed steady growth, especially employment and personal income.



Average Annual Change, Five Years Before Wilderness Designation, and Five Years After.

Indicator	Before	After
Employment	2%	5%
Per Capita Income	0.01%	2%
Personal income (millions of 2003\$)	4%	3%
Population	4%	1%

Source: BEA REIS

BEFORE AND AFTER WILDERNESS – FINDINGS

The trends in personal income, per capita income, population and employment show that since Wilderness designation Dona Ana's peer counties have grown and generated new wealth. In both cases examined here (with additional examples in Appendix A), Wilderness designation accompanied the development of healthy and expanding economies.

Organ Mountains

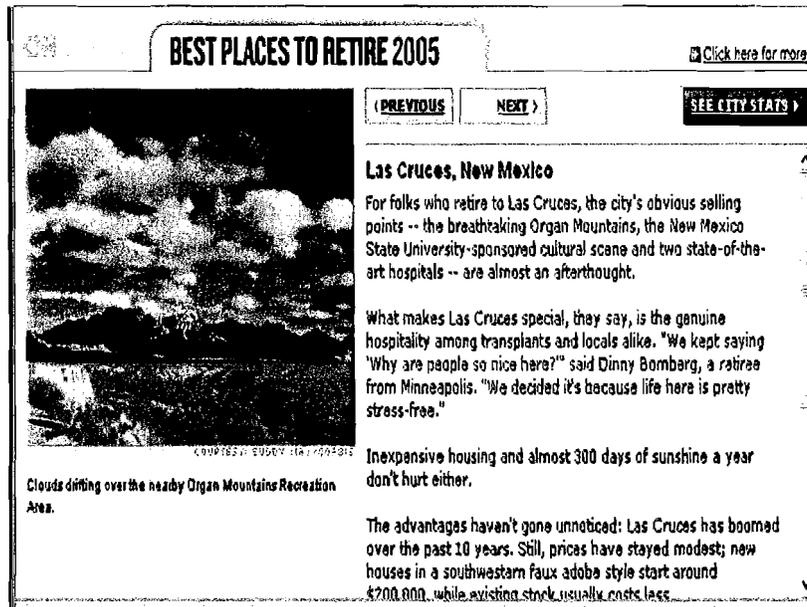


CONCLUSION

Doña Ana County possesses a rare mix of attributes that have helped it to become the rapidly growing and changing place it is today: a mild climate, close proximity to Mexico, a thriving university and arts community, good transportation connections – and its spectacular natural setting with ample recreation opportunities.

Public lands and other open spaces frame Doña Ana County's high quality of life and give it a unique sense of place. They have played a crucial role in its past, and will play an even larger one in its future as more people make these factors a higher priority in deciding where to live, work, raise their families, and retire.

A recent CNN/Money magazine article that named Las Cruces as one of the five best places to retire emphasized the Organ Mountains that frame the city, as well as New Mexico State University, two state-of-the-art hospitals, local hospitality, the climate and relatively inexpensive housing.¹¹



The screenshot shows a web page with the title "BEST PLACES TO RETIRE 2005" and a sub-header "Las Cruces, New Mexico". It includes a photograph of clouds over a mountain range, a quote from Denny Bombard, and text describing the city's amenities and housing market.

BEST PLACES TO RETIRE 2005 [Click here for more](#)

[PREVIOUS](#) [NEXT >](#) [SEE CITY STATS >](#)

Las Cruces, New Mexico

For folks who retire to Las Cruces, the city's obvious selling points -- the breathtaking Organ Mountains, the New Mexico State University-sponsored cultural scene and two state-of-the-art hospitals -- are almost an afterthought.

What makes Las Cruces special, they say, is the genuine hospitality among transplants and locals alike. "We kept saying 'Why are people so nice here?'" said Denny Bombard, a retiree from Minneapolis. "We decided it's because life here is pretty stress-free."

Inexpensive housing and almost 300 days of sunshine a year don't hurt either.

The advantages haven't gone unnoticed: Las Cruces has boomed over the past 10 years. Still, prices have stayed modest; new houses in a southwestern faux adobe style start around \$200,000, while existing stock usually costs less.

COURTESY: EDDY HART/PHOTO

Clouds drifting over the nearby Organ Mountains Recreation Area.

As Doña Ana County residents consider the decision about whether – and to what extent – to protect and manage public lands in the county as Wilderness, they are interested in the effect designation could have on future economic development. The analysis in this report suggests that there are many reasons to believe the county would benefit from Wilderness designation.

They are as follows:

- The entrepreneurs who will bring higher-wage jobs to the county, or create them locally, often prioritize areas with a high quality of life, especially protected natural amenities and outdoor recreational opportunities. This high quality of life and sense of place are also key elements in keeping existing businesses and talented young people in the area.
- Doña Ana County already has all of the factors in place that correlate West-wide with faster-than-average economic growth and increased earnings, and these factors are more compelling when packaged with Wilderness and other forms of public lands protection.
- The establishment of 200,000+ acres of Wilderness Study Areas (lands effectively managed as Wilderness) in 1980 coincided with a period of sustained economic growth and had no visible negative effects on the Doña Ana economy.
- Counties similar to Doña Ana with designated Wilderness tend to be more prosperous than those without designated Wilderness.
- The economies of Doña Ana's peer counties have grown and flourished after Wilderness designation.

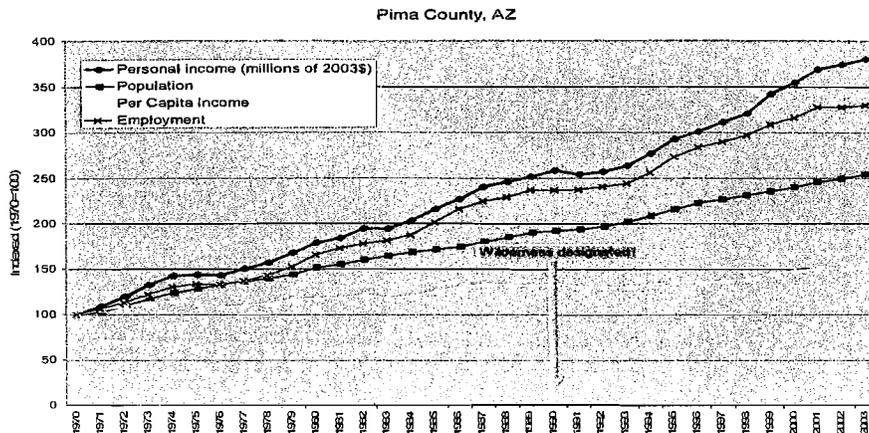
Las Cruces and Doña Ana County residents and businesses are fortunate to be surrounded by spectacular public lands. These lands are important not just for the wildlife habitat, grazing forage, watershed integrity, and scenic value they provide. They are also an integral part of what makes the area attractive to tourists, as well as current and future residents.

Wilderness designation in Doña Ana County appears to be a forward-thinking approach to capitalizing on the area's unique competitive advantage. And, based on West-wide findings, the more public land put into protected status and management the better for the local economy.

East Potrillo Mountains with Mount Riley WSA in Background

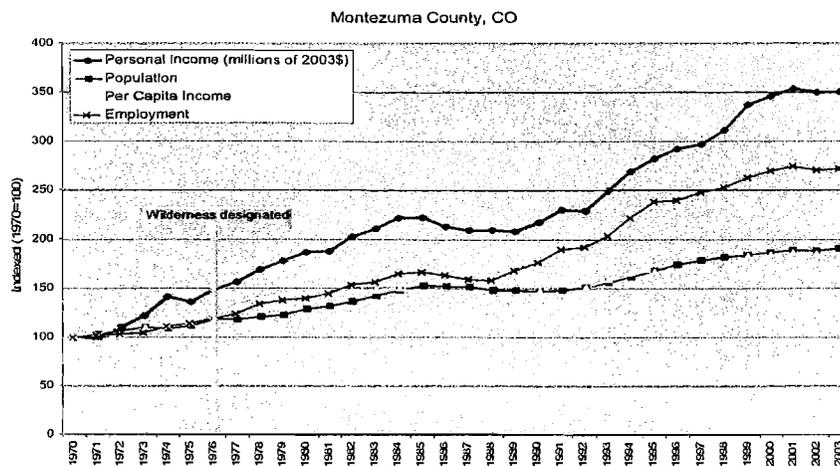


APPENDIX A: ADDITIONAL PEER COUNTY BEFORE AND AFTER WILDERNESS EXAMPLES



Average Annual Change, Five Years Before Wilderness Designation, and Five Years After.

Indicator	Before	After
Employment	3%	4%
Per Capita Income	-0.03%	1%
Personal income (millions of 2003\$)	3%	4%
Population	3%	3%

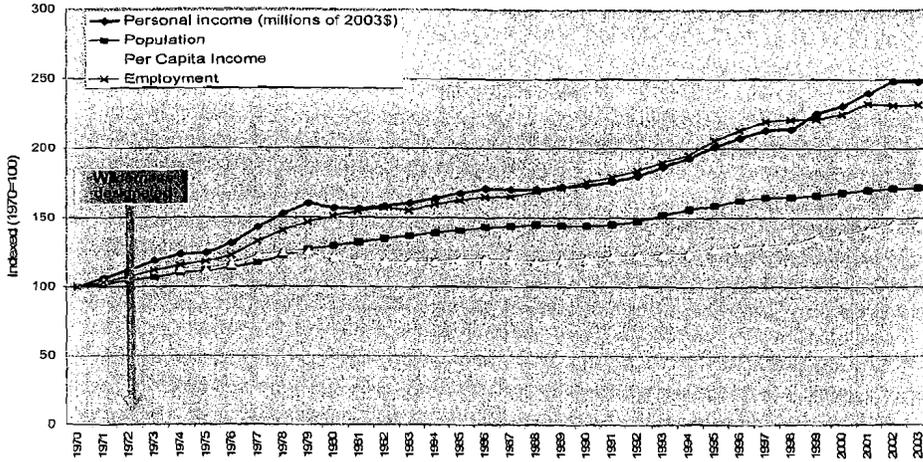


Average Annual Change, Five Years Before Wilderness Designation, and Five Years After.

Indicator	Before	After
Employment	3%	4%
Per Capita Income	6%	2%
Personal income (millions of 2003\$)	9%	5%
Population	3%	3%

Source: BEA REIS

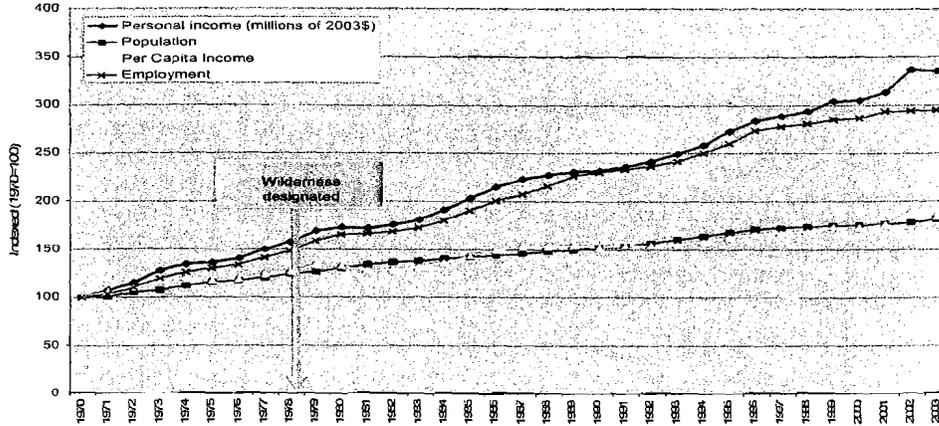
Lewis & Clark County, MT



Average Annual Change, Five Years Before Wilderness Designation, and Five Years After.

Indicator	Before	After
Employment	4%	5%
Per Capita Income	3%	2%
Personal income (millions of 2003\$)	6%	5%
Population	2%	3%

Bernalillo County, NM

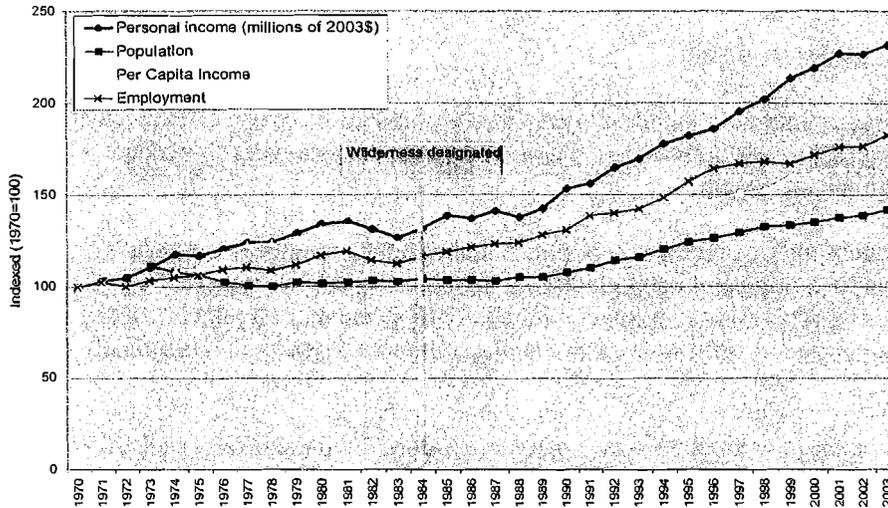


Average Annual Change, Five Years Before Wilderness Designation, and Five Years After.

Indicator	Before	After
Employment	4%	3%
Per Capita Income	1%	0.5%
Personal income (millions of 2003\$)	4%	3%
Population	3%	2%

Source: BEA REIS

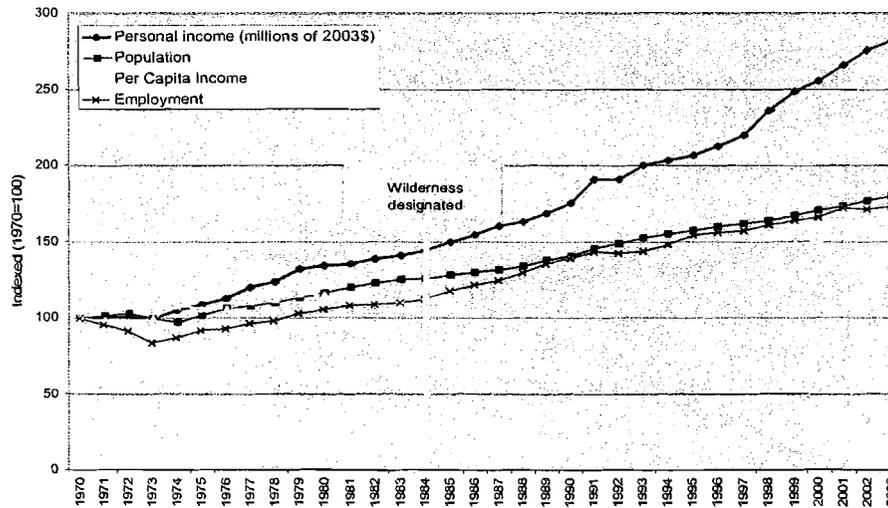
Kittitas County, WA



Average Annual Change, Five Years Before Wilderness Designation, and Five Years After.

Indicator	Before	After
Employment	1%	1%
Per Capita Income	3%	1%
Personal income (millions of 2003\$)	3%	1%
Population	-0.1%	1%

Pierce County, WA



Average Annual Change, Five Years Before Wilderness Designation, and Five Years After.

Indicator	Before	After
Employment	-0.5%	3%
Per Capita Income	2%	0.3%
Personal income (millions of 2003\$)	2%	3%
Population	1%	3%

Source: BEA REIS

APPENDIX B: FURTHER EXPLANATION OF KEY ECONOMIC SECTORS – DONA ANA COUNTY

Services and Professional

As previously mentioned, the services and professional sector has experienced the fastest job growth in Doña Ana County over the past 30 years, and has recently become the second largest source of personal income.

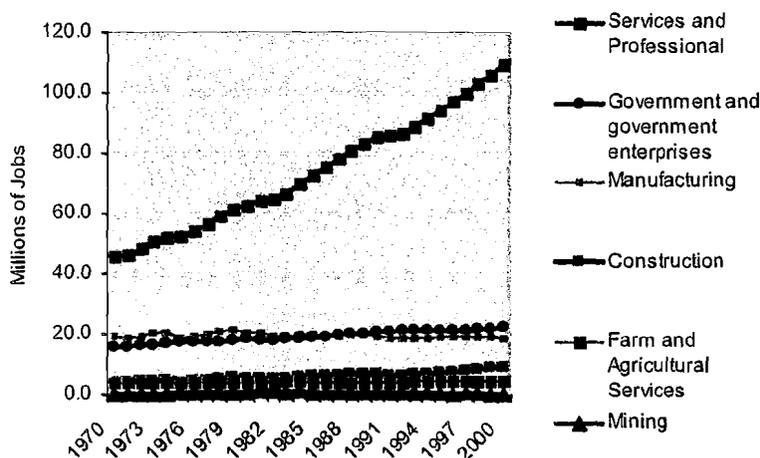
Employment in this diverse sector, which includes jobs ranging from architects, lawyers, and engineers to janitors and hotel maids, has increased by 65.3 percent, or 31,665 jobs, since 1970. Services and professional accounted for nearly 57 percent of all jobs in the county in 2000. The rate of increase has been consistent over the past three decades, and is unlikely to slow in the near future.

Service sector jobs in Doña Ana County range from retail employers such as Wal-Mart and call centers such as Excell Agent Services to high-tech aerospace employers. Because services and professional is such a broad category and accounts for many of the county's new jobs and much of its personal income, a closer look at the reasons for growth in this sector is warranted.

What are the explanations for the growth in services and professional employment?

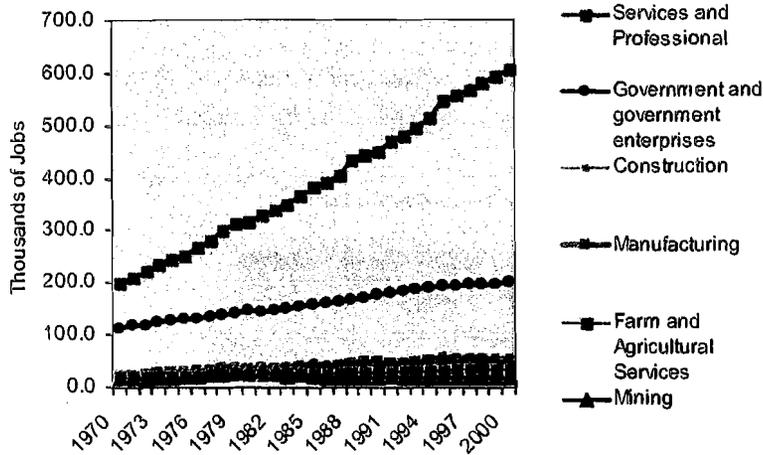
The growth in the services and professional sector that Doña Ana County is experiencing has occurred throughout the nation. Nationally, 84 percent of the growth in jobs over the past three decades has been in the services and professional sector, compared to 71 percent of job growth in New Mexico (see figure on next page) and 65 percent in Doña Ana County. Other key sectors of the U.S. economy, such as government, manufacturing, and agriculture have shown modest to no growth at the national level, although government has grown notably in both Doña Ana County and New Mexico as a whole.

U.S. Employment, 1970-2000.



Source: BEA REIS

Employment by Sector in New Mexico, 1970-2000.



Source: BEA REIS

There are several explanations for the growth in services and professional employment. One is that both the demand for and supply of services in the U.S. economy has increased. For example, the nation's aging population results in a rising demand for medical services. This trend is evident in Doña Ana County. The addition of a new hospital, Mountain View Regional Medical Center in 2002, along with the county's two existing hospitals, numerous clinics and specialty care centers, and six assisted living centers, contributes to health care and social assistance being the largest category of service sector jobs.

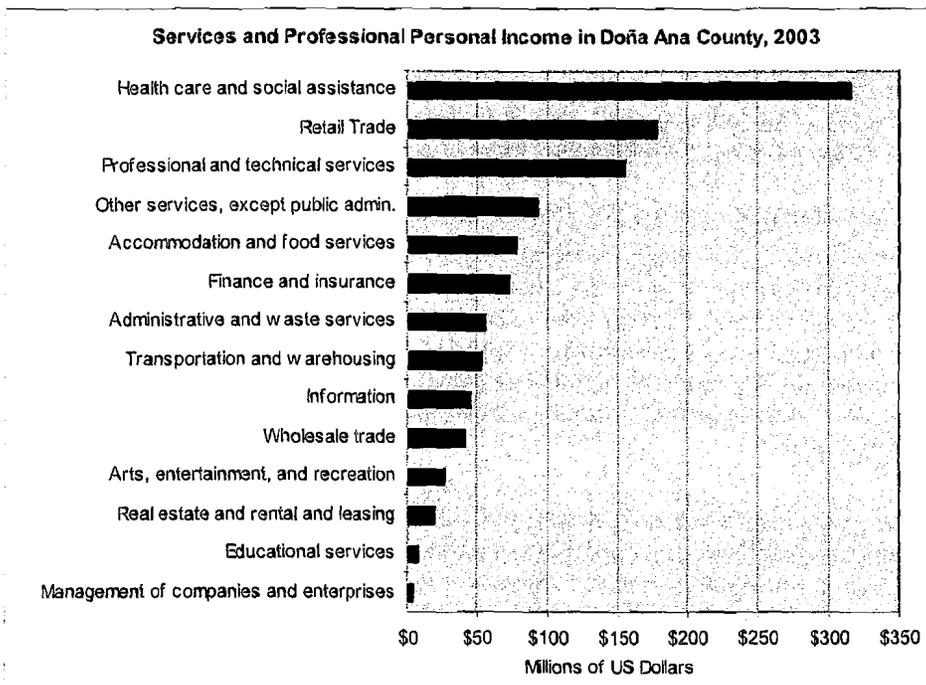
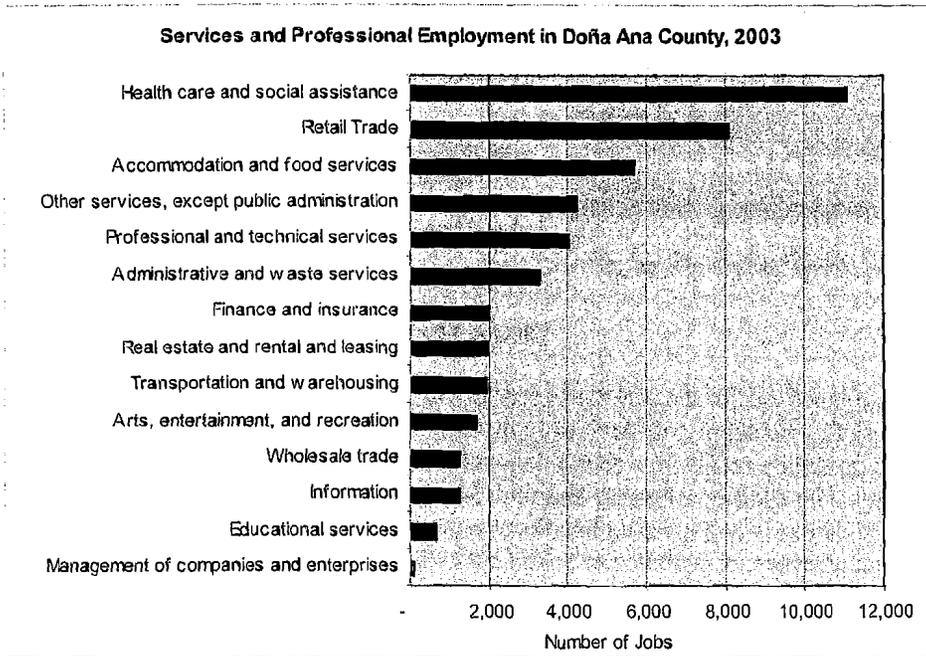
The demand for services has also increased because new production processes require new services. The development of information technologies and computers has created a whole new array of occupations, such as graphic design, desktop publishing, and repair and networking services. Many of these jobs are located within very small companies of one to ten employees, and tend to be "footloose" in that they can locate in a wide range of settings as long as they have efficient access to larger markets and high-speed internet access.

Another reason for growth in the services and professional sector is that some tasks that used to be carried out inside firms, such as manufacturing, may be outsourced to other companies. For example, some firms contract out payroll and other types of accounting services. An accountant who worked for a manufacturing company used to be counted as part of manufacturing – but if that same individual instead owns her own firm, works independently, and sells accounting services to a manufacturer, she would be counted as a service worker. Again, since much of this type of work is done via telecommuting, where such businesses locate depends in part on the quality of life attributes.

In Doña Ana County, the clear skies and proximity of the U.S. military bases, such as the White Sands Missile Range and Hollman Air Force Base, contribute to growth in the services and professional sector by fostering the growth of aerospace services companies such as Honeywell Technology Solutions and the NASA LBJ Test Facility. New Mexico's Office for Space Commercialization is located in Las Cruces. The county is also near the site of the Southwest Regional Spaceport, which is under development near Upham, New Mexico, and will handle future commercial space launches and be the site of X-Prize competitions.

Given the large proportion of services and professional jobs among total employment, the types of these jobs within a county's economy determine, to a significant extent, how many workers have high- or low-paying jobs.

A closer look at Services and Professional jobs in Doña Ana County reveals a mixed picture. The figure below shows numbers and types of jobs within service and professional sectors, and the figure lowest on this page shows which types of jobs contribute the most income.



Source: BEA
REIS

Health care and social assistance contributes the largest share of both jobs and income within the services sector. Retail trade follows. Accommodation and food services are the third most important source of jobs, but only the fifth most important source of service sector income because jobs in this sector tend to be relatively low-paying. In contrast, professional and technical services generate the third-most service sector income, but is only the fifth largest source of jobs, indicating that these types of jobs are generally better paid.

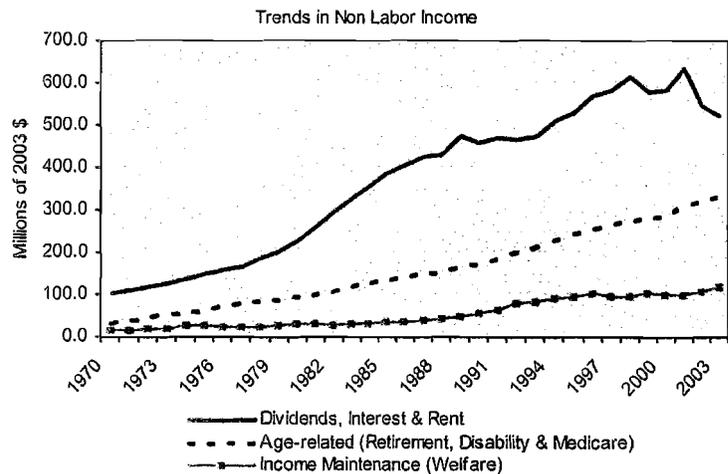
The types of services and professional jobs a county is able to attract depends in large measure on the education level of its workforce, as well as the quality of life the area offers to potential entrepreneurs and employees. Doña Ana County has a fairly large percentage of residents with a college degree (22 percent), but also a large proportion (53 percent) who have not progressed beyond high school. Capturing more higher-paid jobs in the future is likely to depend on whether a larger portion of the workforce can successfully access higher education, and whether better-educated workers and entrepreneurs find Doña Ana County an appealing place to work, live, and raise their families.

Non-Labor Income

Non-labor income has grown quickly in Doña Ana County, from 19 percent of total income in 1970 to 34.8 percent in 2003. This is lower than the rate for the median U.S. county, which is 37.6 percent. Growth in non-labor sources, averaging 6.1 percent annually, has outpaced growth in labor sources over the past 33 years, which grew at a 3.4 percent annual rate.

This figure shows that most of the growth in non-labor income has been in dividends, interest and rent, with slower growth in age-related sources such as retirement, disability and Medicare, or income maintenance sources such as welfare.

Non-Labor Income in Doña Ana County, 1970-2004.



Source: BEA REIS

The growth in non-labor income, along with population growth, indicates that Doña Ana County has been successful in attracting and retaining non-labor income, which is most likely to belong to Baby Boomers who are either retiring early or shifting from their primary occupations to second careers. This group tends to place a premium on living in places with a high quality of life, natural amenities such as a clean environment and healthy ecosystems, and a variety of recreational opportunities that might include hiking, bird and wildlife watching, hunting, and other outdoor pursuits.

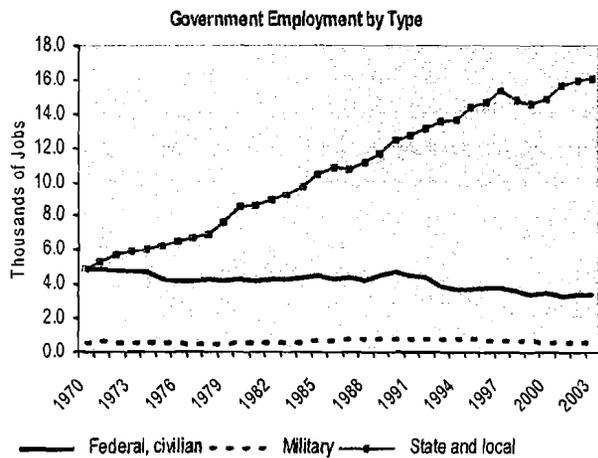
Government

The second largest source of employment, government and government enterprises, has increased by 17.9 percent, to 19,087 jobs, since 1970. Despite the increase in number of jobs, however, government's share of total employment has declined relative to other sectors, from 38.4 percent in 1970 to 25.3 percent in 2000 – meaning that Doña Ana County's economy has been successful in diversifying into other sectors.



Source: BEA REIS

The nature of government employment in Doña Ana County is changing as well. The figure below shows that state and local government jobs have grown, along with Doña Ana County's population. Military employment, primarily from White Sands Missile Range, has been a consistently small share of the total since 1970, while federal and civilian government employment has slowly decreased. According to the 2000 U.S. Census, only 428 Doña Ana County residents, or 0.3 percent of the county's population, were currently in the Armed Forces, although 15,406, or 12.5 percent, are veterans.



Source: BEA REIS

In addition to providing jobs and income, government employment, particularly military employment, has other important implications for Doña Ana County. Military lands to the east and north provide large expanses of open space, and preserve a critical wildlife migration corridor between the Organ Mountains and the San Andreas National Wildlife Refuge.

While the relative importance of government as a source of jobs and income has declined, its role as an economic engine in the local economy has also changed. Many county residents take pride in their connection to the military, and the county is a haven for military retirees. While the military has long drawn residents to the area, it appears that increasing numbers of veterans and their families are choosing to remain in the area after they retire, or to return from other areas to retire. The area is within an hour's drive of three military installations, including Fort Bliss, about an hour away in El Paso, which offers full medical services and other services for retirees.

Military / Civilian Population		
	Population	Percent
In Armed Forces	428	0.3%
Civilian:	122,423	99.7%
Veteran	15,406	12.5%
Nonveteran	107,017	87.1%
Total	122,851	100.0%

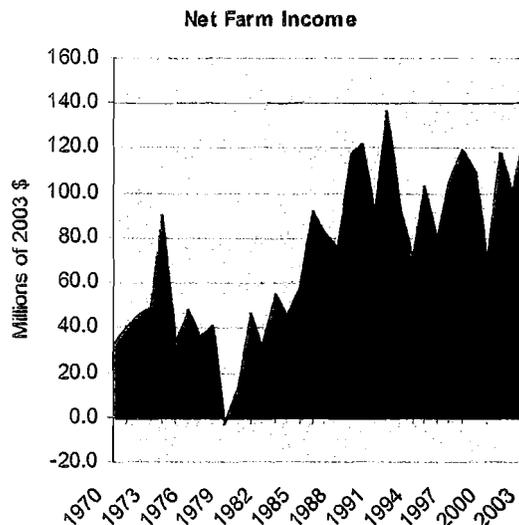
Source: Census

Universe: Population 18 years and over

This group of retirees may be particularly important to the area's future economic growth, as they tend to be well-educated and well-traveled. Since many military retirees are in their 50's, or even late 40's, when they retire, they are more likely to start second careers and open their own businesses than other types of retirees.

Agriculture

In contrast to many other counties in the western U.S., agriculture appears to be thriving in Doña Ana County. The number of jobs in agriculture has increased in Doña Ana County since 1970, from 2,894 to 5,272 (estimated). Many of the new jobs in agriculture (2,248 of the 2,378 jobs created between 1970 and 2000) are in agricultural services, rather than farm income. This sector now accounts for 7 percent of jobs. However, as was the case with government, its share of total employment has declined from 10.7 percent to 7 percent.



Source: BEA REIS

Net farm income in the county has grown substantially since the 1970s, and despite year-to-year fluctuations has remained consistently high since the early 1990s. Agriculture accounted for 4.2 percent of total personal income, or \$141 million, in 2000, an increase from \$67 million in 1970.

Doña Ana County is unusual in that most of the growth in agricultural income in the county has been from livestock, rather than crops; the reverse is true in many counties. Existing grazing would be allowed to continue in Wilderness areas, and thus designation should have no effect on this sector.

Agriculture is important to Doña Ana County's future as more than merely a source of jobs and income. It is a key to the area's sense of place and heritage. And agricultural lands also contribute to the county's rural atmosphere and open space.

Construction

Construction jobs have increased in Doña Ana County as the population has grown. Jobs increased from 1,169, or 4.3 percent of the total in 1970, to 4,599, or 6.1 percent of the total in 2000. Much of the construction activity is in new home building, a function of natural population increase and strong in-migration.

Manufacturing

The manufacturing sector is Doña Ana County's fifth largest employer. The number of jobs in this sector increased from 1,229 to 3,481 between 1970 and 2000, and personal income grew from \$38 million in 1970 to \$124 million in 2000. However, manufacturing's share of total jobs and income stayed about the same during this time period.

Some of the key manufacturing firms in Doña Ana County include:

- ADC Telecommunications (telephone equipment)
- IBP Prepared Foods (meat processor)
- REA Magnet Wire (Wire Processing)
- Parkview Metals (Metal Stamper)
- Multi-Plastics (Component Parts)
- Taylor Metro (Scales & Measurement)
- Calculex (Electronics)
- Smart Corp (Computerized & Home Systems)
- Foamex, Inc. (Packaging)
- Young Pecan (Food Processing)
- Las Cruces Machine (Machine Parts)

Source: Mesilla Valley Economic Development Alliance
www.mveda.com/html/area_resources.html

APPENDIX C: LITERATURE REVIEW AND BIBLIOGRAPHY

LITERATURE REVIEW

Quality of Life as an Attractant for People and Business

A growing body of literature on economic development suggests that amenities such as environmental quality, pace of life, low crime rates, scenery, recreational opportunities, or "quality of life" for short, have become increasingly important in people's decision to live and do business in rural areas. Fuguitt and Beale (1996) argue that telecommunications technology has allowed businesses to operate far from urban centers. Power (1991) argues that footloose entrepreneurs bring their businesses with them when they locate to scenic areas like Greater Yellowstone. (See also Cromartie and Wardwell, 1999; Nelson, 1999.)

A new theory of economic development has been suggested, from "jobs first, then migration," to "migration first, then jobs" (Whitelaw 1992; Whitelaw and Niemi 1989). As the theory goes, the in-migration of quality-of-life seekers stimulates the local construction industry as the demand grows for new homes. Local retailers learn to cater to the tastes of these new arrivals. When retirees with nest eggs, both seniors and early retirees, move to a rural town, they in turn stimulate other sectors, such as the health industry (both health care and health clubs). In sum, the influx of new people with ideas, experience, and investment income can stimulate growth.

For example, a recent study by McGranahan entitled "Natural Amenities Drive Population Change" (1999) found that when population growth rates of U.S. counties were compared, the highest growth occurred in counties with amenities, which included climate, topography, and water area. Shumway and Otterstrom (2001) found that the greatest number of new migrants to the West is in counties that they call "New West" counties. These are characterized by their recreational nature, scenic amenities, proximity to national parks or other federal lands, and preponderance of service-based economies. They conclude that in the New West, the importance of mineral, cattle, and lumber production is dwarfed by an economy that is now based on "a new paradigm of the amenity region, which creates increased demands for amenity space, residential and recreational property, second homes, and environmental protection." (page 501)

One of the most cited studies was a series of surveys conducted by Rudzitis and Johansen of the University of Idaho. Rudzitis and Johansen (1989a, 1989b, see also Rudzitis 1993) demonstrated that during the 1960s, counties containing federally designated Wilderness areas had population increases three times greater than other non-metropolitan counties. In the 1970s, they grew at a rate twice that of non-metropolitan areas, and in the 1980s, their population increased 24 percent – six times more than the national average of four percent for non-metropolitan areas and almost twice as much as counties in the rural West.

To test the importance of amenities in people's decisions to migrate, Rudzitis and Johansen (1989a, 1989b) surveyed more than 11,000 randomly selected migrants and residents in 15 Wilderness counties in the West. Sixty percent said the presence of designated Wilderness was an important reason for why they moved, 45 percent said that Wilderness was why they stayed in the area, and 81 percent felt Wilderness areas were important to their counties (Rudzitis and Johansen 1991). The most significant reasons for locating to a Wilderness county were the environmental and physical amenities, the scenery, outdoor recreation, and the pace of life. When asked about their attitudes toward development, 90 percent of recent migrants and 85 percent of established residents felt it was necessary to "keep the environment in its natural state" (Rudzitis and Johansen 1989a).

Such studies illustrate there is a positive relationship between environmental protection and retaining businesses, attracting new businesses, in-migration, and the desires of established residents. Johnson and Rasker (1995) investigated the relative importance of economic, social, cultural, and environmental factors in people's decision to locate or retain a business in the northern portion of the Greater Yellowstone area (Madison, Gallatin and Parks Counties in Montana). The study revealed that the most important reasons for people's decision to locate or retain a business in the area had to do with the scenic amenities, the rural character of the town, the low crime rate, proximity to wildlife-based recreation, and other social, cultural, and environmental factors.

In contrast, traditional economic reasons for locating in the area, such as the availability of raw materials, the local tax structure, availability of skilled workers and capital, ranked relatively low in importance. Of particular significance, was the finding that those living in the study area for more than five years tended to rate more highly quality of life values as a reason for business location than did newcomer business owners. A "high-quality environment" scored higher for old-timers (average score of 4.5 on a scale of 1 to 5, with 5 equals very important) than for newcomers (average score 4.32). "Proximity to public lands" was also more important to existing business owners (average score 3.9 for old-timers versus 3.6 for newcomers).

The importance of environmental amenities, although not public land amenities specifically, to business location was tested nationwide by Beyers, et al. (1995). They surveyed business owners in 44 states and classified them according to three categories: "Lone Eagles," or proprietors that sell goods and services outside the local area; "High Fliers," or export-oriented business owners who employ others; and "other firms," oriented primarily to serve local markets. The study was significant in that it explicitly separated export-producing services from locally oriented services. The most frequently cited reasons for locating their export-oriented business in a rural setting were "quality of life" (73 percent for Lone Eagles, 66 percent for High Fliers) and "residence nearby" (82 percent for Lone Eagles, 56 percent for High Fliers). In contrast, fewer than two percent of respondents felt traditional economic reasons (lower local tax rates, presence of low-cost labor, lower energy and occupation costs, government assistance) were important considerations for business location. Beyers and his co-researchers concluded,

[T]hese businesses are strongly attracted to rural America due to quality of life considerations, a finding consistent with that of Johnson and Rasker [1993], and Richards.¹² These firms tend to have high levels of revenue per employee and exhibit a tendency to be fairly reliant on information technologies to deliver their work, but also have a relatively strong tendency to travel to their client's locations in the process of delivering their services. Hence, people working in this segment of the producer services appear to be fairly mobile, pursuing relatively specialized business niches. (page 5)

While Beyers, et al.'s research is consistent with the findings of other surveys – that amenities, or quality of life, matter in business location – they also made another important discovery: while it appears that modern telecommunications and delivery services such as FedEx and UPS have made it possible for businesses to be "footloose" and locate anywhere, for relatively high-wage service occupations ("producer services") another critical factor is the ability of business owners to see their clients in person. In other words, these types of businesses can be remote, but not too remote. Access via air travel and highways is also an important factor.

Rasker and Hansen (2000) and Hansen, et al. (2002) investigated how much environmental amenities compared to other factors, such as education, crime rate, and other economic and

demographic factors, influenced population growth in the rural portion of the Greater Yellowstone Region. They first tested the importance of ecological and amenity variables at the state level, and found that for the rural portion of Idaho, Montana, and Wyoming some variables accounted for a 30 percent variation in population growth from 1970 to 1997. For example, the correlation between population growth in the presence of mountains (the mean variation in elevation) was 0.26 (a 1.0 suggests perfect correlation), while the correlation between growth and the percent of the county in protected status (Congressionally designated Wilderness, National Park, or Wildlife Refuge), was 0.30.

When Rasker and Hansen tested the importance of amenities relative to other factors in the 20 Idaho, Montana, and Wyoming counties that constitute the Greater Yellowstone region, they found through multiple regression analysis that communities in the region that were most likely to grow were those that were mountainous, with an educated workforce, and with ready access to larger commercial markets through commercial airports with daily service. They concluded that ecological and amenity variables are necessary conditions for growth, but they are not sufficient. Consistent with Beyers, et. al.'s findings (1995), Rasker and Hansen concluded that an educated workforce and access to larger markets via air travel are also important:

[Th]e results of this study indicate a high degree of correlation between the education of the population and the percentage of people employed in the business and producer services. Combining this fact with the importance of amenities and access to larger population centers via air travel, the logical conclusion for the Greater Yellowstone region, and perhaps for the West in general, is: rural, isolated counties with a comparative advantage will be those with natural amenities, an educated workforce, and reliable airline travel. The likely type of growth from this strategy will be in the relatively higher paying service industries. (page 39)

Public Lands, Quality of Life, and Economic Development

Building on the growing body of literature of the importance of quality of life and environmental amenities to rural development, several researchers have focused more specifically on the issue of public lands, and the consequence of wild lands protection.

Lorah and Southwick (2003) point out that opponents of roadless areas, National Monuments, National Parks, and Wilderness claim that preserving public lands is detrimental to the economy. The two researchers tested whether this is true by analyzing the relationship between the presence of protected lands and the performance of the local counties' economies. To ensure that no bias was introduced by comparing metropolitan to non-metropolitan counties, they split their sample of 431 counties into three categories: counties containing metropolitan areas, non-metropolitan counties with protected federal lands, and non-metropolitan counties without protected lands.

Their findings show that the population, employment, and income growth rates, from 1969 to 1999, were much higher for the non-metro counties with protected lands than those without protected lands. They also found that in the non-metropolitan portions of the West, the highest level of environmental protection on public lands is associated with the highest levels of growth.

Rasker and Hackman (1996) compared economic performance of counties with a high degree of land in protected status with those without such protections in Western Montana. They found that from 1969 to 1992 "Wilderness" counties (those with Wilderness, Parks and Wildlife Refuges) outpaced resource-dependent counties without protected lands, in terms of employment and real

personal income growth. Counties with protected lands also had consistently lower levels of unemployment. While no direct cause-and-effect relationship was established between wildlands protection and economic development, their study presents enough evidence to counter the assertion that protecting wildland habitat is detrimental to a region's economy.¹³

Holmes and Hecox, in a study entitled "Does Wilderness Impoverish Rural Regions?" (2002), found a significant positive correlation between the percent of congressionally designated Wilderness land in a county and growth in population, income, and employment from 1970 to 2000. They discovered that:

Wilderness counties generate far more growth in lower paying industries like hotels and other lodging places and eating and drinking establishments, but they also have remarkable growth in higher paying professional services like legal services and investment offices relative to non-Wilderness counties in the rural West. (page 5)

In contrast to the above studies, which all show a positive relationship between protected lands and economic performance, Duffy-Deno (1998) found no evidence that the presence of federal Wilderness in the intermountain states was either directly or indirectly associated with growth in population or employment. With the methods employed (a disequilibrium model of population and employment growth) he found that Wilderness was neither good nor bad for growth.

Other Factors Important to Growth

In spite of the evidence supporting the importance of protected lands to economic development, or, at worst, a finding that the existence of federally designated Wilderness is neutral in value to the economy, the status of public lands is clearly not the only significant driver of growth. Other factors also explain why some rural counties grow, while other do not, and why the quality of the growth varies. As Beyers, et al. (1995) and Rasker and Hansen (2000) point out, business owners in the high-wage service industries (e.g., producer services such as finance, engineering, management consulting) can locate in rural areas, but only if these entrepreneurs also have a way to visit their clients. FedEx, UPS, and high-speed internet access make it appear that all business owners can now locate in rural areas where they can enjoy the environmental amenities, but in-person access to larger markets is also important.

While the "footloose" nature of some businesses is widely heralded in both academic and popular press, some caution is warranted in overstating this as a major driving force for rural development. Not all communities and counties have the needed infrastructure to attract – and retain – this type of economic entity. During recessionary periods, it may be just as likely that a "footloose" business will leave and return to a more robust and diverse metropolitan area. Or, the work may be outsourced to another part of the world. And finally, a rural development strategy based solely on attracting quality of life migrants can be as risky as betting on resource development alone – economic diversity is also important.

A study that highlights the importance of a number of factors affecting growth in the mountainous states of the rural West was conducted by Booth (1999). He found that "location-dependent" income, such as extractive industries, tourism, and imported income (from in-commuting from adjacent counties), was not a statistically significant determinant of population, and "thus unlikely to be fostering population growth." He found that two forces were at work in determining population growth:

On the one hand, the beauty of the landscape and other amenities are attracting population and income. On the other hand, access to regional metropolitan centers continues to be an important element in locational decisions. The net result is that counties outside the commuting range of these metropolitan centers, but with close access and good interstate connections have greater population densities and more growth in densities than less accessible counties. (page 400)

In other words, access to larger cities and population center is important.

Findings

Several conclusions can be drawn from this research review:

- Significant evidence exists in the literature to suggest a positive relationship between decisions to protect public lands and economic growth.
- We could find no evidence in the published, peer-reviewed literature that public lands protection is detrimental to the economy. However, we also acknowledge that a literature search is an inexact science. Original research is also necessary.
- The presence of Wilderness, National Parks, and other protected lands is not the only factor needed for an economy to grow. In some communities in the West, designation of public lands in protected status may have little or no effect, or it may be a stimulant for certain types of growth. The West is complicated and not all communities are alike.
- Some economic occupations are more mobile than others. Public lands conservation may work to help attract and retain certain “footloose” sectors, if other conditions are also in place.

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ENDNOTES

¹ A Vision: Open Space and Trail System for Doña Ana County, New Mexico. Prepared by The Citizen's Task Force for Open Space Preservation, with input from the Open Space and Trail Network. www.zianet.com/openspace.

² Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." *Society and Natural Resources*. 19(3): 191-207.

³ A cut-off point of 25,000 was influenced by the authors' personal experiences traveling via commercial airplane throughout the West.

⁴ Luna County is in the metro commuter shed because over 50% of the population was in the quadrant where the road coming in from El Paso entered the county. That is, much of the county lives in the southeast corner of the county, within a hour's drive of the El Paso airport.

⁵ New Mexico Tourism Department, www.newmexico.org/go/loc/research/page/dept-economic-impact-stats.html; New Mexico Department of Finance and Administration, Local Government Division, <http://www.newmexico.org/go/loc/research/page/dept-lodgers-tax-stats.html>.

⁶ McMahon, Edward T. "Tourism and the Environment: What's the Connection?" *Planning Commissioners Journal*. No. 28, Fall 1997.

⁷ Ibid.

⁸ Source: Bureau of Business and Economic Research, University of New Mexico. Released April 1997. <http://www.unm.edu/~bber/demo/poproj.htm>

⁹ The Housing Affordability Index compares the median family income to the median housing price. The housing affordability figures assume a 20% down payment and that no more than 25% of a family's income goes to paying the mortgage. In Albuquerque the Housing Affordability index is 130, meaning the median family can afford the median home. In Santa Fe it is 96, which suggests that the median family cannot afford the median home, and in Las Cruces it is 146, suggesting it is easier to afford a home. The median family income in Las Cruces is near 37 thousand dollars.

¹⁰ Previous research identified the presence of an airport having daily commercial service and annual enplanements (passengers boarding) of 25,000 or more as a key factor separating fast-growing economies from those that grow more slowly or are in decline.

¹¹ Kalwarski, Tara, Sarah Max, Janey Paskin, and Cybele Weisser, October 2005. "Where you'll live: If your idea of retirement is expanding your horizons, where better than a college town?" http://money.cnn.com/2005/10/10/retirement/bpretire_introduction_0511/index.htm (Accessed December, 2005).

¹² Richards, B. "Linking Up. Many Rural Communities Are Growing Up Again: A Reason: Technology". *The Wall Street Journal*. Vol. CXXXI, No. 100. November 21, 1994.

¹³ For example, commenting on attempts to protect roadless lands through Wilderness designation in the early 1990s, Montana's Senator Conrad Burns wrote "The other side [conservationists] argues that we should lock up most or all of these acres in wilderness or de facto wilderness, and as a result, lose forever the potential of thousands of jobs. That's the issue: Lock it up forever or put people to work." (*Great Falls Tribune*, 1994).