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Determining Historic Ethnic Changes in Sierra County and New Mexico 1870-2000

Destiny Mitchell

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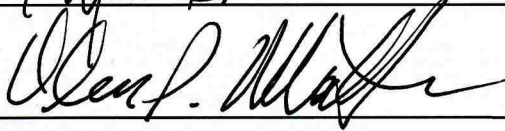
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DETERMINING HISTORIC ETHNIC CHANGES IN
SIERRA COUNTY AND NEW MEXICO 1870-2000

BY

DESTINY MITCHELL

BS GEOGRAPHY
NEW MEXICO STATE UNIVERSITY, 2005

THESIS

Submitted in Partial Fulfillment of the
Requirements for the Degree of

**Master of Science
Geography**

The University of New Mexico
Albuquerque, New Mexico

December, 2010

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B.S., Geography, New Mexico State University, 2005
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ABSTRACT

With New Mexico being a tricultural state, it is anomalous to find a county whose racial and ethnic makeup is strikingly dissimilar when compared to the state as a whole. Sierra County, New Mexico has the second highest percentage of Anglos in the state, only eleven percent below the highest, Los Alamos. In order to determine why Sierra County is so unique, an understanding of the historical ethnicity must be taken into account. Using surname analysis, this thesis obtains historical percentages to be compared with present day data. The results show the differences for select years from 1870 to 2000 and help to understand the settlement patterns of Sierra County, New Mexico. Such data is useful when planning for the future.

This thesis concludes that the size of Hispanic populations of New Mexico have shifted significantly from 1870 to 2000. From a predominantly Hispanic society to a more tri-cultural state, Sierra County follows the same patterns that New Mexico does in many ways. Though numbers indicate that Hispanic populations are not increasing relative to total populations, this does not mean that they are declining or that Hispanic populations are being lost. The results show that an influx of Anglo and other ethnicities has caused the ethnic patterns to shift.

Analysis of surnames obtained from historical census data has allowed for the comparison of past Hispanic percentages to those of the present. This information allows us to see trends and patterns that correlate with settlement, migration, and population shifts. New Mexico today is unique among states and has changed significantly through the decades. This thesis explores those changes and highlights the impacts of the racial and ethnic demographics over time.

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Chapter One: Introduction

1.1 Background

The focus of this paper is to determine the racial and ethnic changes in Sierra County for the past 130 years. This information will allow conclusions to be drawn about the settlement patterns of the county in comparison with those of the state. This thesis is important to the field of geography in that the methodology used is unique and has never before been applied to Sierra County and New Mexico as a whole. The maps and tables created are exclusive to the data they represent and give better understanding of the ethnicity of the state for select years since 1870.

The research question that is to be addressed is how the changes in ethnic percentages over time have affected the present populations of Sierra County and New Mexico. This question is not easily answered by looking at preexisting tables and maps and comparing or analyzing them. This question can only be answered by creating those tables and maps using past census data and adapted and digitized shapefiles to be used in the analysis.

1.2 Goal

The goal of this paper is to characterize spatial and temporal patterns in ethnic and racial populations in Sierra County and New Mexico from 1870 to 2000. This information will be used in determining the rate of changes, the ethnic and racial differences, and settlement patterns of Sierra County and New Mexico together.

1.3 **Objectives**

The first objective is to accurately represent the Hispanic populations in New Mexico for the years 1870, 1930, 1980, 1990, and 2000. Conclusions and analyses can be drawn from the finished products in order to help visualize the changes over the years, and between counties. The second objective is to accurately show the Hispanic populations for Sierra County, New Mexico from 1870, 1900, 1910, 1920, 1930, and 2000. This information will allow differences to be highlighted on a county wide level between precincts in Sierra County. Determining the changes in the Hispanic populations will also allow conclusions to be drawn about the current racial and ethnic makeup of Sierra County in 2000.

The third objective of this paper is the analysis of spatial-temporal patterns in the context of historical events. Time and space matter in Geography when studying specific cultures and their surrounding areas. The focus of the economy and cultural traits of Sierra County have shifted significantly over the past 130 years. This thesis works to show these transitions and place them in a historical perspective relative to the ethnic and racial makeup of the county.

The expectations for this information are varied. A currently predominantly Anglo county such as Sierra would assume a past that was also dominated by Anglo populations. But measuring Hispanic populations where there were no specific delineations of Spanish/Mexican/Latino ethnicity proves to be difficult. This thesis should demonstrate how to build an ethnic profile for the past, to be compared with present ethnic and racial data.

1.4 **Study Area**

The study area for this paper includes the state of New Mexico, and specifically the county of Sierra. New Mexico is located in the southwestern United States. It is one of the four corner states, being bordered on the west by Arizona, the north Colorado, and the east Texas with a small portion touching the panhandle of Oklahoma. Mexico borders it to the south. It is an extremely diverse state physically and ethnically. It is touted as being a tricultural state, meaning it contains a mixture of Hispanic, Anglo and Native American populations all within more equal percentages than the rest of the United States.

Sierra County is located in the southwestern part of New Mexico. Physically it manifests itself as a basin and range landscape, with three mountain chains running north and south, interspersed with basins or valleys. The majority of the current settlements in the county are in the valley, along the Rio Grande. However, historical settlements were focused around mining districts in the western Black Range Mountains of the Gila National Forest, and the eastern Jornada del Muerto, where the famed El Camino Real was located and later where the AT&SF railroad had frequent stops. Determining the ethnicity of these early settlers is integral to this thesis, and will help to understand the current demographics of the county today.

Chapter Two: Literature Review

2.1 Introduction

This literature review is organized into three main parts: Settlement history of New Mexico and the West, settlement patterns of Sierra County, and census data and surname analysis. These sections formed the basis for this thesis and allowed for the interpretation of results gained from the methodology. Understanding settlement patterns in the western United States and particularly New Mexico and Sierra County will allow for an enhanced comprehension of the conclusions and their applications.

In order to make suppositions about current demographics including race or ethnicity, the settlement history of an area must first be understood. The settlement patterns of every city in the entire world are different and unique. They are also shifting; the demographics of an area change over time, and there are many stimuli to this process. A plethora of factors influence the composition of each city including the environment, cultural changes, and financial situations, each placed within an historical context. The demographics of New Mexico follow similar patterns, and this section explores the impacts on the settlement history of Sierra County, New Mexico.

New Mexico is widely known as a tricultural state (Jenkins, 1974.) However, two of its counties –Los Alamos and Sierra- have a significantly higher percentage of Anglos than the rest of the state, as shown by 2000 United States Census Bureau data. In Los Alamos, this high percentage can be attributed to the presence of Los Alamos National Laboratory and the employment of highly educated and primarily Anglo scientists. Sierra County, on the other hand, presents something of a mystery. Although surrounded by

counties with more than 50% Anglo population, Sierra County stands out as the highest, with 73%. If the western United States was settled according to general trends and patterns, and New Mexico followed suit, what makes Sierra County so different? The research behind settlement patterns and demographic data may reveal the uniqueness of this sub-region of the Southwest.

The history and geography of New Mexico are intertwined and very diverse. Each culture that has passed through this area and called New Mexico home for even the briefest of periods have left behind their own cultural imprint upon the landscape. From Native American populations whose history is hard to trace due to lack of sufficient written records, to Spanish colonial settlements all the way to the Anglo expansion on the new frontier, New Mexico's settlement history is varied and filled with sundry cultural traits.

2.2 Settlement of New Mexico and the West

New Mexico is a unique state. Encompassing various physical landscape traits including snow capped peaks and desolate deserts, numerous forests and expanding urban centers, the state is set apart from the rest of the country for many different reasons. Almost always included in the geographic boundaries defining the "Southwest" as a distinctive region of the world (Meinig, 1971), New Mexico combines the cultures and clashing histories of three specific groups of people, Anglo, Hispanic, and Native American, whose heritage and traditions are so diverse that they have profoundly shaped the cultural landscape of this region.

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Table 2.1 shows a brief timeline of the settlement history of the western United States. The table highlights important events such as land acquisitions, statehood, and the introduction of important laws that have affected the settlement patterns west of the Mississippi River. This table sets the base line for the first section on the settlement of New Mexico. Figure 2.1 shows the different acquisitions that created the American West. The red section denotes the Texas Annex of 1845. The Mexican Cession of 1848 ceded the green section to the United States which included the future states of California, Nevada, Utah, Arizona, and parts of Colorado and New Mexico. The blue section denotes the Gadsden Purchase of 1848 which allowed for the creation of the railroad across the southern United States. This map of land acquisitions is integral to understanding future racial and ethnic indicators as explored in more detail under the history of census data.

Table 2.1 Brief timeline of events in the western United States

Year	Event
1812	General Land Office created
1841	Oregon trail created
1848	Gold discovered in California
1848	Mexican cession
1850	Utah and New Mexico territories founded
1859	AT&SF Railroad chartered
1853	Gadsden Purchase
1862	Homestead act gives 160 acres to settlers outside of the original 13 colonies, stock raising act gave 640
1866	Mining law governs mining claims
1876	Colorado admitted to the United States
1877	Desert lands act gives 640 acres to married couples at $1.20 per acre, half the acreage was given if single, but must show proof of irrigation to desert land
1889	North and South Dakota admitted to the United States
1890	Idaho and Wyoming admitted to the United States
1896	Utah admitted to the United States
1907	Oklahoma admitted to the United States
1912	New Mexico and Arizona admitted to the United States
1916	Stock Raising Homestead Act

Figure 2.1 Western Territories of America

Source: Map of the Territory Ceded by Mexico to the U.S. after the Mexican-
American War, c. 1848-1953, Giclee Print

While New Mexico is constantly touted as tricultural, Sierra County presents an atypical situation. According to 1997 population by race estimates, the state of New Mexico has 40% Hispanic, 9.1% American Indian, 2.6% Black, and 1.4% Asian/Pacific Islander (BBER, 2000). Non-Anglo as a whole constitutes 51.4% of the population of New Mexico while Anglo is represented by 48.6%. In comparison, Sierra County is comprised of 25.8% Hispanic, 0.8% American Indian, 0.6% Black, and 0.2% Asian/Pacific Islander. Sierra County's Non-Anglo percentage is at 26.8% and Anglo is at 73.2% (BBER, 2000). These percentages are significantly different from the statewide composition and are divergent from the demographic compositions of other counties in the state.

Sierra County and New Mexico have followed general settlement patterns similar to those in the West. All regions are subject to change over time and the racial and ethnic arrangement of certain cities, states, and counties also varies. Native Americans had free reign of North America until the European discovery of the continent in the late 1400's. The infusion of European settlers and the subsequent colonization of the eastern and southwestern United States birthed much contention between the cultures on the continent. The creation of the United States as a nation in the 1700's and the westward expansion of settlement brought these culture clashes to a climax. With Spanish colonies and influences already in existence throughout New Mexico and the Southwest, the "Manifest Destiny" approach taken by the newly established United States helped to define settlement in the area in a slightly different way than in the eastern United States (Turner, 1893).

Settlement of the western United States was characterized by many influences and ideologies. The philosophy of "The rain follows the plow," was a large push for westward expansion (Turner, 1893). The Homestead Acts of the late 1800's also helped bring settlers to the arid West, with the prospect of free land and opportunities (Glicksman, 1995). Cities, towns and villages sprang up along rivers, at the bases of mountains, and any place where agriculture, timber, and mining could be implemented or exploited. Racial, ethnic and religious diffusion became inevitable. Mormon colonies settled the majority of Utah, Asian immigrants migrated to the West to help build the transcontinental railroad, and Mexican employees worked in the mines from Texas to California (Worster, 1985; Powell, 1950; Meinig, 1971.)

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Transportation had a large impact on settlement of the West. In northern New Mexico, the native *Hispanos* attempted to continue their agrarian existence but found it difficult with the new neighbors encroaching on their lands (Dunbar-Ortiz, 2007). With the construction of the railroads in the 1880's, towns such as Gallup and Albuquerque, New Mexico, and Holbrook and Flagstaff, Arizona, were born and boomed with the new economic influx (Meinig, 1971). The El Camino Real, a major transportation route from the center of Mexico to Santa Fe since the 1500's, was a magnet for small communities along the way. Because of the Jornada Del Muerto, a desolate segment of the El Camino Real, traveling through Sierra County became known as the "Journey of Death," despite the many small towns that dotted the treacherous path.

The settlement of the West is distinct from that of the eastern United States in many ways. D. W. Meinig gives an overview of the settlement of the Southwest in his 1971 book, "Southwest: Three peoples in geographical change, 1600-1970." From Native American Pueblos and settlements to Spanish colonial domination, the conflicts between the cultures of the Southwest are examined. Economics, demographics, and cultural indicators are observed, and a history of the Southwest emerged from his writings. Though only examining the Southwest up to 1970, Meinig offers a great overview of the history of the West and how many communities came to exist. Major indicators of settlement for small communities can be linked to those in Sierra County.

Cultural observations and perceptions of the West are brought to the forefront of geographic thinking in Burt Noggles' 1959 work, "Anglo Observers of the Southwest Borderlands, 1825-1890: The Rise of a Concept," and Mary Pat Brady's 2003 work, "Full of Empty." Both works explore the conceptual transformations that occurred in the

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West at the turn of the century. From tricultural identities to economic stabilities, both of these works helped to define an historical Southwestern impression describing the frontier as a zone of contention and exploration.

The settlement of the American frontier followed general patterns as explored in table 2.1. New Mexico followed many of the same patterns, allowing settlers to acquire land by homesteading, ranching and farming, as well as allowing the natives to retain some land through land grants and reservations. As the focus is narrowed to Sierra County, similar traits and patterns emerge. However, many of the towns located within Sierra County do not share such a prosperous fate as some in the West have.

2.3 Settlement History of Sierra County

Sierra County spans a section of the Rio Grande Valley, and ranges west of the San Andres Mountains and east of the foothills of the Gila Mountains. It also covers Derry to the south and north to Monticello near the border of Socorro County. Sierra County stretches across 4,180 square miles with an average of about 3.2 persons per square mile, New Mexico has 15. Figure 2.2 shows western Sierra County in 1895 and illustrates the towns, mountains and rivers prominent at that time.

Figure 2.2: Sierra County, 1895
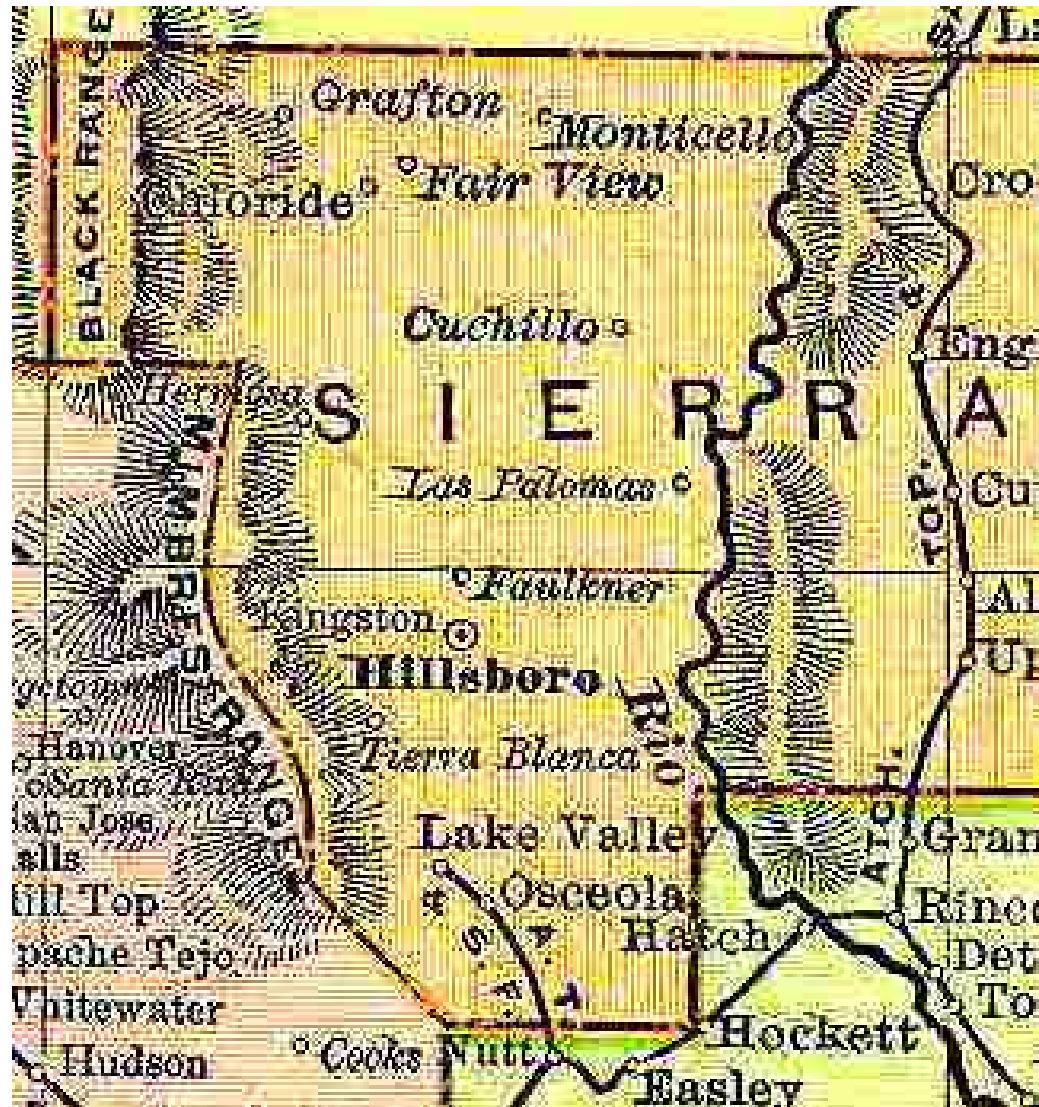
Source: 1895 U.S. Atlas, scanned image from
http://www.livgenmi.com/1895/NM/County/sierra.htm.

The settlement history of New Mexico is unlike the settlement history of the

majority of the United States. While all of North America was inhabited by indigenous

cultures established for thousands of years, the majority of new settlement on this continent happened from the 16th century to the present. New Mexico was one of the first areas explored by Spanish conquistadors. After the utter conquest and basic annihilation of the Aztec Empire in Central Mexico, Spanish merchants, military, and explorers traveled north into present-day New Mexico.

Creating strongholds along the route from central Mexico up to Santa Fe, Spanish explorers encountered many indigenous people and left their imprint on the cultural landscape. Pueblo Indians had settlements all over the Southwest for hundreds of years, existing in semi-urban settlements and communicating with local tribes for trade, water, crops, knowledge, and survival. The introduction of a new culture severely disrupted this previous pattern of communal coexistence.

The region that present-day Sierra County, New Mexico encompasses was affected by this settlement pattern as well. While large Spanish settlements were not prominent in Sierra County, many battles occurred between Spaniards and Indians, and many lives were lost along Jornada Del Muerto. Spanning more than forty miles between the San Andreas and Sacramento Mountains, this desert wasteland was the most "convenient" way to travel from the major cities and ports in Mexico, to the newfound settlements in northern New Mexico (Boye, 2006).

The El Camino Real, or Royal Road, progressed from Mexico City to Santa Fe and followed the Rio Grande River for the majority of the trail. However, through present-day Sierra County, a detour ran through the Jornada, far from food, water and shelter. Access to the river was blocked in this area by two small mountain ranges, the Caballo and Turtleback Mountains. The area around the Rio Grande was also plagued

with canyons and arroyos which made crossing via wagon or horseback difficult. Many caravans traversed the Jornada, and several were lost along the way.

In the middle 1600's Don Juan De Oñate founded the city of Socorro, which is Spanish for "help," just north of the Jornada del Muerto. This little town was a blessing because it was created in an area devoid of water and food and constantly raided by Apaches. The Indians that lived in the present day Sierra County area in the early 17th century did not have permanent settlements. There were no known pueblos in the area, and small farming villages on the Rio Grande or in canyons that seasonally flooded were only attributed to a few bands of Native Americans (Bryan, 1929). Traveling Spaniards avoided many indigenous persons through the Jornada because of the marauding Apaches. However, according to journals and early documents from the area, there were several peaceful tribes that settled in the deep canyons on the base of the present-day Gila National Forest (Wilson, 1985). With the onward expansion of the Anglo settlers and United States military, however, many of the few native settlements retreated farther and farther into the forest, and were not seen very often in the 19th and 20th centuries and remain virtually non-existent today.

Sierra County is home to numerous ghost towns, many whose histories are inextricably linked to Anglo innovations. There were only a few Spanish settlements in the area, including Alamocita, San Jose, San Albino, Zapata, Placita, San Miguel, and Tierra Blanca, all of which are now considered ghost towns and are not inhabited by more than fifty people (Pearce, 1950). These Spanish settlements were mainly early attempts at farming or mining communities, but they were abandoned shortly before the Elephant Butte Dam was completed.

Anglo expansion into central New Mexico happened around the 1850's. Government funded explorations, military endeavors, homesteading relocations, and mining enticements drew many Anglo people to New Mexico. Sierra County had its share of Anglo towns, which, in relation to other counties in New Mexico, is evidenced by its largely Anglo population today (U.S. Census Bureau, 2000). The majority of Anglo cities that were founded in Sierra County were for mining purposes. During the gold rushes of the 1850's, little villages sprang up all over western Sierra County in the foothills of the Black Range Mountains. Kingston, Hillsboro, Chloride, and Fairview/Winston are just a few of the remaining mining settlements dotting the landscape of Sierra County (Gannett, 1905).

The chronological settlement of Anglo towns and villages are linked to each other. From mining towns to railroad and stagecoach towns, these present-day ghost towns once had booming populations, saloons, banks, town halls, and numerous houses. In the 1880's, a line of the Atchison, Topeka and Santa Fe Railroad (AT&SF) was built through the flat and barren Jornada. The railroad made construction of the Elephant Butte Dam possible, but with the creation of highways and access to personal vehicles, the AT&SF Railroad was abandoned for easier modes of travel. The railroad is still used today but has only a glimmer of its past importance. Many small towns sprang up along the railway in the east, including Cutter, Engle and Marion. These communities are considered ghost towns today, as only a small percentage of their peak populations still remain in the area. Other towns were founded along the stagecoach route that brought travelers and goods to and from the mines in the western part of the county (Wilson, 1985). Cuchillo is a prime example of a stagecoach town. Classified as an Anglo

settlement, Cuchillo draws its name from the Apache Chief Cuchillo Negro (Black Knife) said to inhabit the area. The chief was slain by Anglos, and a creek outside of the settlement was named for him (Sierra County Historical Society, 1979).

Early Indian settlements in the area, such as the one near Monticello called Ojo Caliente, survived by hunting and gathering, as well as some farming. Little is known of the early Spanish settlements, but the majority of the Anglo settlements primary economic subsistence was from mining or manual labor. Farming along the Rio Grande and in canyons provided inhabitants with a steady supply of food for long, dry summers and crisp winters (Bryan, 1929). Little evidence has been found on the interaction between different settlement groups, but journals and logs of the U.S. military from the 1850's-1900's Anglo officers had attempted to aid Indian settlements in the area with farming (Wilson, 1985).

Topography helped and hindered settlement processes in these areas, but it nevertheless helped to designate what areas would be settled and when. Many communities were founded along the Rio Grande, many next to existing mines in the Black Range and Mimbres Mountains, and some even along the flat desolate plains of the Jornada del Muerto. Lack of vegetation along the lower elevations hindered hunter/gatherer lifestyles, but the lush forests in the western part of the county allowed many communities to flourish. Seasonal monsoons were predicted and taken advantage of, and a retreat to higher elevations in the summers by some Indian tribes showed knowledge of the scorching temperatures that could be reached in the plains below.

According to the 1979 book produced by the Sierra County Historical Society, "The History of Sierra County", settlement in the area came about in small waves. Many

of the communities today are classified as ghost towns, small remnants of past flourishing cities. Kingston, Hillsboro, and Chloride are still populated to some extent, but only contain a small percentage of their peak populations. Towns such as Lake Valley, Hermosa, Chiz, and Gold dust, currently have no one residing there, where once hundreds of people thrived. Most western settlements in Sierra County, with some populations peaking around 7,000, were founded because of mining. Entrepreneurs possibly heading towards California in the mid 1800s found their way to Sierra County and began staking claims. Many mines are still in operation in southern New Mexico, including the St. Cloud Mine in Sierra County. The mining legacy contributed to early settlement in the area but was not as lucrative of a trade as originally thought.

Sierra County's early settlement was similar to that of New Mexico in a general sense, but factors such as mining, agriculture and the railroad helped to develop the county in a different climate. Though no pueblos or permanent Indian settlements are found within the county, many bands of Indians traveled through the area and may have even wintered in the warm sunny valley prior to the 1600's (Wilson, 1985). Evidence of flood water farming and rudimentary agriculture has been found in the canyons and arroyos of northern Sierra County, as well as on the outskirts of the Gila National Forest in the foothills of the Black Range Mountains (Bryan, 1929). Spanish settlement in Sierra County had been minimal, though not all together absent. It wasn't until the Atchison Topeka and Santa Fe Railroad came through in the 1880's that communities began to be settled (Meinig, 1971). The mining boom of the mid 1800's helped generate large communities in Sierra County, though a subsequent bust caused them to fade away with time (Wilson, 1985). Many towns in Sierra County were once thriving cities, and the high

representation of ghost towns today helps to separate Sierra County from other counties in New Mexico.

The geography of Sierra County has also played a role in the settlement history of the area as New Mexico's own unique geography influenced its settlement. Within New Mexico and Sierra County, elevation was a key factor in attracting settlers, especially those who suffered from lung diseases and tuberculosis. The mountainous terrain may have been a deterrent to settlement before the advent of the railroad, but many of these forested areas were exploited for timber or used for grazing and agricultural land; Today they are prime places for recreation and tourism. The warm climate of New Mexico has encouraged settlement in the state, more so than in Arizona before the invention of the air conditioner. And one of the most integral factors for settlement in the area is the Rio Grande.

Water is essential to any civilization, especially those in dry and arid regions. The Rio Grande has been developed and engineered for maximum efficiency in the desert landscape. In 1905, the United States Congress instituted the Rio Grande Project, which was later supervised by the Bureau of Reclamation. This extensive project was proposed to provide power and irrigation to Southern New Mexico and Texas during droughts and dry seasons (Bardwell, 2004). In 1905, under this project, the construction of Elephant Butte Dam was authorized. Construction of the dam was not completed until 1916, but the reservoir began filling in 1915 (Clark, 1975). The Rio Grande Project is one of many examples of human-environment interaction in New Mexico and helps to illustrate the settlement patterns of the state and Sierra County.

Present day Sierra County, Figure 2.3, has a few different characteristics than the past. The largest city in Sierra County is Truth or Consequences, (TorC), with a population of approximately 8,000, according to the 2000 U.S. Census. Originally and aptly called Hot Springs, the town won a contest in 1950 to change its name to the popular radio show, "Truth or Consequences," hosted by Ralph Edwards in the 1940's. Hot Springs/TorC has also been the county seat since 1938. The Rio Grande dissects Sierra County passes through TorC at the county's approximate center. There are numerous small villages and towns that surround the "hub" of TorC, which would be classified as suburbs if it were a metropolitan area. Williamsburg is a small village attached to the south end of the county seat. It split off from TorC in 1949, and it has a current population of about 527 people.

Figure 2.3 Study Area: Present Day Sierra County

Present Day Sierra County

Kline Place
Rouse Place
Grafton
La Petra
Franks Place
Monticello
Jewkes Place
Placitas
Chloride Winston
Crocker
Chise
Elephant Butte Reservoir
Cuchillo
Rock Canyon
Hot Springs Landing
Garcia Place
Hermosa
Engle Lake
Mine Lake
Williamsburg
Elephant Butte
Jomada
Truth Or Consequences
Kelso Place Dunn Place
Rio Grande
Jomada Lakes
Murphy Place
Las Palomas
Cutter
Francisco Rascon Place
Caballo Reservoir
Caballo
Kingston
Hillsboro
Oasis
Percha Creek
Upham
Rio Grande
Alivio
Derry
Lake Valley

Legend
- ◆ Sierra Cities
- —— Sierra Highways
- +—+ AT&SF Railroad
- Lakes and Rivers
- Sierra County

Source: RGIS

0 5 10 20 Miles

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Sierra County's history of settlement is a bit haphazard. Towns sprang up and disappeared overnight. Permanent residence was not a major focus for settlers. TorC was linearly settled along the Rio Grande, with a semi-grid pattern of streets flowing to the west of the river. This grid pattern is noticeable on aerial photographs, but not as much from a ground level perspective. The downtown section of TorC, not so much a plaza as an oval, has streets named for the founding "fathers" of the city. The bulk streets of the town are numbered, First to Ninth, being intersected by the "tree" streets to the west, and the "ore" streets to the east. A stoplight marks the crossroads of TorC, with Third Street heading towards Elephant Butte dam and towns farther east, intersecting with Main Street traveling to the "commercial" district of town. This main road is characterized by numerous small motels, and further north with several restaurants and fast food places.

About 5 miles to the Northeast of TorC, is a recently founded city of Elephant Butte. This city sprang up around Elephant Butte Lake. The City of Elephant Butte is proud to be New Mexico's 101st city, founded in 2000, and though in the winter it is a retirement community, during the summer it is a booming tourist attraction, pulling travelers from all over the state and surrounding areas.

Table 2.2 shows the current and peak populations of selected cities in Sierra County New Mexico. Also included is a primary reason for settlement of the city and the year it was founded. This table was compiled from US Census Bureau data and information obtained from the Sierra County Historical Society. Since the US Census Bureau usually only compiles information based on decennial counts and some peak populations could not be confirmed. Peak populations are estimations of a towns populous between official census records. The majority of peak populations included on

table 2.2 were referenced on historical documents, tourist pamphlets, and in the Sierra County Historical Society publications. Foundation reasons are also semi-speculative, and come predominately from SCHS publications as well as online city historical sites and New Mexico Ghost town articles. The table helps to illustrate the population changes between individual cities being discussed in this section.

Table 2.2 Peak populations by year for cities in Sierra County

City	Year founded	Why Founded	Peak Population	Census Pop. 2000
Arrey	1900's ~	Farming	N/A	698
Caballo	N/A	Hydraulic	654	654
Chloride	1881	Silver	500	30
Cuchillo	1850	Stage Station	N/A	50
Cutter	1900-1910	Railroad	3,500	N/A
Derry	1900's ~	Farming	N/A	159
Elephant Butte	2000	Hydraulic	1,390	1,390
Engle	1879	Railroad	500	N/A
Hillsboro	1877	Gold/silver	1,200	305
Kingston	1885	Gold/silver	7,000	50
Lake Valley	1880	Gold/silver	4,000	0
Monticello	1856	Mining	3,000	300
TorC	1910 ~	Hydraulic	8,000	8,000
Williamsburg	1949	Hydraulic	N/A	527
Winston	1880's	Mining	3,100	97

To the east of the Rio Grande, over the Caballo and Turtleback Mountains, lie two small towns of Engle and Cutter. These towns once thrived as train stops along the Atchison Topeka and Santa Fe Railroad. This railroad cuts its way down through the center of New Mexico generally following the Rio Grande River. The railroad runs on the other side of the mountains, which is part of the Jornada del Muerto. Cutter was named for a railroad engineer and once had about 3,500 people living there. Engle's max population was about 500, and jobs came with the construction of the Elephant Butte

Dam from 1911-1916. Population began to decline around 1945, with areas east of the towns being restricted by the creation of White Sands Missile Range. Engle and Cutter are barely remnants of the towns past thriving economies, and have been classified as ghost towns.

South of TorC, situated in Palomas Canyon and next to the Rio Grande underneath the Caballo Mountains, is the town of Las Palomas. Spanish for "the Doves," this city is more of a suburb of TorC, as it has no gas stations or general stores, but is mainly a community of farmers and ranchers. Farther south of Las Palomas is a town called Caballo. Spanish for "horse," this community is basically hydraulic, though its main economies are in farming, camping, and tourism. Caballo reservoir is a smaller lake than Elephant Butte and separate from it, though most would consider them the same. The Percha Creek diversion dam disperses water from the Rio Grande and Caballo Reservoir here, and tourists come to enjoy quiet fishing, boating and camping along the lakes deserted beaches.

The southernmost towns in Sierra County are the small farming communities of Arrey and Derry. Arrey is known for its green chile and onion fields. It has a small elementary school, and a gas station, convenience store, and cafe which makes it sort of self sufficient in comparison to the other towns in the county. Its population is mainly Hispanic Chicano and a single church shows the lack of diversity in the religious community. Derry is a lot like Arrey in the farming respects, but also has industry in dairies.

The western part of the county is characterized by higher elevations as the landscape climbs up to the eastern slopes of the Black Range and Mimbres Mountains.

There again, are two towns, settled in the foothills of the mountains, Kingston and Hillsboro. In the late 1800's, mining was a huge industry. Silver was discovered in 1882 in the Gila Wilderness and by 1885, Kingston had a population of about 7,000. Apache raids, led by Chief Victorio, were common, but when he was finally persuaded to leave the town alone, the residents named their three-story hotel after him. Today, Kingston is classified as a ghost town, with only about 50 residents. Hillsboro has a similar history. Founded in 1887, it was once the county seat of Sierra, with over 1,200 people in 1907. Area mines produced about $6 million in gold and silver. But as the mining industry disappeared, so did the residents. The seat was then moved to TorC. Today, Hillsboro's population is about 305, and it is mainly comprised of ranchers, and residents who wish to live in beautiful quiet scenery of the forest.

Over 100 years ago, the town of Lake Valley south of Hillsboro, had over 4,000 people. Also beginning as a mining town, Lake Valley's claims to fame include a gold nugget valued at $7,000, and a mine that produced about $2.5 million worth of silver, so pure that there was no need to smelt it. Sadly, the last two residents of Lake Valley moved out in the 1990's, and the town is now literally inhabited by ghosts.

There are 5 small towns in northwestern Sierra County: Cuchillo, Winston, Chloride, Monticello and Placita. Almost all of these are considered ghost towns. Set back in canyons that lead away from the Black Range Mountains, and far from the Rio Grande, these communities began mainly as mining settlements. Cuchillo was founded in 1850 as a stage stop between the mining towns of Chloride and Winston and the railroad in Engle. Just west of Cuchillo is the small town of Winston. With a hint of forests, and excellent mountain terrain, this quiet town possesses the only general store in this area of

the county. Originally called Fairview, it was founded in the early 1880s and at its peak had about 3,100 people. It was renamed Winston after the death of a prominent member of the community and future state legislator Frank H. Winston.

West of Winston is the town of Chloride. The town was named in 1881, after a prospector discovered silver chloride ore in the canyon. The population in the 1880's was about 500, but it has also dwindled down to only about 30 residents according to the 2000 Census. The post office was officially closed down in 1956, and today it is just another one of Sierra Counties numerous ghost towns (Sierra County Historical Society, 1975).

Monticello, the northernmost town in Sierra County, was originally called Cañada Alamosa, Spanish for "Canyon of the cottonwoods." It was settled in 1856. Nearly 500 apaches lived at Cañada Alamosa between 1870 an 1877, where the Southern Apache Agency was headquartered during that time. In 1881 the town's first postmaster renamed the town in honor of his hometown of Monticello, New York. About 10 miles south of Monticello is the small town of Placita, or "little plaza," settled in the 1840's. More than 1,000 families lived in Monticello Canyon, containing both Monticello and Placita during its peak, as compared to today, where there are fewer than 100 families residing at present.

Sierra County is full of ghost towns. There are countless more whose histories are shrouded including Alamocita, Aleman, Andrews, Chiz, Faulkner, Gold Dust, Grafton, Hermosa, Jornada, Marion, Oak Springs, Pittsburg, Robinson, San Albino, San Jose, San Miguel, Shandon, Tierra Blanca, and Zapata. Many of these villages were just small stops along the AT&SF railroad, and a few were prosperous mining claims. Viewing a partial

map of Sierra County from the 1880's, Figure 2.2 on page 11, shows some of these towns displayed prominently, whereas most maps today barely mention them.

The towns of Sierra County are a bit scattered around, but surrounding them for the most part are two large areas of land that belong to Ted Turner, of Turner Broadcasting. The lands on the eastern side of Sierra County are considered part of the Pedro Armendaris Land Grant. This grant, covering about 360,000 acres in Sierra and Socorro County, was originally a Hispano land grant given in 1819. Ted Turner purchased this land for less than $100.00 an acre. To the west of TorC lies Turners' Ladder Ranch. This 210,000-acre ranch is home to buffalo herds and other native species as well as several Sierra County residents who live and work there.

All of these cities represent a whole, sometimes dubbed "suburbs" of Truth or Consequences, though they are not geographically consistent with the term. However, they do help represent and interpret what Sierra County as a culture realm is. From abandoned mining towns, to ghost towns on out of date transportation routes, to farming communities and tourist attractions, all the habitations of Sierra County make it a uniquely different area in New Mexico.

TorC is set apart from the rest of its surrounding towns, by having a nearly equal representation of Hispanics and Anglos. Save Derry and Arrey, TorC has the most Hispanic's per capita in Sierra County. According to the 2000 Census, Sierra County is 70% white, non-Hispanic, and 26% Hispanic. This influences the cities' culture, and for a large part, that of the county. The population of TorC is about 8,000, with the entire county totaling 13,125. TorC is the only town to be classified as a city, and this is a leap. It has 27 restaurants, 25 motels, 8 gas stations/convenient stores, plus numerous other

shops and businesses. There is an ever-expanding elementary school that all county residents attend save those in Arrey and Derry, one middle school, and one high school, Hot Springs High.

Sierra County today is quite a different place than the past. With Spaceport America offering trips out of the earth's atmosphere and the huge tourism industries of Elephant Butte Lake and the Hot Springs District, Sierra County attracts a more diverse group of people than it did in the past. Miners, farmers, ranchers, or even railroad and dam construction workers rarely decide to settle here in the present day. Elephant Butte Lake State Park controls the majority of the land around the reservoirs as well as Caballo and Percha Creek State Parks to the south.

Sierra County has a unique settlement history. From mining boom and bust towns and hydraulic societies, to harboring pit stops along the El Camino Real and Jornada Del Muerto, the county covers the birth and death of many cultural centers over the past 400 years (Wilson, 1985). The physical geography of the county covers everything from mountainous forests, to dry desert prairie, to the usually dehydrated arroyos and canyons that intersect the Rio Grande. The county also encompasses a prominent cultural landscape trait in the middle of the Rio Grande Valley, the Elephant Butte Dam. The economy of Sierra County has changed over the past 100 years. From mining, farming, ranching and logging, to a more modern economy of tourism, corporations, real estate, and the service industry, numerous of factors could have influenced who, how, when and why persons came to this area to live.

2.4 Census History and Surname Analysis

Determining ethnicity for specific areas in the present day is relatively simple. Self identifying questions have been asked on the past 4 censuses that allow for the easy categorization of racial and ethnic information. However, creating historical race and ethnicity statistics becomes difficult as specific information on the population was not identified or available. Using historical census data can help unravel some of these demographic mysteries.

With the expansion of the United States from east to west since the late 1700's, an attempt to keep track of all persons living in this country was instituted. The United States Bureau of the Census began conducting decennial census's in 1790. The information gathered was used to allocate how many representatives each state should get, based on its total population. States with higher populations received more representation. Each decade saw new or different questions added to the census. For the purposes of this paper, race and ethnicity are the focal point for the history of the census bureau.

The first census in 1790 included the original colonies and asked questions such as the name of the head of family, number of free white males and females, number of other free persons and number of slaves. No racial questions were asked. This general trend of questions continued with the census well into the mid 1800's. Though other questions were added concerning income and demographics, individual household members' names were not requested until 1850. That same year saw the addition of a race/color question, and people were asked to identify with White, Black or Mulatto. In

1870, Chinese and Indian were added to this list. Races such as quadroon, having 1/4th

African ancestry, octoroon and Japanese were all added in the 1890 census. The census of

1890 is also notable for the fact it is one of only three for which the original data are no

longer available. Almost all the population schedules were destroyed following a fire in

1921. The above listed races continued to be on the list of races for the next several

decades following 1890. It was not until 1970 that any question was asked about

Spanish/Hispanic origin.

The U.S. Census Bureau has struggled to help classify the entire population by

some sort of race or ethnicity. In the 2010 census, two separate questions were asked

about race and ethnicity. The first question asked if a person was of Spanish, Hispanic or

Latino origin. If the person checked that they were of Spanish, Latino or Hispanic origin,

the form prompted them to specify which ethnicity they were, such as Puerto Rican,

Cuban, South American, or other as shown in Figure 2.4. The next question asked what

race the person was. The question contained a note from the Census Bureau stating that

"For the purposes of this census, Hispanic origin is not a race." The list of races included

white, black/African American, Asian/Pacific Islander, Native American or Alaskan

Native, Samoan, as well as a few others. A screen shot of these questions is shown in

Figure 2.5. None of the races on the list were indicative of Spanish, Latino, or Hispanic

origin. However, a person could enter whatever race they wished at the bottom of the list,

in case they wanted to identify as German American, Norwegian American, or even

Hispanic American. This new way of self identifying race should reveal some interesting

results.

Figure 2.4 2010 Census question: Of Hispanic Origin

Figure 2.5 2010 Census Question: What is person 1's race?

Source: United States Census Bureau,
http://www.census.gov/dmd/www/2000quest.html

A prominent method of evaluating the racial and ethnic makeup of an area is by analyzing United States Census Data (Subramanian, 2001). Census data shows the current demographics of geographic areas and demonstrates the diversity among them. Many conclusions can be deduced from Census data including median ages, household sizes, and ethnic backgrounds. The Bureau of Business and Economic Research,

abbreviated BBER, at the University of New Mexico released a publication entitled "Racial Trends and Comparisons in New Mexico in the Late 20th Century: What the Census Tells us," in January of 2000. This publication gives a "description of data from decennial Censuses and recent population estimates," as well as a general overview of the demographic compositions in New Mexico and is illustrated with many maps and tables extrapolated from Census data collected over the past century (BBER, 2000). The information in this analysis helps to show New Mexico as a racially and ethnically diverse region and gives examples to support the impacts on the settlement history of Sierra County, New Mexico.

Because the U.S. Census Bureau did not have concrete ways of identifying race, especially in earlier decades of the census, a way to determine this ethnicity was needed. Hispanic origin has been estimated in the past using such indicators as native tongue, language spoken at home, place of birth or place of parents' birth etc. However, for this paper, surname analysis was used to help determine the amount of Hispanics living in New Mexico from the 1870's to 2000.

Modern census classifications for race and ethnicity are far broader than they were in the past. This allows current percentages and classifications to be analyzed in a more accurate manner. What is considered today as Hispanic was not even a concept or choice for an identity prior to 1980. This thesis attempts to map Hispanic populations in New Mexico and a brief introductory of what "Hispanic Populations" entails is needed.

In New Mexico, Hispanic or *Hispano* culture had been established long before the United States ever existed (Nostrand, 1976). This culture is not to be confused with present day Hispanic classifications such as Latino, Puerto Rican, South American or any

other subgroups that also claim to be "Of Hispanic Decent." However, the Spanish Surname is common amongst most Hispanics and can therefore be applied to New Mexico's historical census populations.

"Of Hispanic decent" does not mean that one was necessarily born in Mexico or Spain, and as with the case in New Mexico, does not mean that one even still has relatives in those countries. These small clarifications are necessary to understanding the final results of this paper, which maps "Hispanic populations," and "Spanish surnames." The results do not differentiate between Hispanic populations and subgroups, nor is any racial or ethnic affront implied. Recognizing the classifications of Hispanics and their representations is integral to comprehending historical census information.

Identifying Hispanic populations in the past is difficult as it wasn't until 1970 that the U.S. Census Bureau began asking if people were "Of Hispanic decent," or "Not Anglo." According to a Bureau of Business and Economic Research publication, from 1930-1970, the Hispanic population was classified in the white racial category. "Mexican" as a race was added in 1930, but many Hispanics did not feel that they belonged in this category because they were not "born in Mexico," or with "Parents born in Mexico" (BBER, 2000). Most Hispanics claimed that they were White, as they were clearly not Black or Asian. The categories were changed in the future to make determining race easier. But from the 1970's back, census questions were not very useful in identifying a specific Hispanic population. For example, Figure 1.1 shows the categories for the 1950 Census below.

Table 2.3 1950 Census Form Categories

- Total population
    - Urban Farm Population
- Race, Nativity and Citizenship
    - Male-
        - Native white
        - Foreign-born White
        - Negro
        - Other Races
    - Female-
        - Native white
        - Foreign-born White
        - Negro
        - Other Races
- Persons 21 years old and over
    - Native
    - Foreign born
    - Naturalized
    - Alien
    - Citizenship not reported

The subcategories, i.e. Native White, Foreign-born White, Negro and Other Races are too broad and general to be able to make comparisons between more recent data. Beginning in the 1980's, the subcategories for Race and Ethnicity became much more complex, ending with the 2000 Census even subdividing the category of Hispanic, into such subcategories as Latino, Puerto Rican, or Chicano. Native Americans, Hispanics, Mexicans, and Europeans were all grouped together under White, and the only other derivations were for Negro, or other races, which could be constituted as Asian, or any other form that was not Native White, Foreign-born white, or Negro.

The census bureau had many attempts at trying to ascertain the amount of Hispanics in the country. Early attempts included adding a "Mexican" category in the 1930's. This did not help identify the target population however, because as previously

stated, many New Mexican's had lived in the area prior to U.S. acquisition. The 1940's effort to identify Hispanics asked if person's had a "Spanish Mother Tongue." Using language as a possible Hispanic indicator was a better attempt but it did not capture the entire population. Hispanic populations were identified by surname lists in the 1950's and 1960's. The lists were established by the Immigration and Naturalization Services. This approach was not entirely successful however because of incomplete surnames lists, intermarriages, and the use of English in Hispanic households, but it was at least a rough number to work with (Buechley, 1961).

Determining ethnicity within historical census data can be done by using different factors such as examining mother tongues, place of birth, native country and surname analysis. The latter approach was explored in different studies and forms the basis of the literature review on this subject. Surname analysis has been used to determine ethnicity in many studies. One such study published in 1995 was conducted by Perez-Stable Et al, from the University of California. Their study used surname analysis to determine ethnicity among a sample of health plan members. They then spoke with the subjects personally over the phone and asked them to identify their ethnicity. They concluded that their study was 88.4% sensitive in identifying Latino men and 70.4% sensitive in identifying Latina women. The positive predictive value of a Spanish surname was below 70% for both men and women but this was later determined to be caused by a large number of Filipino's among the sample population. The study concluded that the use of the "Spanish surname list alone to ascertain race and ethnicity in the San Francisco Bay area both falsely identifies a large number of non-Latino persons as Latino and fails

to identify a small portion of Latinos." The team also urged that the use of a Spanish surname list will have varying results depending on the area of study.

Another article was published in 1983 by Cheryl Howard, Jonathan M. Samet, Susan D. Schrag, Charles R. Key and again Robert W. Buechley. This study compared two methods of ethnic identification by surname, the first being the 1980 Census List of Spanish Surnames, which was the precursor to the list used in this methodology. The other method was a computer program called GUESS, which stands for Generally Useful Ethnic Search System. They concluded that the census list was more specific, but that the GUESS program was more sensitive. They also stated that the "combination of both methods produced a 90% sensitivity and 97% specificity in males." As with other case studies they found that the accuracy in females was reduced due to intermarriage.

The main source for this paper comes from a Word and Perkins "Building a Spanish surname list for the 1990's: A new approach to an old problem." The authors stated that they were continuing work on the previous Census projects designed to build a Spanish surname list. However, they're approach different in two main ways, attempting to compensate for previous problems. Firstly, they built their list from person's who self identified as being of Hispanic decent, not just of names that sounded or were predominately Spanish. Secondly, all surnames were considered for the list based on the self identification. Previous lists left names such as Silva or Brown off the list entirely. "The assumption was that any name not on the list was not Spanish." Perkins and Word created a large list, 25,000 surnames, so that others could narrow it to their specifications. Names such as Brown, Smith and Johnson appear on that master list; however a

narrowed list of the 639 most common Spanish surnames was also generated, which will be discussed later.

Word and Perkins 1990 study, and also Passel and Word's 1980 study, were both cited for numerous articles and books. The majority of the literature utilizing Spanish surname lists dealt with the health care field. Studies attempted to determine if Hispanics and Latinos had higher risks for certain diseases, paid more for health insurance, or had changes in cancer rates. Another major topic of Spanish surname analysis was in the field of geography, attempting to map concentrations or certain locations of Hispanics and Latinos. Those articles did not use the same methodology as this paper and will not be gone into in greater detail.

Chapter Three: Methodology

The goals of this paper are to recreate statistics showing historic Hispanic and Spanish populations in New Mexico and Sierra County and to place them in spatial and temporal contexts. The methodology used is surname analysis, which was covered in the literature review. The information gathered for these analyses came from many different sources and this section explores each of those sources in turn, highlighting the data gathered from each.

3.1 Data

The data needed to create complete surname lists from historical census records was retrieved from two primary data sources. The U.S. Census Bureau's Census Finder website and Ancestry.com provided digital census records that could be copied from their websites and transferred to other programs. Three primary data sources allowed the acquisition of shapefiles to be used in ArcMap to display the historical census data. The New Mexico Resources Geographic Information System Program, abbreviated RGIS, provided county boundaries of New Mexico in shapefile format. The National Archives Retrieval Administrations Cartography Department, abbreviated NARA, helped to locate images of hand drawn precinct boundary maps for historical Sierra County. And finally, the Bureau of Business and Economic Research's website through the University of New Mexico had searchable records to find race or ethnicity information for New Mexico from 1980 to 2000.

The two main sources used for compiling surname lists came from the U.S. Census Bureau fact finder website and Ancestry.com. Fact Finder was the initial source used, and it contained complete records for New Mexico in 1870. However, it did not have complete records for New Mexico in 1930. Ancestry.com contained the missing county information but many modifications had to be made to that data. Several surnames and towns were obviously misspelled, and were corrected when they were caught. Only information relevant to location or Spanish surnames was modified, other misspellings were ignored as long as they did not influence the outcome of the data. Ancestry.com also had several pages of census data per county that were not in a digital format to be copied, and those pages were not included in the final tables.

Because records were deleted total populations for counties vary between the tables created for this thesis and the tables compiled by U.S. Census Bureau. For example, according to the U.S. Census Bureau the total population in 1930 for Bernalillo County is 45,430, and my table includes a total population for 45,335, a difference of 95 records. As a whole, there is only less than 4% of the total population for New Mexico in 1930 that is not accounted for. This information should be understood while viewing the methodology and results sections.

3.2 Census Records- Source 1

The U.S. Census Bureau's Census Finder website which displayed census records by county for different years in html format was used as a primary data source for retrieving historical census data. Each county had several pages depending on the

population of that county. Each page of raw data consisted of approximately 1,000 records. For example, Sierra County records consisted of about 5 pages, since the population in 1930 was 5,184. On the other hand, Santa Fe County surnames were displayed in 16 pages. Each page had to be opened in a separate tab, and all the data from the page was selected, copied, and pasted into a word document. The html format did not allow the data to be transferred directly into Microsoft Excel or any other type of spreadsheet program or table. With the total population of New Mexico in 1930 reaching almost 425,000, there were over 400 web pages to open, copy and paste before the list could even be searched, compared or worked on. Statewide surname information was only available for two years, 1930 and 1870 from this website. An example of the Census Finder html page is shown in Figure 3.1.

Figure 3.1 Excerpt from Census Finder html records display

AARON	ALTORA	09	HTSP	SIE	190-14
AARON	RUBY	37	HTSP	SIE	190-13
AARON	WILLIAM	35	HTSP	SIE	190-12
AARON	WILLIAM L	01	HTSP	SIE	190-15
ABALIOS	ALVARDO	39	PCT 6	SIE	203-50
ABALIOS	ELDUARADO	10	PCT 6	SIE	203-53
ABALIOS	ELOUISA	29	PCT 6	SIE	203-51
ABALIOS	JUAN	60	PCT 6	SIE	203-49
ABALIOS	MARY	18	PCT 6	SIE	203-52
ABALOS	CRESENCIO	01	PCT 11	SIE	217-05
ABALOS	EDWARDO	30	PCT 11	SIE	217-01
ABALOS	EDWARDO	38	PCT 11	SIE	218-07
ABALOS	EDWARDO JR	13	PCT 11	SIE	217-03
ABALOS	ELOISA	35	PCT 11	SIE	217-02
ABALOS	FRANCISCA	03	PCT 11	SIE	

Source: http://www.censusfinder.com/new-mexico-census-records3.htm

The next process for prepping the data was to format the Microsoft Word document pages into a form that could be transferred into Microsoft Excel. Each space or string of spaces had to be removed and replaced with a tab. Each document was saved by county, so the space removal had to be done on 33 separate documents, because

Microsoft word could not display all records in one document; the files were too large. Once the tabs were in place, the text was selected and formatted into all capital letters. It was then copied and pasted into a text document. This removed all previous formatting. The records on the text document were again selected and copied into an Excel file with each tab fitting into a single cell.

The records were cleaned and trimmed in Excel. All records missing surnames, or with surnames containing uncommon punctuation marks were deleted. All records missing a geographical location were deleted. All rows and columns were sorted and made to match. The finished products were saved by county name and eventually compiled into one large Excel file containing 4 sheets for New Mexico in 1930, and two for 1870.

The Spanish surname list was created in much the same way. Word and Perkins 639 most common Spanish surnames were transferred from PDF file to Microsoft word, modified, and then transferred to Excel. Using ArcMap, the New Mexico and Spanish surname Excel files were exported as database files, and then joined together on the Surname field. Summaries were run, and adjustments were made to the Spanish surname list based on different spellings or names that were clearly Spanish but not on the list. A new complete and modified Spanish surname list was created based on anomalies from the 1930 New Mexico census records. This new list was then joined again with 1930 New Mexico counties and reports and summaries were produced. One summary showed the total Hispanic population for each county, based on matches made with the joined Spanish surname file. Another summary showed the total population for each county.

Using those two tables, a percentage of Hispanics per county could be determined. That information was stored in Excel format to be displayed on maps in the next few steps.

3.3 Census Records- Source 2

A second data source was needed to fill in the gaps that were discovered after attempting to map the information gathered from the US Census Bureau Fact Finder site. Some counties were missing completely, and some geographical limitations applied. The second primary data source used that displayed Census records in digital format was Ancestry.com. The information on this site was not sorted by county however; it was by village or town within each county. Each page only contained about 50 records. It was an easier process to transfer the data from the online tables to an excel file. All records within each town were copied and pasted into a text document, which copied right over to an excel file. This made it easier and faster to create a finished surname list. Once all missing information was filled in for New Mexico in 1930 and 1870, those files were again joined in ArcMap and the summaries were saved back in Excel files to be mapped. An example of Ancestry.com data is shown in Figure 3.2.

Figure 3.2 Example of data obtained from Ancestry.com

Add Update add add add Padilla Herminio Head White 38 abt 1892 New Mexico add add

Add Update add add add Padilla Isabel Son White 16 abt 1914 add add add Add Update

add add add Padilla Pablo Son White 11 abt 1919 add add add Add Update add add add

Padilla Santiago Head White 72 abt 1858 New Mexico add add Add Update add add add

Padilla Cerito Head White 58 abt 1872 New Mexico add add Add Update add add add

Padilla Isabela Daughter White 35 abt 1895 add add add Add Update add add add

Cremer Manuel Grandson White 10 abt 1920 New Mexico add add Add Update add add

add Gonzales Petra Head White 74 abt 1856 New Mexico add add Add Update add add

add Gonzales Timotca Sister White 73 abt 1857 add add add Add Update add add add

Padillo Carlos T Head White 44

The information retrieved from Ancestry.com was then cleaned. Each page online contained no more than 50 records, and had to be copied and pasted into a notepad document. The information transferred did not cite the geographic area from where the residents lived. That information was contained at the top of the page in a drop down menu. The menu allowed for the selection of state, county, and city, and then gave information on precincts and districts. Once all surnames for a specific city were listed on the same notepad page, they were then copied over to an excel file. Once in excel, the data could be sorted and columns containing null information or the "add" link were removed. A clean table contained information on surname, first and middle names, age,

race, city, precinct, and county. This new table could then be analyzed and linked with the Spanish surname list and analyzed.

The process for gathering surnames for New Mexico was applied solely to Sierra County for the years 1900, 1910, and 1920 in addition to 1930. Since Sierra did not become a county until 1884, the Hispanic information for the geographic area that would someday become Sierra County had to be extrapolated from the three counties from which it was carved. Grant, Dona Ana and Socorro Counties were eventually divided up to create Sierra County. Latitude and longitude coordinates for the villages in those three counties in 1870 were gathered and displayed on a map. Overlaying a present day Sierra County map showed that five villages fell within the boundaries. Spanish surname analysis on just those five villages produced a Hispanic percentage that could be compared to later years. Ancestry.com provided the census records for Sierra County for 1900-1930. Excel files were created using the above mentioned methods, and after being linked to the Spanish surname list in ArcMap, tables showing percent Hispanic by precinct and village were produced for all four decades.

3.4 New Mexico Shapefiles

The third primary data source used came from RGIS.com, which provided shapefiles of New Mexico from 1850-2000. These shapefiles held county boundaries for each decade in New Mexico. The summaries of Hispanic percentages per county were then joined with the county boundaries in ArcMap to produce maps. The data was displayed with a graduated color scheme with a defined interval of 10% to each shade.

Both maps, New Mexico 1930 and 1870 could then be analyzed with corresponding tables to show not only the changes in county boundaries but the changes in percent Hispanic within those areas. Full maps and tables are discussed in the results section.

3.5 Sierra County 1900-1930

In order to display the Hispanic differences within the precincts of Sierra County, the boundaries for each decade had to be created. The National Archives and Records Administration, or NARA, Cartography Department provided jpeg files of hand drawn precinct maps of Sierra County for the years 1910, 1920, and 1930. An example of these files is presented in Figure 3.1. In ArcMap, all three of the jpeg files were then georeferenced to fit each decade's shapefile boundary provided by RGIS. The precinct lines and boundaries were on-screen digitized to create new shapefiles. Those shapefiles were subsequently joined with the Hispanic percentage data by precinct for Sierra County in each year. A map depicting the Hispanic percentages for Sierra County in 1900 was not created because the NARA database did not have a map on file. The information for that year remains in table format only.

Figure 3.3 Sierra County Precinct Boundaries 1920
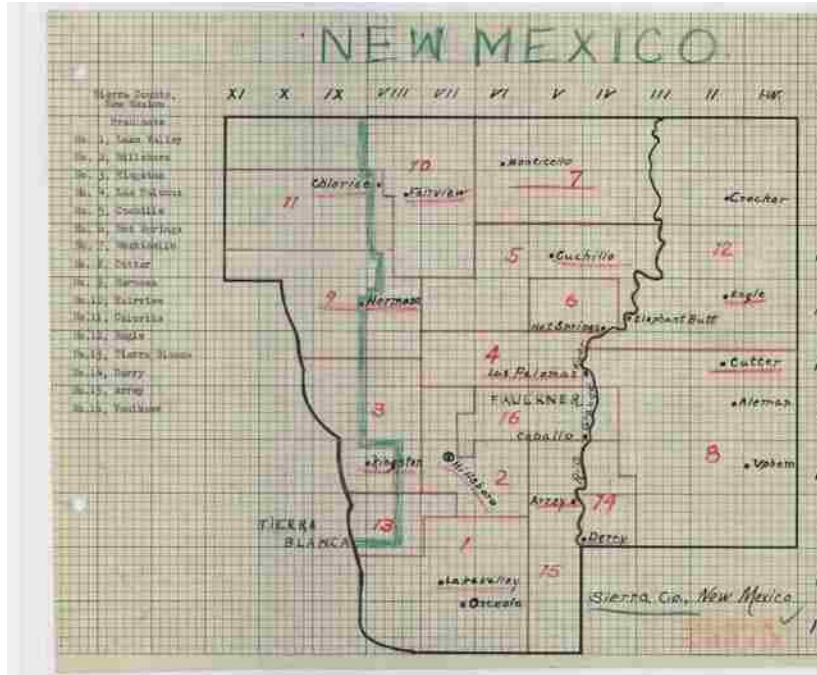
Figure 3.4 Sierra County Precinct Boundaries 1930
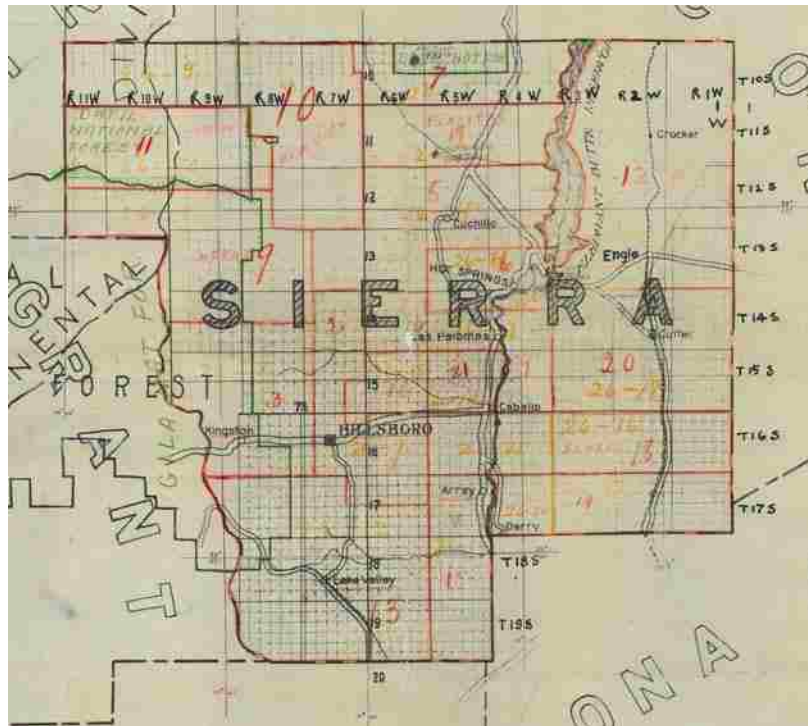
Source: NARA Cartography Department

3.6 New Mexico Maps 1980, 1990, & 2000

The final source for map creation came from the Bureau of Business and Economic Research at the University of New Mexico campus. Online census data was downloaded and joined in ArcMap with current boundaries for New Mexico in 1980, 1990 and 2000. These maps display Hispanic percentages in each county per year. They are comparable to the map created in 1930, but less so to the map of 1870 because the boundaries of each county has changed so much over the years. When broken down, this information goes to census tract level, and does not relate geographically to precincts so comparisons between early Sierra County maps and present day displays were limited by BBER information.

3.7 Surname Analysis and Limitations

The basis for the surname analysis used in this paper is from a report by Word and Perkins titled, "Building a Spanish Surname List for the 1990's: A New Approach to an Old Problem." Their paper was created using census data containing person's who had self identified as being of Hispanic decent. In this situation "Spanish Surname" and "Of Hispanic Decent" are synonymous. The surname approach is the main methodological tool of this thesis, and measures have been taken to help eradicate the problems that the U.S Census Bureau came across in the preliminary surname studies of the 1950's and 60's. There are several details that need to be addressed before applying the methodology.

The first detail is the volume of Spanish surnames that self identified as being of Hispanic decent. The original Spanish surname list compiled by Word and Perkins contained 25,000 surnames. In this list were such names as Smith, Jones and Brown. It would be imprudent to assume that all persons with the surname of Smith were of Hispanic decent just because a few of them had identified as such. However, Word and Perkins narrowed their list to the 639 most common Spanish surnames in order to remove surnames that were clearly not predominately Hispanic, and may have been attributed to intermarriage, adoption, or other causes. A modified list was used for the methodology section based on Word and Perkins 639 most common Spanish surnames as well as common Hispanic names in New Mexico that were generated by historical census lists.

The next detail to be addressed was spelling. For example, the surname Gonzales was listed on the 639 most common Spanish surnames for 1990. However, the surnames of Gonsales and Gonsalez were not. Analyzing the surnames lists for New Mexico in 1930, there were a significant amount of surnames that fell into the different spellings of the surname Gonzales. Those variations in spelling were added to the modified list to bring to total number up to 650 most common Spanish surnames. Another example is Guiterrez, which has several different spellings, many of them isolated by geographical boundaries. If only one or two families in New Mexico in 1930 had a different version of that surname, they were not added to the list. Small one letter differences were also added, for example the surnames of Chavez, Tellez, and Sanchez were all on the 639 most common Spanish surname list. However Chaves, Telles, and Sanches were not. Where there was a significant amount of surnames with one different letter, that surname was added to the modified list.

A final detail was the narrowing of data. Surnames were matched between the modified 650 most common Spanish surnames and generated census lists. However, some census records were not used because the last name was not there, incomprehensible, or they lacked a geographic location. Each census list was trimmed down and records were removed for different reasons. If the record did not have a surname, or the surname contained an asterisk, question mark, or other form of punctuation not commonly found in a surname, that entire record was deleted. Because this information was going to be mapped, the data had to have some form of spatial reference. If the record did not have a geographic location such as a precinct, town, or county, it too was deleted.

Chapter 4: Results

4.1 New Mexico Hispanic Populations

This chapter shows all final maps and tables produced and an explanation of each of them. Useful information can be gathered from these figures, and they show the Hispanic populations change over time. The first section covers New Mexico Counties from 1870 to 2000. The first set of maps explores New Mexico Hispanic Populations for 1870 and 1930, as compared to 1980, 1990, and 2000. Table 4.1 expresses the changes in the percentage of Hispanic populations, along with the changes in the actual number of Hispanics. This information is displayed in a scatter plot in Figure 4.1 below.

Table 4.1 Changes in Hispanic Populations for New Mexico from 1870-2000

Year	Total Hispanic	Total Population	Percent Hispanic	
1870	60,087	89,177	67.4	
1930	119,720	407,516	29.4	
1980	477,222	1,302,894	36.6	
1990	579,224	1,515,069	38.2	
2000	765,386	1,819,046	42.1	
Year	Hispanic Change	Total Population Change	Percent	Hispanic Change
1870				
1930	59,633	318,339	-38	(18.7)
1980	357,502	895,378	7.2	(39.9)
1990	102,002	212,175	1.6	(48.1)
2000	177,162	303,977	3.9	(58.3)

Figure 4.1 Line Graph Showing Changes in Population for New Mexico 1870-2000
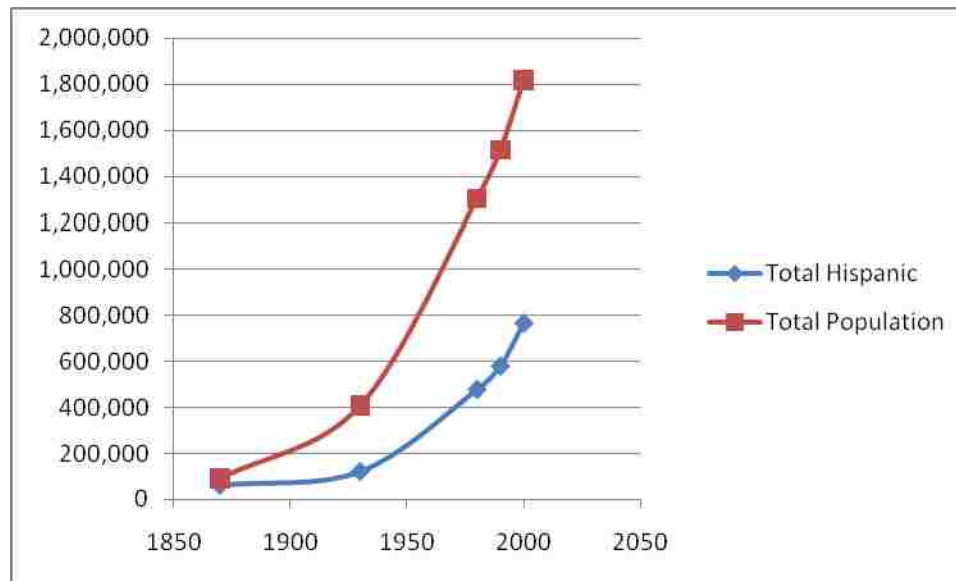
Table 4.1, Figure 4.1 and the accompanying maps illustrate the Hispanic changes in New Mexico over the past 130 years. According to data generated by the Spanish surname analysis, New Mexico in 1870 was dominated by Hispanics. This percentage of the Hispanic population drastically decreases in the next 60 years and by 1930 the total percentage is less than 30. This decrease is due more to an increase in other populations migrating to New Mexico as opposed to a loss of Hispanic persons. In 60 years the population of New Mexico as a whole nearly quadrupled, but the Hispanic population barely doubled. This is in extreme contrast to later years, 1980-2000 where the increase in Hispanics is nearly the half of the total increase in population.

Table 4.2, an excerpt of appendix A, illustrates the countywide changes in percent Hispanic for New Mexico in 1870 (Figure 4.1) and 1930 (Figure 4.2). The county boundaries have changed significantly but the table illustrates the changes in percentage of Hispanic populations between those counties and New Mexico as a whole.

Table 4.2 Hispanic percentages of New Mexico Counties 1870 and 1930

| County | New Mexico 1870 | | | New Mexico 1930 | | |
	Hispanic Population	Total Population	Percent Hispanic	Hispanic Population	Total Population	Percent Hispanic
Bernalillo	5495	7591	72.4	15621	45335	34.5
Catron				961	19549	4.9
Chaves				1678	3282	51.1
Colfax	557	1846	30.2	5089	19134	26.6
Curry				50	8978	0.56
De Baca				578	2893	20
Dona Ana	3503	5800	60.4	10757	26978	39.9
Eddy				2735	15842	17.3
Grant	238	1143	20.9	5716	18926	30.2
Guadalupe				4236	7027	60.2
Harding				1119	3442	25.4
Hidalgo				1121	4421	32.5
Lea				21	6144	0.34
Lincoln	1099	2040	53.9	2045	7512	27.2
Luna				1219	6247	19.5
McKinley				708	20643	3.4
Mora	4725	8051	58.7	5329	7332	72.7
Otero				1702	9779	17.4
Quay				1310	10828	12.1
Rio Arriba	5607	7904	71	2969	21381	13.9
Roosevelt				45	11109	0.41
San Juan				956	14701	6.5
San Miguel	12767	15560	82.1	11717	23636	49.6
Sandoval				5648	11144	50.7
Santa Fe	5839	9690	60.3	9247	19567	47.2
Sierra				1629	5184	31.4
Socorro	4234	5782	73.2	2753	4686	58.8
Taos	8455	12079	70	9602	15325	62.7
Torrance				3394	9269	36.6
Union				1541	11036	14
Valencia	5652	9092	62.2	8224	16186	50.8
Santa Ana*	1916	2599	73.7	*became McKinley and Sandoval		
New Mexico	60087	89177	67.4	119720	407516	29.4

Figure 4.2 Hispanic Populations of New Mexico 1870

Hispanic Populations
of New Mexico Counties 1870

TAOS

COLFAX

RIO ARRIBA

MORA

SANTA ANA

SANTA FE

SAN MIGUEL

BERNALILLO

VALENCIA

SOCORRO

LINCOLN

DONA ANA

GRANT

Legend

NM Counties 1870
Percent Hispanic

10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90

0   37.5   75   150   Miles

Source: RGIS and US Census Bureau
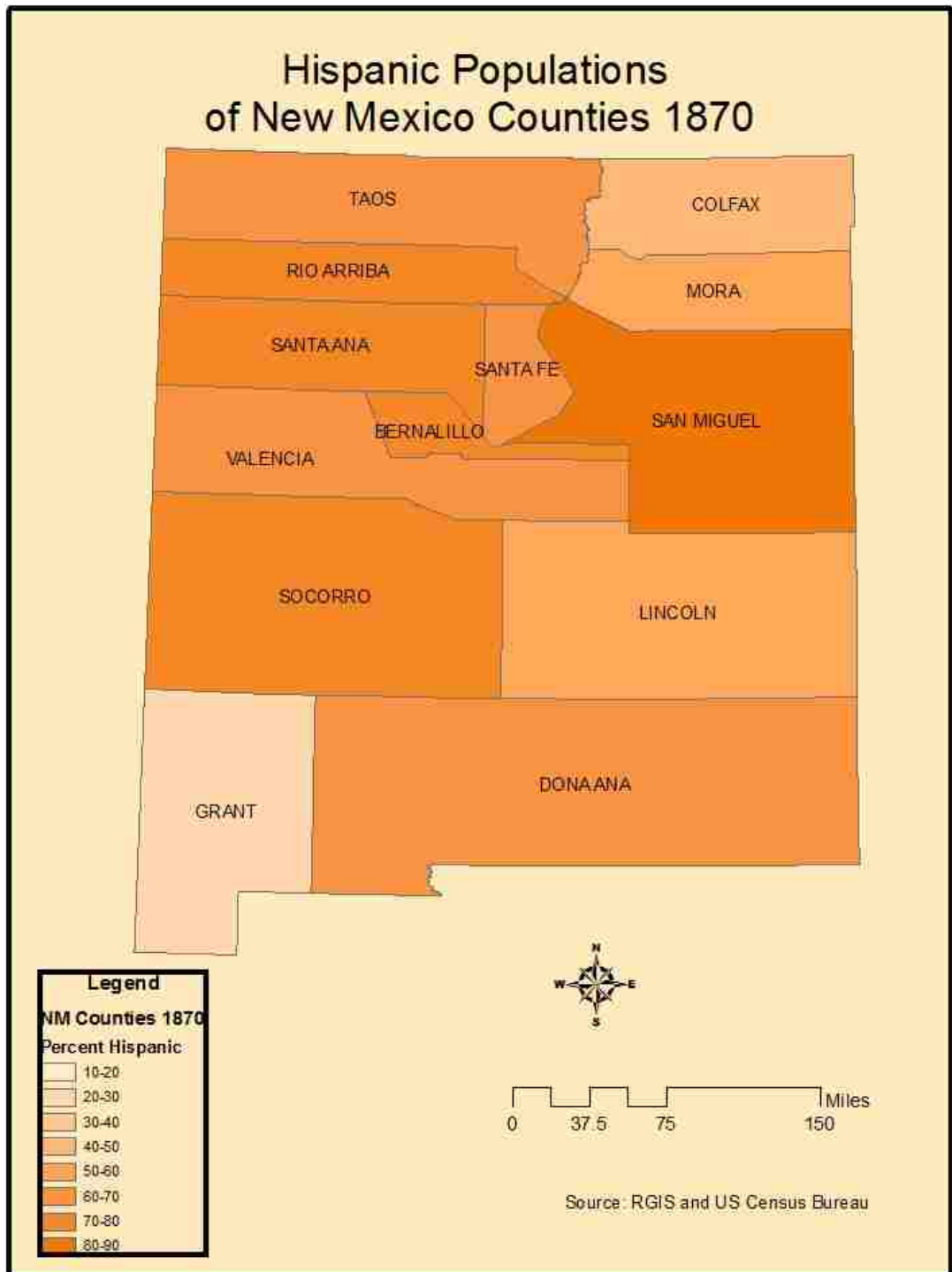
Figure 4.3 Hispanic Populations of New Mexico 1930

Hispanic Populations
of New Mexico Counties 1930
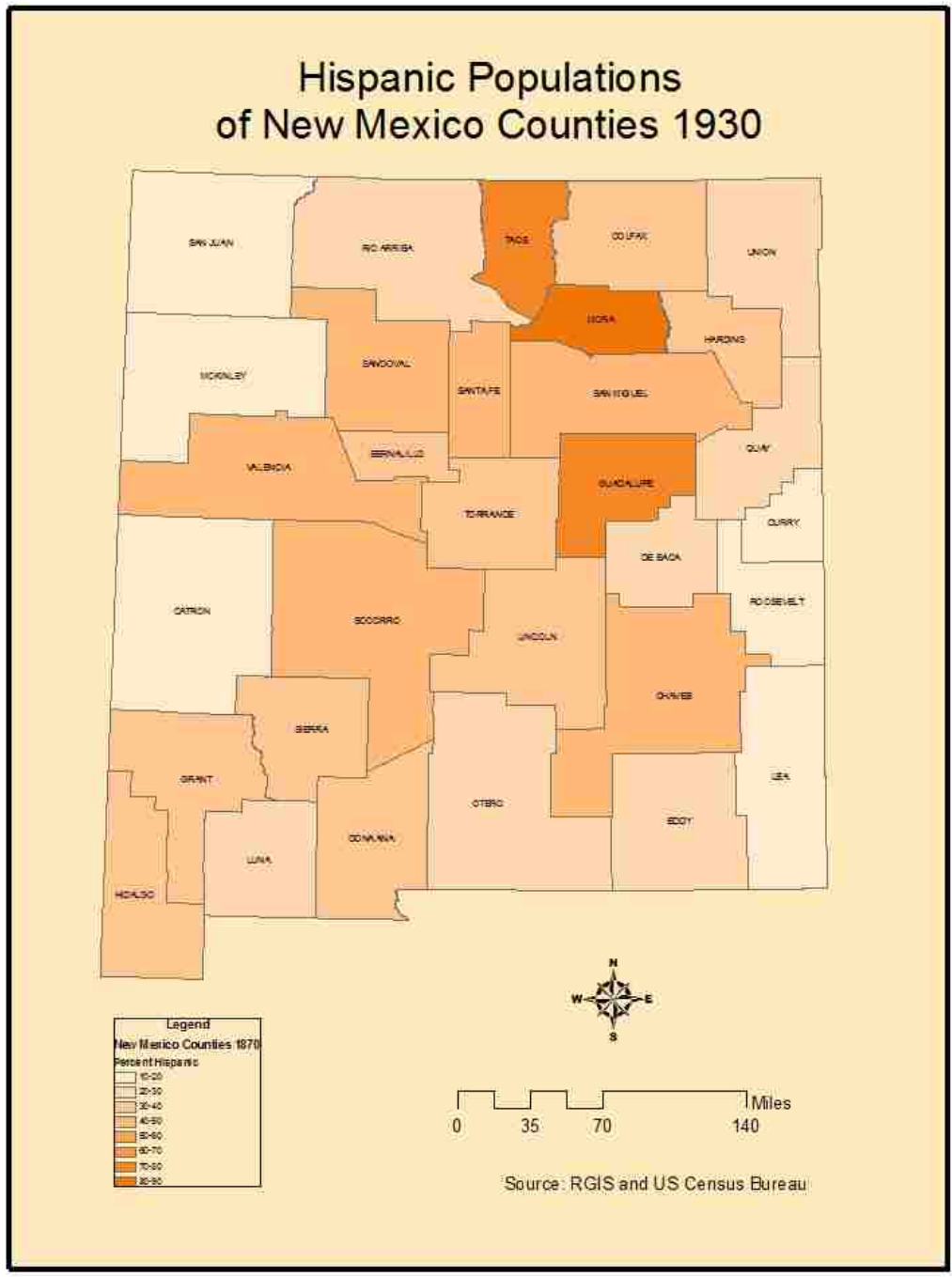
Figures 4.2 and 4.3 show Hispanic populations in New Mexico counties in 1870 and 1930, based on surname analysis of census data. Significant changes can be seen in relation to the increases in Hispanic populations. Figure 5.1 shows eleven of thirteen counties that have over 50% Hispanic populations, where as only seven of the thirty two counties in 1930 have more than fifty percent Hispanic.

The following tables 4.3 and 4.4 along with the accompanying figures showing Hispanic percentages in 1980 (Figure 4.3), 1990 (Figure 4.4), and 2000 (Figure 4.5) illustrate the changes in Hispanic and total populations in New Mexico counties. These figures compare the increases in populations over the 30 year period. Even though the total population increased as a whole, the Hispanic populations increased in a consistent pattern. In the thirty years that these maps span, very little has changed between the Hispanic populations of each county.

However, significant changes can be seen between 1930 and 2000. For example, northern New Mexico counties have remained heavily Hispanic and eastern New Mexico counties have gained Hispanic populations. Three western counties have remained almost the same with minimal Hispanic populations including San Juan, McKinley and Catron. These stagnations may be due to lack of available land for migrants, as the majority of the counties are claimed by Indian Reservations and National Forests.

By looking at Table 4.3, an excerpt of appendix B, between 1930 and 2000 New Mexico gained 645,666 Hispanics, however they gained a total population of 1,411,530. The Hispanic increase was 46 percent of the total population increase. Rio Arriba and Hidalgo counties both saw more increases in Hispanics than total population. In eight other counties, Hispanics account for over fifty percent of the total change. Quay, Colfax

and De Baca all lost total population, but actually gained Hispanic populations within that time. Mora, Harding, Guadalupe, Catron, and Union all lost total and Hispanic populations in the 70 year period. The average Hispanic population gained was 20,482, and the average total population gained for each county was 44,115, a percentage of 46.5.

Table 4.3 Comparison of New Mexico Hispanic Populations 1930 and 2000

	Changes 1930-2000				Changes 1930-2000		
County	Hisp Change	Pop Change	Percent Change	County	Hisp Change	Pop Change	Percent Change
Bernalillo	217944	511343	42.6	Mora	-1100	-2152	51.1
Catron	-282	-16006	1.8	Otero	18331	52519	34.9
Chaves	25226	58100	43.4	Quay	2547	-673	-378.5
Colfax	1650	-4945	-33.4	Rio Arriba	27056	19809	136.6
Curry	13635	36066	37.8	Roosevelt	5953	6909	86.2
De Baca	212	-653	-32.5	Sam Miguel	5340	90165	5.9
Dona Ana	99908	147704	67.7	San Juan	25481	75207	33.8
Eddy	17288	35816	48.3	Sandoval	17839	18982	93.9
Grant	9410	12076	77.9	Santa Fe	54158	109725	49.3
Guadalupe	-435	-2347	18.5	Sierra	1859	8086	22.9
Harding	-755	-2632	28.7	Socorro	6057	13392	45.2
Hidalgo	2203	1511	145.85	Taos	7768	14654	53
Lea	21989	49367	44.5	Torrance	2889	7642	37.8
Lincoln	2930	11899	24.6	Union	-76	-6862	1.1
Luna	13216	18769	70.4	Valencia	28147	49966	56.3
McKinley	8568	54155	15.8	New Mexico	645666	1411530	45.7

Table 4.4 Hispanic Percentages of New Mexico Counties 1980 and 1990

New Mexico Counties 1980				New Mexico Counties 1990		
County	Total Hisp	Total Pop	% Hisp	Total Hisp	Total Pop	% Hisp
Bernalillo	154449	419700	36.8	178309	480577	37.1
Catron	780	2720	28.7	727	2563	28.4
Chaves	15637	51103	30.6	21271	57849	36.8
Cibola				8109	23794	34.1
Colfax	6478	13667	47.4	6190	12925	47.9
Curry	8193	42019	19.5	10014	42207	23.8
De Baca	758	2454	30.9	736	2252	32.7
Dona Ana	50193	96340	52.1	76447	135510	56.4
Eddy	14691	47855	30.7	17144	48605	35.3
Grant	13442	26204	51.3	14060	27676	50.8
Guadalupe	3718	4496	82.7	3505	4156	84.3
Harding	482	1090	44.3	460	987	46.7
Hidalgo	2849	6049	47.1	2984	5958	50.1
Lea	11926	55993	21.3	16597	55765	29.8
Lincoln	2925	10997	26.6	3426	12219	28.1
Los Alamos	2023	17599	11.5	2008	18115	11.1
Luna	6140	15585	39.4	8627	18110	47.6
McKinley	7620	56449	13.5	7763	60686	12.8
Mora	3641	4205	86.6	3623	4264	85
Otero	9692	44665	21.7	12380	51928	23.8
Quay	3754	10577	35.5	4060	10823	37.5
Rio Arriba	21785	29282	74.4	24955	34365	72.6
Roosevelt	3374	15695	21.5	4547	16702	27.2
San Juan	9569	34799	11.8	17371	63319	13.1
Sam Miguel	9609	81433	81.4	12008	91605	79.6
Sandoval	18519	22751	27.5	20490	25743	27.4
Santa Fe	41900	75360	55.6	48939	98928	49.5
Sierra	2138	8454	25.3	2379	9912	24
Socorro	5868	12566	46.7	7056	14764	47.8
Taos	13444	19456	69.1	15007	23118	65
Torrance	3078	7491	41.1	3892	10285	37.8
Union	1474	4725	31.2	1390	4124	33.7
Valencia	22123	61115	36.2	22732	45235	50.3
New Mexico	301406	829371	36.4	579206	1515069	38.2

Figure 4.4 Hispanic Populations of New Mexico 1980
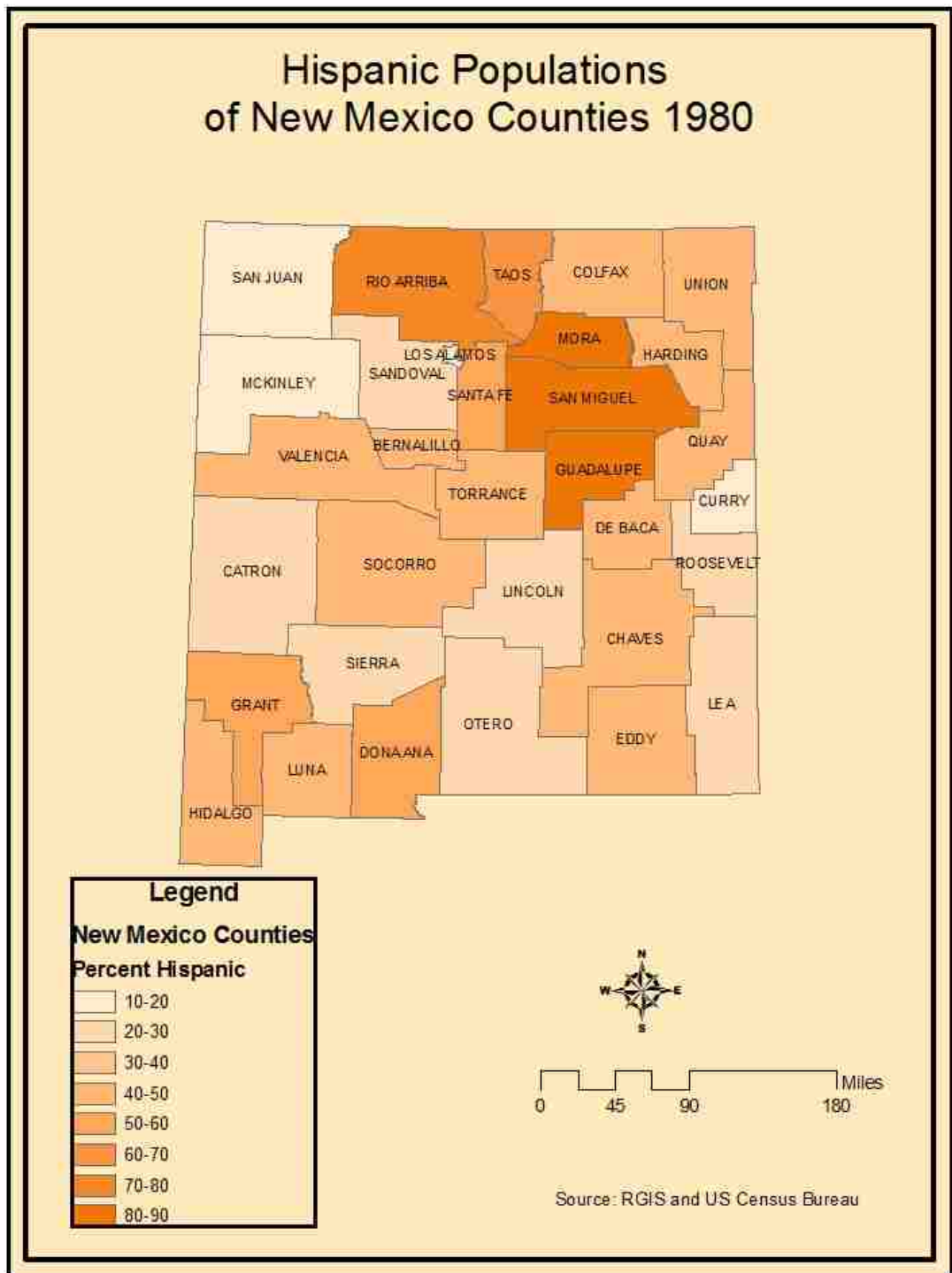
Figure 4.5 Hispanic Populations of New Mexico 1990
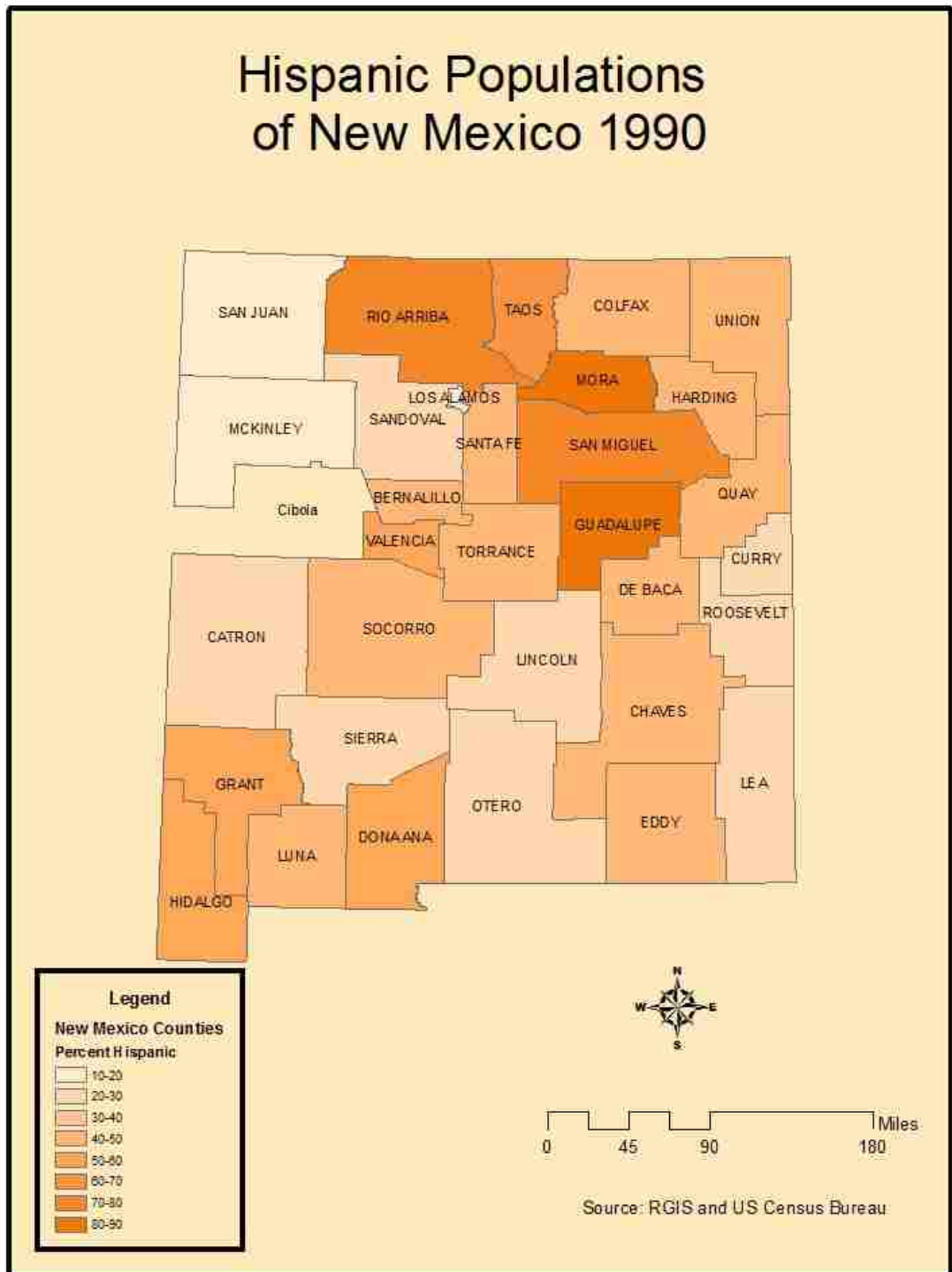
Figure 4.6 Hispanic Populations of New Mexico 2000
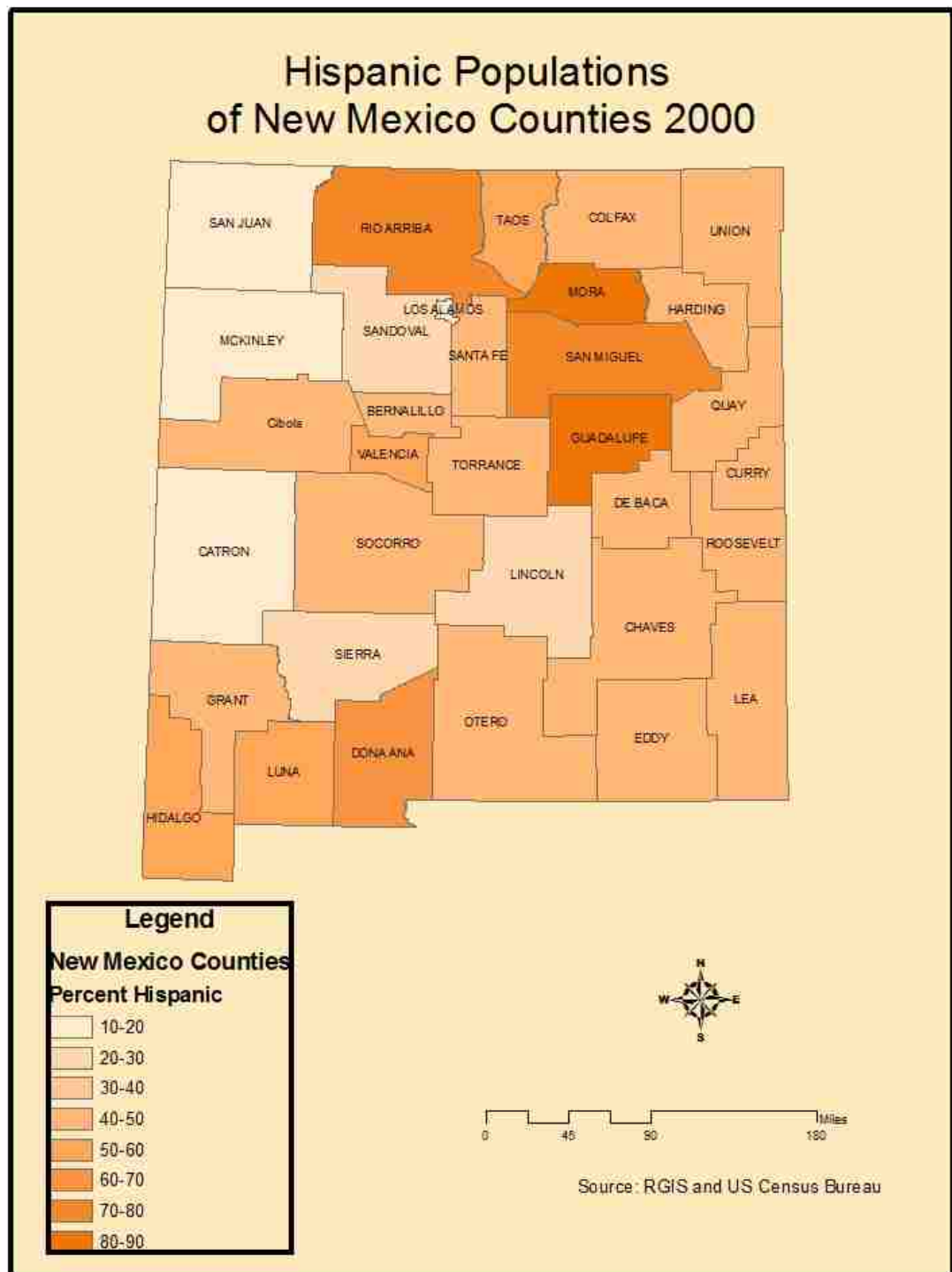
4.2 Sierra County Hispanic Populations

Sierra County shows a similar pattern of changing Hispanic populations; however the percentage of Hispanics remains significantly lower throughout the decades. Because Sierra County was not founded until 1884, census data retrieved from 1870 could not be tied as easily to the present day county boundaries. Sierra County was carved from Socorro, Dona Ana, and Grant counties. Fortunately, the 1870's census not only tied surnames to districts and precincts, but also to the village, town or ranch nearest the resident. This allowed for the creation of a map showing the surnames of people that lived in villages and towns that fell within Sierra County's current boundaries. However, only five villages fit these parameters.

These five towns have changed significantly over the years and in order to compare them to their future counterparts, they first had to be identified. Rio de Las Palomas, River of the Doves in English, became just Las Palomas many decades later, and is still called that today. Canada Alamosa became Monticello by 1930, and Martins Ranch in 1870 took on the name of Aleman by the time the AT&SF railroad had arrived nearly 20 years later. Alamocita and Paraje, the remaining two towns that fell within Sierra County's present day boundaries, were submerged shortly after the 1900's due to the construction of the Elephant Butte Dam on the Rio Grande and the filling of the reservoir.

Though these towns themselves cannot be easily compared to future figures, the Hispanic information gathered collectively can be displayed. Table 4.3 shows the Hispanic and Total populations for Sierra County for selected years from 1870-2000,

along with the percentage of Hispanics. Sierra County had the highest percentage of Hispanics for the year 1870, but that percentage gradually decreased over the next 130 years. Figure 4.3 shows the same tabular information displayed in a scatter plot. This figure visually shows the increases in total population alongside the increases Hispanic populations. Almost 2000 of Sierra County's 8000 person gain was from Hispanic populations.

Table 4.5 Sierra County Hispanic Populations 1870-2000

Year	Total Hispanic Population	Total Population	Percent Hispanic
1870	558	969	57.6
1900	1,115	3,163	35.3
1910	1,617	3,508	46.1
1920	1,788	5,135	34.8
1930	1,728	5,586	30.9
1980	2,138	8,454	25.3
1990	2,379	9,912	24.0
1997	2,836	10,989	25.8
2000	3,488	13,270	26.3

Figure 4.7 Hispanic Populations in Sierra County 1870-2000
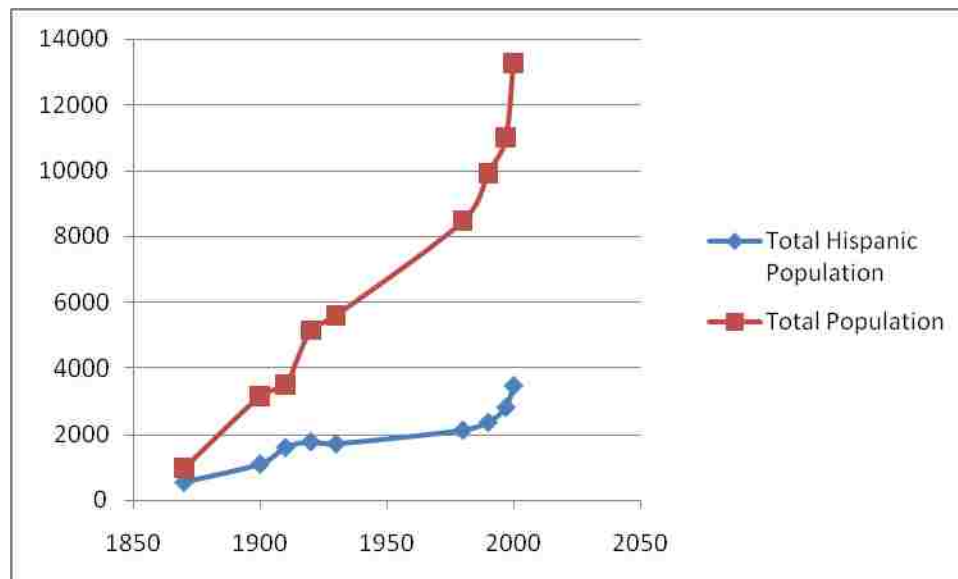
Figure 4.8 Hispanic Populations of Sierra County 1870

Hispanic Percentages
of Sierra County, NM 1870

MONTICELLO/CANADA ALAMOSA

ALAMOCIT

PARAJE

LAS PALOMAS

ALEMAN

Legend

Sierra County

Total Hispanic
Total Population

Source: RGIS and US Census Bureau
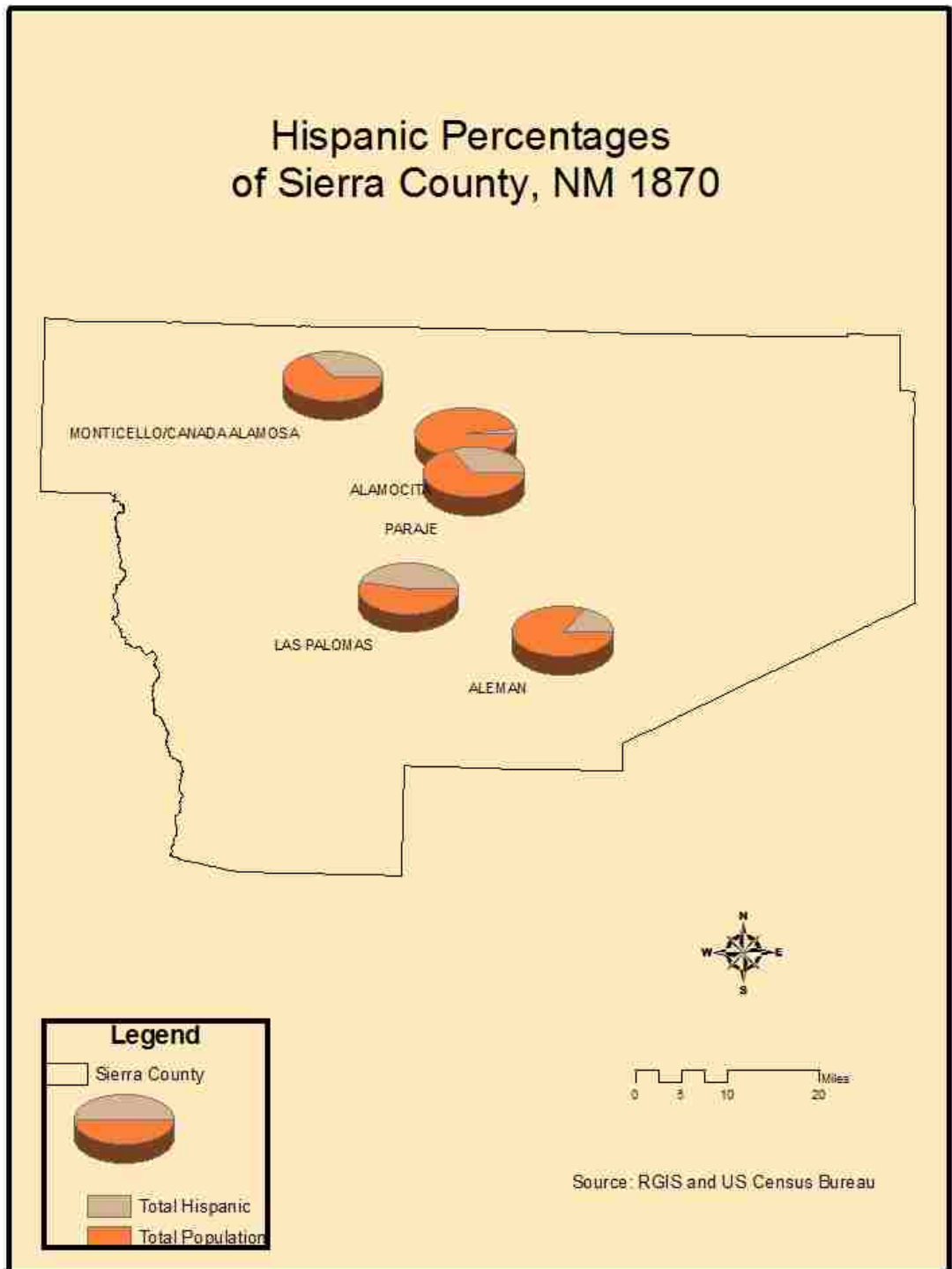
Figure 4.9 Hispanic Populations of Sierra County 1910

Percentage of Spanish Surnames
Sierra County, New Mexico 1910

Source: RGIS and U.S. Census Bureau

Legend

Sierra County 1910

Percent Spanish

	0-10
	10-20
	20-30
	30-40
	40-50
	50-60
	60-70
	70-80
	80-90
	90-100
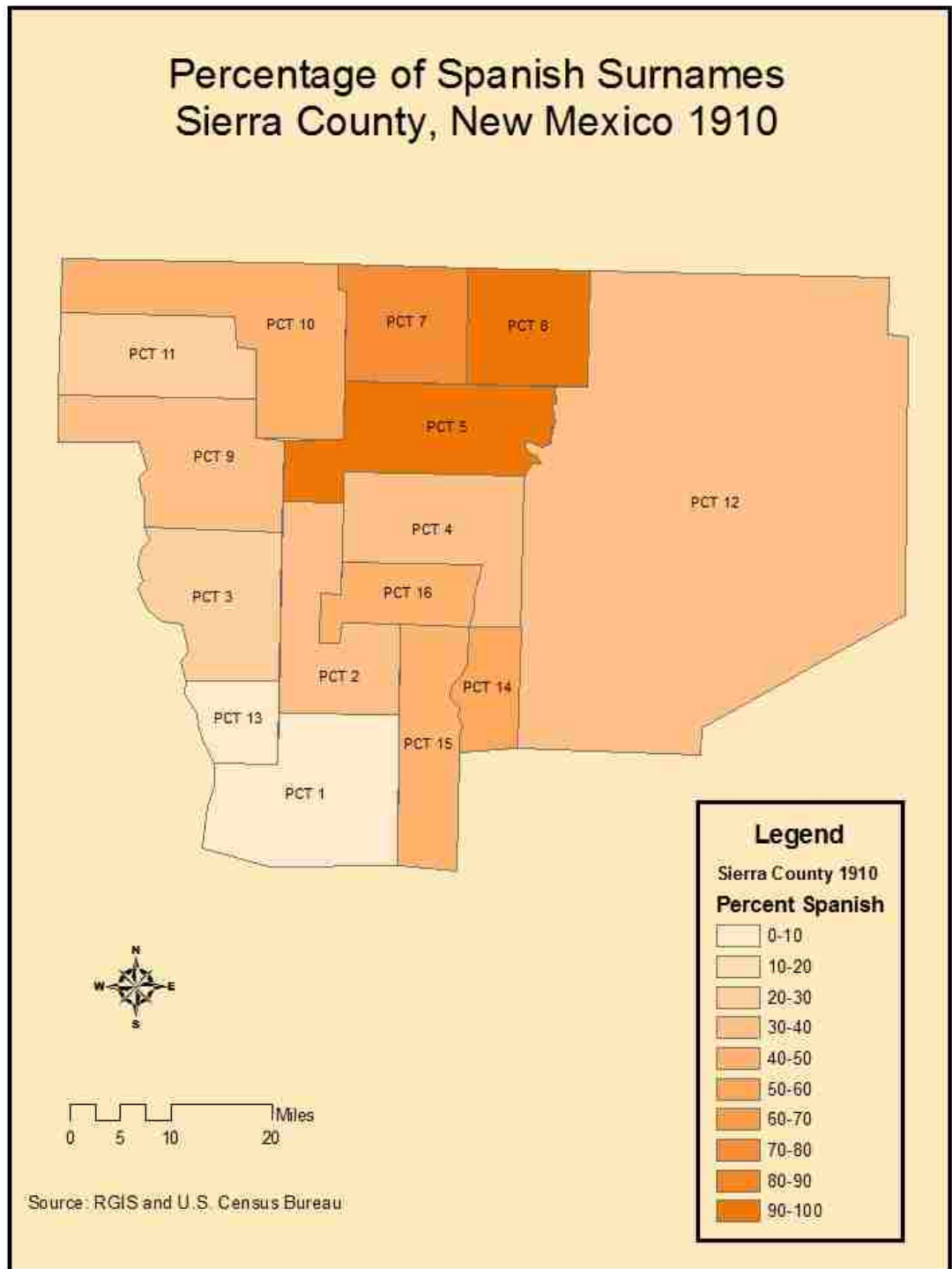
Figure 4.10 Hispanic Populations of Sierra County 1920
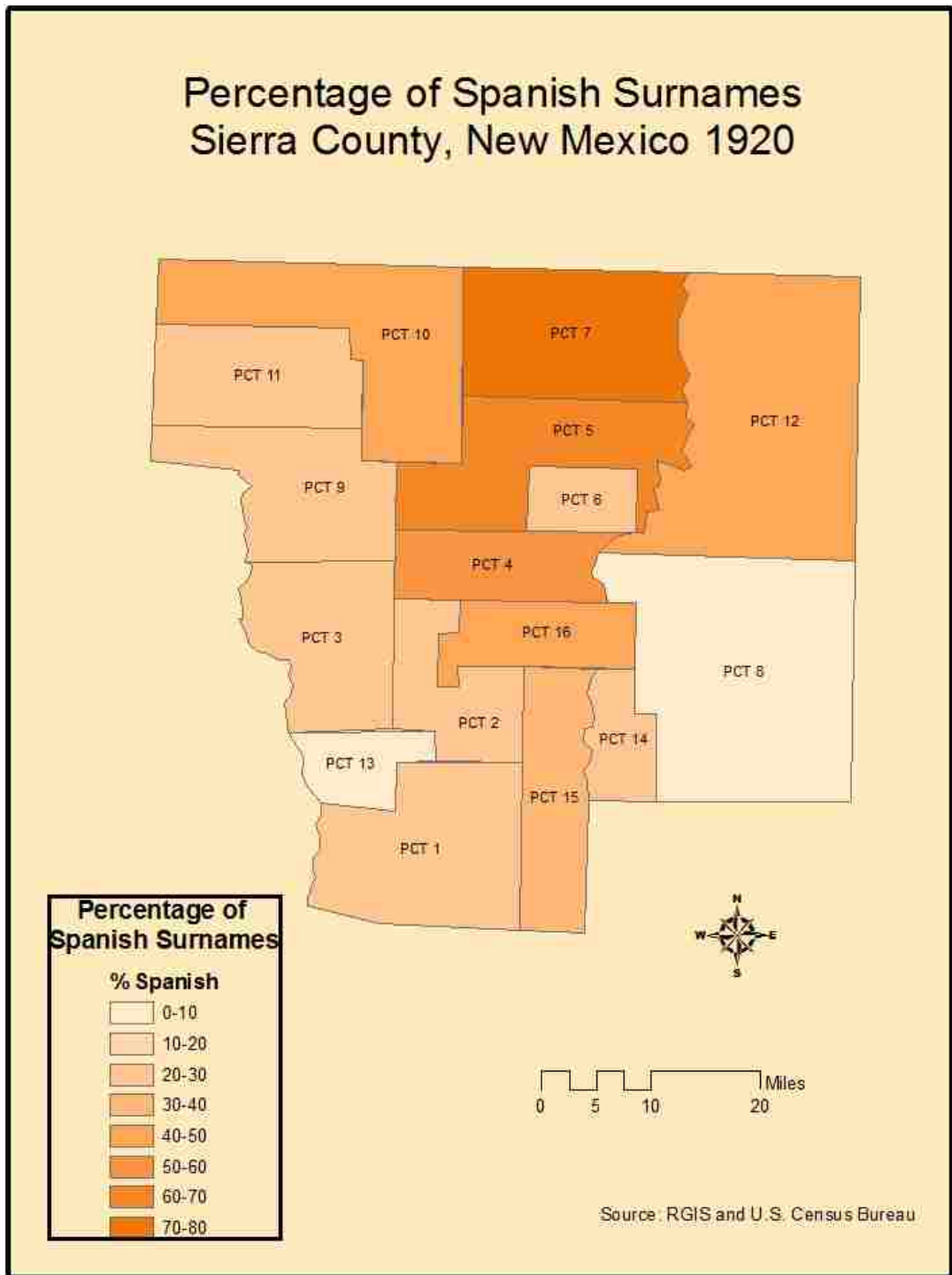
Figure 4.11 Hispanic Populations of Sierra County 1930

Hispanic Populations of Sierra County, NM 1930

PCT 7

PCT 10

PCT 11

PCT 19

PCT 12

PCT 5

PCT 9

PCT 6

PCT 4

PCT 20

PCT 16   PCT 21

PCT 3

PCT 16

PCT 2

PCT 14

Legend

Sierra County

Spanish Surname

- 0-10
- 10-20
- 20-30
- 30-40
- 40-50
- 50-60
- 60-70
- 70-80
- 80-90

PCT 13   PCT 15

N
W   E
S

Miles
0   5   10   20

Source: RGIS and Census Bureau. *Yellow Precincts contain no data.
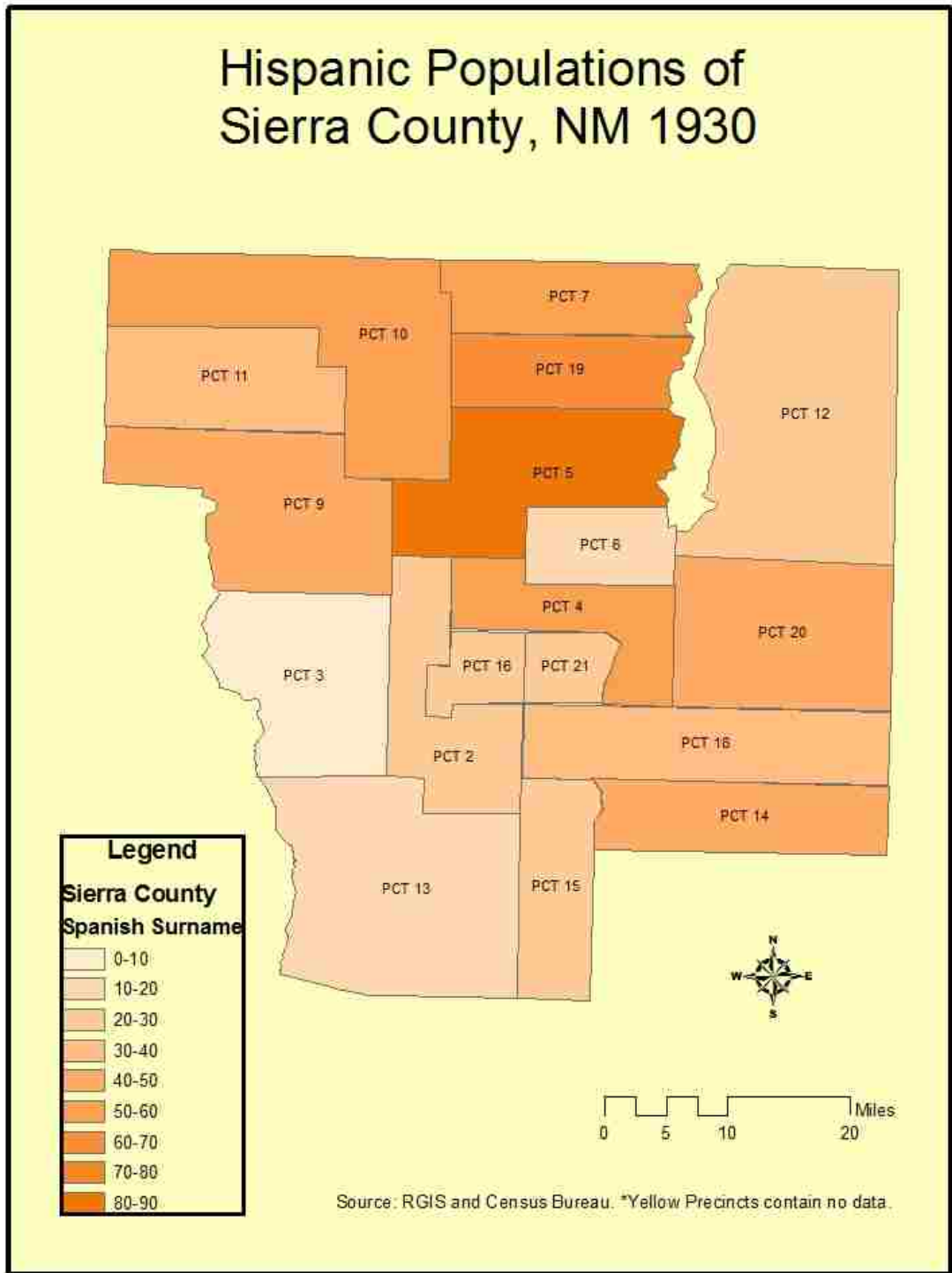
Figure 4.12 Pie Chart Map showing Hispanic Populations of Sierra County, 1930
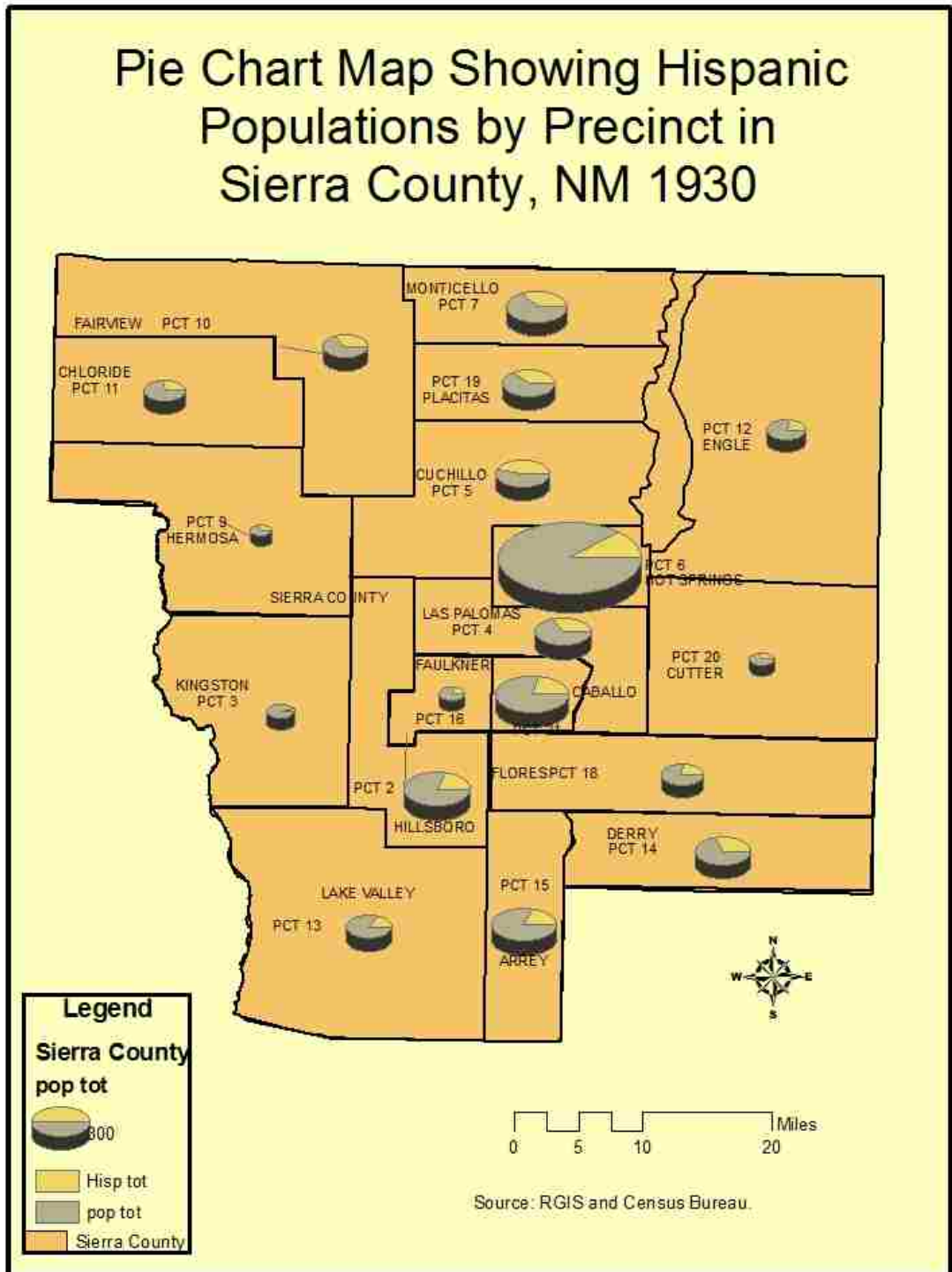
Table 4.6 Percentage of Spanish Surnames in Sierra County from 1870-1930

Precinct	1870	1900	1910	1920	1930	City/Town
PCT 1		4.2	4	17.2		LAKE VALLEY
PCT 2		21	34	28.3	25	HILLSBORO
PCT 3		5.2	11	22.2	4	KINGSTON
PCT 4	88	46.8	37	55.9	50.7	LAS PALOMAS
PCT 5		62.7	92	70	86.3	CUCHILLO NEGRO
PCT 6				11.8	11.7	HOT SPRINGS
PCT 7	55	67.8	72	70.3	56.2	MONTICELLO/CANADA ALAMOSA
PCT 8		79.8	92	7.3		SAN JOSE
PCT 9		6.1	35	29.5	40.5	HERMOSA
PCT 10		28.1	46	49.7	51.6	FAIRVIEW
PCT 11			16	24.8	38.6	CHLORIDE
PCT 12	18	15.4	34	40.3	27.3	ALEMAN
PCT 13		0	6	0	18.8	TIERRA BLANCA
PCT 14		47.7	52	26.7	45.1	DERRY
PCT 15			46	32.7	24.4	ARREY
PCT 16		34.7	41	43.8	27.1	FAULKNER
PCT 18					32.3	FLORES
PCT 19					60.7	PLACITAS
PCT 20					50	CUTTER
PCT 21					27.6	CABALLO
Alamocita	3					ALAMOCITA
Paraje	53					PARAJE

Sierra County has changed significantly over the past 130 years. It is hard to compare present day to historical Sierra County because the boundaries of precincts have changed so radically and the declining populations of many towns make it difficult to visualize those changes. A map of Sierra County showing the current census tracts and blocks is shown in Figure 4.13. The current outlines of the census tracts in Sierra County are centered around Truth or Consequences/Williamsburg, and the City of Elephant Butte. None of these three currently most populous cities in the county existed prior to 1930. Hot Springs, which became Truth or Consequences in 1950, can be seen on the 1920 and 1930 maps inside Precinct 6. Williamsburg was not established until 1949, and Elephant Butte did not become an official city until 2001. Therefore, comparisons

between Sierra County enumeration districts and precincts in 1930 and earlier are difficult to make against current census tracts in present day Sierra County.

Figure 4.13 Census Tracts in Sierra County, NM 2000

Table 4.7 shows the total population changes in specific towns in Sierra County and also illustrates where cities have either lost significant amounts of their original populations or new cities that only came into being recently. Because the U.S. Census Bureau does not release specific private information from its records until 72 years after the census was taken, it is difficult to get accurate counts of current rural populations. However, this table was compiled from several sources that showed specific population information gathered from census records, phone records, and population estimators.

Figure 4.14 shows ghost towns in Sierra County. These towns have been primarily abandoned or have lost such a significant amount of their original populations as to be classified as "ghost towns." This figure is comparable to present day Sierra County in figure 3.14, bearing in mind that even though many of the towns are represented on each map, the majority of them are nearly abandoned.

Figure 4.14 Ghost Towns of Sierra County
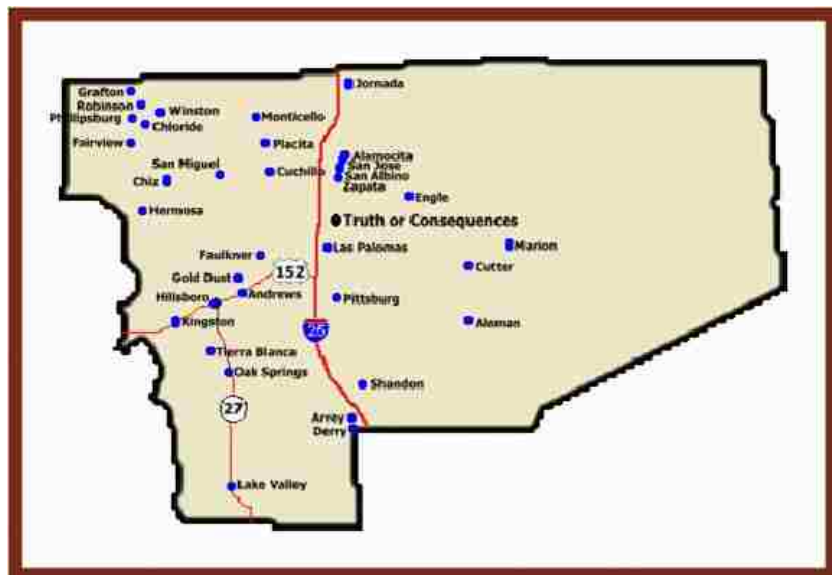
Source: Ghost towns of New Mexico,
http://www.ghosttowns.com/states/nm/nmsierra.html

Table 4.7 Population differences in Sierra County towns from 1870-2000

City	1870	1900	1910	1920	1930	2000/present Day
Alamocita	40					0
Aleman	11	117	472	226	139	0
Animas Creek						22
Arrey			234	416	377	809
Caballo					479	734
Chloride			130	153	158	42
Cuchillo Negro		150	275	509	269	34
Derry		350	176	217	273	127
Elephant Butte						1810
Engle					56	4
Fairview/Winston		232	232	139	182	127
Faulkner		219	138	224	59	0
Flores					155	0
Hermosa		66	156	129	42	0
Hillsboro		562	400	829	403	292
Hot Springs				982	1845	7887
Kingston		234	123	162	76	36
Lake Valley		215	125	332		0
Las Palomas	186	250	320	222	286	133
Monticello	205	450	574	468	338	148
Paraje	527					0
Placitas					257	2
San Jose		163	87	96		0
San Miguel						2
Tierra Blanca		155	66	31	192	0
Williamsburg						527

Many changes have occurred in Sierra County in the past 130 years. The original twenty-one precincts have decreased to only three. Major population shifts can be seen as well. The majority of the population of the county is concentrated within three cities. More than 8,000 of the nearly 13,000 persons residing in Sierra County live in Truth or Consequences. Lake Valley, which had a total population of 332 people in 1920, has declined to absolutely no population as of 2000. Towns such as Chiz, Hermosa and Aleman also do not have any current populations. Kingston has dwindled from 7,000

people at one time down to less than 50. Hillsboro has gone from 1,200 to 305 and Cutter from 3,500 to below 50. Winston, an old stage coach town has decreased from 3,100 at its peak population to only 97 people. These are significant decreases in population which show the fluctuations of residents in the county. The only areas to gain populations are Truth or Consequences, Elephant Butte and Williamsburg. This makes it difficult to compare the Hispanic results to specific areas in Sierra County; However, countywide data can be compared, as in Table 4.5.

Early settlement in Sierra County was similar to patterns found in New Mexico, though many differences can be seen between historic and present day Sierra County. Table 5.1 outlines the temporal and spatial correlations with the settlement history of Sierra County and highlights the specific patterns that are explained in this section.

There were only five villages surveyed during the decennial census in 1870, Alamocita, Martin's Ranch, Canada Alamosa, Rio de las Palomas, and Paraje. The most populous city at the time was Paraje, located at the northern section of Sierra County underneath present day Elephant Butte Lake. Fifty-three percent of the residents in this village had Spanish surnames. Just north in the town of Alamocita, only one of the 40 persons living there matched a common Spanish surname. In Alamosa Canyon 55% of the population was Hispanic, as were 88% of Rio de las Palomas. Martin's Ranch, a stop along the Jornada del Muerto, had 2 out of 11 people with Spanish surnames. Less than a thousand people lived in Sierra County in the 1870s which averaged about 57% Hispanic for the villages that fall within the present day county boundaries.

Table 4.8 Patterns and Events in Sierra County 1870-2000

Period	Events	Patterns in Data
1870-1900	Westward Anglo expansion AT&SF Railroad line through Eastern Sierra County. RR stops created: Engle, Cutter, Jornada, Aleman Mining boom towns created: Kingston, Hillsboro, Lake Valley, Chloride	New Mexico and Sierra County see shifts from Hispanic dominance to Anglo infusions.
1900-1930	Elephant Butte Dam constructed, towns along northern Rio Grande are relocated, San José, San Albino, Zapata Mining towns dwindle Hot Springs becomes tourist destination and a town within a specific precinct Gila National Forest Established	Sierra County gained 2,423 people between 1900 and 1930, but only 613 of those were of Hispanic origin.
1930-1980	Hot Springs becomes county seat. Elephant Butte Lake State Park created Hot Springs becomes Truth or Consequences Williamsburg is created	1950-1960 Sierra County lost 777 people.
1980-2000	Elephant Butte Lake becomes populated Rural areas become more rural TorC/Williamsburg/EB Lake become more urban	Total Hispanics gained is only an average of 30% of the total population gained for 1870-2000 in Sierra County. Percentage of Hispanics Gained for 1980-2000 is 28.
2000-Present	Elephant Butte becomes New Mexico's 101st city. Spaceport America begins construction	

Along with westward American expansion came reliable transportation lines. Railroads became the gateway to the West and New Mexico became connected through these. The Atchison Topeka and Santa Fe railroad line was built along the old El Camino Real and passed through the eastern portion of Sierra County. This line allowed for the creation of small rail stop towns including Jornada, Engle and Cutter. Martin's Ranch, one of the original settlements in Sierra County, became Aleman. From 1870 to 1900 the population of Aleman increased tenfold from 11-117. Stagecoach lines ran from the eastern towns of Engle and Cutter across the Rio Grande to the canyons and mountains in the western part of the county. In the northern part of Sierra County, towns such as Cuchillo, Monticello, and Fairview/Winston, became connected via stagecoach lines to the railroad in the east. These towns were settled for farming and ranching and were predominately Hispanic, over 50% in the early 1900's. Chloride, a town three miles west of Winston however, only had 16% Hispanic populations in 1910, and 24.8% in 1920. Since Chloride was founded as a mining town, it was inhabited by more Anglo settlers than the surrounding native Hispanics.

Mining shaped the western part of Sierra County in the late 1880's and early 1900's. Places such as Kingston, Hillsboro, and Lake Valley in the Gila National Forest and Black Range Mountains were built overnight as mining boomed. Because these towns catered to more transient populations, the percentage of Hispanics was very low in the early 1900's. Lake Valley had less than 5% total Hispanic populations between 1900 and 1910 rising only to 17% in 1920. Kingston followed the same trends with 5.2% Hispanic populations in 1900 and 11% in 1910. Hillsboro had the highest Hispanic

percentages in the area but those still did not reach above 34%. Hillsboro became the county seat in 1884 and the surrounding areas grew rapidly over the next 30 years.

The early 1900's brought many changes in Sierra County. Construction of the Elephant Butte Dam began in 1905 and it was completed in 1916. This major project brought all types of employees from all around. Mexican immigrants, as well as Hispanics and hired Anglo construction workers erected the dam through different phases. The AT&SF railroad brought supplies and employees to the area. Historic photographs of the construction phase's show Hispanic and Anglo workers side by side. The Elephant Butte Dam project brought many types of people for temporary work, though some remained behind to make Sierra County their home. The damming of the Rio Grande and the creation of the Elephant Butte Reservoir resulted in the relocation of a few farming communities along the northern parts of the river. Residents from towns such as San Jose moved up the canyon to settle in areas such as Cuchillo, Monticello, and Winston. These farming communities were possibly primarily Hispanic, due to the Spanish names of the villages, San Albino, Zapata, and Alamocita.

Populations began to shift in Sierra County, New Mexico between 1900 and 1930. Entire villages were relocating but also the populations began to switch from rural to urban. Many persons living in the rural mining communities in the West migrated away from the area and several settled near Hot Springs, a relatively new development below the Elephant Butte Dam and next to the Rio Grande. This small village was settled primarily because of the "healing" hot mineral water baths that flowed naturally from springs. History claims that Indians and even Geronimo himself used these waters to recuperate from battle and to heal illnesses. Thus, Hot Springs became a tourism hotspot

in the early 1900's, so much that the county seat was eventually moved there in 1937. Hot Springs was first noted inside its own precinct, 6, in 1920, prior to that it was included inside precincts 4 and 5. The shift in populations began with a decline of the mining towns in the West. The creation of the Gila National Forest closed off access to some mining operations and the western part of Sierra County became protected from industries that would damage the forest and wilderness areas. The use of automobiles and highways instead of railroads led people to settle along the main interstates that flanked the Rio Grande to the west, and move away from the railroad in the east. Hot Springs became a destination for settlers and though Sierra County grew in total population, the increase in Hispanic populations was miniscule in comparison. Between 1900 and 1930 Sierra County gained 2,423 people, but only 613 of them were of Hispanic origin. Anglo infusion was becoming the trend, and Hispanic populations were only lingering.

The years between 1930 and 1980 were characterized by many changes; though mapping Hispanic populations during this time is difficult. Because census data is not released until 72 years after it has been collected, accessing surname lists for 1940-present is impossible. It wasn't until the 1980's that Hispanic's populations are able to be gauged using census data. However, Sierra County seems to follow previous patterns. Of the 2,868 people gained between 1930 and 1980 only 410 of them were of Hispanic origin. These numbers indicate that though the population on Sierra County continued to rise, the amount of Hispanics was not increasing at the same rate. The total population of Sierra County changed significantly between 1950 and 1960 where it actually lost 777 people. Many factors could have contributed to the decrease in population for that decade. One indicator could have been the changing of Hot Springs name to that of a

popular game show called "Truth or Consequences" in 1950. Despite the loss during that decade, Sierra County continued to increase in Anglo populations.

Along with the increases in total populations, Sierra County saw additional parks and towns created. Between 1930 and 1940 Sierra County saw the construction of buildings, landscaping, trails and roads throughout the area surrounding Elephant Butte Lake. The New Mexico State Parks took over control of Elephant Butte Lake State Park in 1965, and the area began to have permanent settlement in the late 50's and early 60's. In 1949, the town of Williamsburg was established at the southern end of Hot Springs. The small community received an influx of population after the name change of its neighbor. Today, Elephant Butte and Williamsburg have become the most populated villages in Sierra County, along with Truth or Consequences.

Sierra County saw a decrease in population between 1950 and 1960, losing a total of 777 people. This decline may have been caused for different reasons. After WWII, the tourism industry was in decline. Hot springs were not as prominent of an attraction as they were prior to the war. Small communities that made their livings based on tourism were feeling the impact across the nation. Money was not being spent in the same manner. The name change from Hot Springs to Truth or Consequences also inspired an exodus by many people. Some who refused to live in a town with such a ridiculous name simply moved down the river to Williamsburg, but many left the county entirely.

From 1980 to 2000 Sierra County saw a pattern of rural areas becoming more rural. Urban areas in Sierra County, though continuing to gain population, are far from the usual "urban" definition applied to present day industrial and densely population cities. Elephant Butte continued to gain a steady population from the 1950's onward,

eventually becoming New Mexico's 101st city in 2001. These three major hubs of population, Truth or Consequences, Elephant Butte and Williamsburg, now lie within a ten mile corridor stretched along Interstate 25 and the Rio Grande. Sierra County gained a total of 4,816 people between 1980 and 2000. This was the largest increase in population for any 20 year period in Sierra County history. However, only 1,350 of those gained were of Hispanic origin, or 28%. The total Hispanic population gained is only an average of 30% of the total population gained for Sierra County between 1870 and 2000.

The ages of the populations in Sierra County is also of note. Many of the increases in Anglo populations come from elderly retired persons. This is contrary to many other counties in New Mexico. For example, Figure 4.15 shows the population pyramids for Sierra, Lincoln, Los Alamos, Dona Ana, and Bernalillo counties as well as New Mexico. Comparing these pyramids we see that Sierra County has a significant elderly population, with the largest age range between 65-69 years old. This is similar to Lincoln County which includes another large retirement community in Ruidoso. Los Alamos bulges in the middle age areas of 30-60, which is consistent with its populations of highly educated scientists. However, New Mexico in general and its two highest populated counties, Dona Ana and Bernalillo both follow pyramid trends with large bases narrowing towards the top. This is consistent with rapid growth and is not the same trend that Sierra County shows. This figure helps explain the different age groups that lie within Sierra County and demonstrates that a predominantly elderly population currently inhabits the county, contrary to state averages.

Figure 4.15 Population Pyramids of New Mexico Counties

Population Pyramids for Selected Counties in New Mexico

| Sierra County | Lincoln County | Los Alamos County |
| New Mexico | Dona Ana County | Bernalillo County |
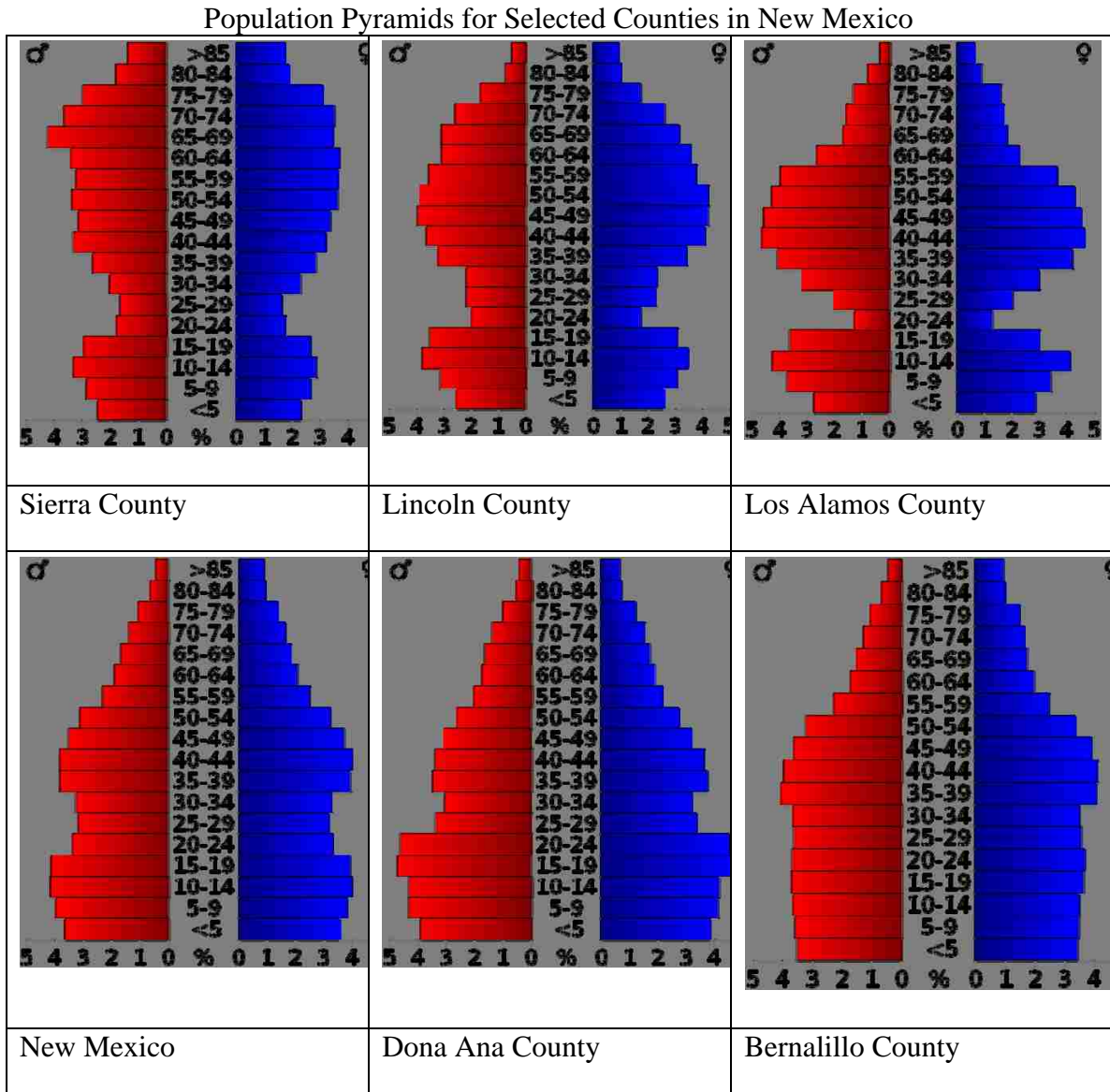
Source: United States Census Bureau, and www.wikipedia.org

Present day Sierra County exhibits similar population trends with the past few decades. Population continues to increase, as well as industry and transportation. New jobs have been created at Spaceport America and Wal-mart, two enterprising businesses

for this rural county. The hot springs still draw tourists from all over the world, and the tepid climate entices retirees and real estate entrepreneurs. The increase in population looks likely to continue, though the increase in Hispanic populations may decline. But the shift in populations from 1870's to 2000 in both New Mexico and Sierra County shows that this rural county can be unique in the state, while sharing similar historical events.

Chapter 5: Conclusions

The results and conclusions that were produced by this thesis represent the changes that have occurred in New Mexico and Sierra County over the past 130 years. Racial and ethnic population shifts have occurred in different areas throughout the state, illuminating New Mexico's transition from a predominately Native and Hispanic culture, to a more Americanized "melting pot" society. This thesis has shown a unique view of the historic populations in Sierra County and New Mexico.

The results of the methodology used show that New Mexico in 1870 was predominately Hispanic, almost 70%. This dominance is understood when taking into consideration that just 22 years prior the entire Southwest belonged to Mexico. Anglo settlement was discouraged and possibly inhibited in some areas. Spanish, Mexican, Hispano and Native American cultures had been living in this area for centuries. Anglo expansion to the Southwest had only recently begun and people settled in New Mexico for many reasons including mining, ranching and agriculture, homesteading, and timber. This pattern of Anglo expansion would come to shape the culture of New Mexico over the next 130 years.

New Mexico has transitioned from a primarily Hispanic culture in the 1870's to a multi-cultural state in the present. Many historic factors contributed to this transition as explored in section 4.2. The temporal elements that coincide with significant events in the settlement patterns of the western United States show major changes that affected the climate of New Mexico's cultural landscape.

Prior to this thesis, comparisons between historical and present day Sierra County had not been explored. The objectives of this thesis were to accurately represent historic Hispanic populations in New Mexico and Sierra County. Using the surname analysis methodology this task has been completed. An estimation of the Hispanic population for 1870 and 1930 in New Mexico, and 1870 and 1900-1930 in Sierra County has been determined, and from this information correlations with the settlement history can been seen.

Being the only study to look into pre 1980's ethnicity in Sierra County, this thesis has shown many similarities between the history of New Mexico and Sierra County, and has illustrated the many differences between the current racial and ethnic compositions among the individual counties. This thesis has also illustrated the ethnic distributions in New Mexico in 1870 and 1930, a feat never before attempted using the methodology of surname analysis. The gradual decline in the percentage of Hispanic populations can be seen within the maps and tables that were produced in this study. New Mexico is currently a tricultural state (Jenkins, 1974), and this thesis has shown that this was a gradual process beginning in the 1870's and continuing through to the year 2000.

This thesis has contributed to the use of surname analysis as a methodology for understanding past racial and ethnic population compositions. It has shown that many of the historical patterns in New Mexico and Sierra County correlate with Anglo expansion and cultural infusions. Sierra County, which has the second highest percentage of Anglo's with 73% according to the U.S. Census Bureau in 2000, was not always predominately Anglo, but has shifted over the years. Hispanic populations did not necessarily decline, but became overshadowed by the influx of Anglo and other cultures.

New Mexico has also changed similarly, though the ratio of Anglo, Hispanic, and other cultures is not near as striking as those of Sierra County.

The conclusions and results of this thesis are limited in some ways. For example, the comparisons of Hispanic populations between the years prior to 1930 and the years after 1980 become skewed when taking into consideration the differences in acquiring Hispanic population totals. Prior to 1930, Hispanic populations were extrapolated using surname analysis. After 1980, Hispanic populations were self-identified, and did not always coincide with a Hispanic surname. Intermarriage between races can lead to false Hispanic totals when using surname analysis methodology. Gathering information on a full scale of years from 1870 to 2000 is also impossible as data for certain years is not currently available.

Measuring peak populations is also limited. For example, some mining cities boomed and busted in between census records. The only evidence of peak populations would come from word of mouth, old photographs, post office and land ledgers, and maps showing the amount of buildings and rough population counts. Census records may not always be accurate as well. Miners who were camping in the small villages may have chosen to fill out a census at their permanent home elsewhere as opposed to a camp or town. This could lead to false peak populations that claim more inhabitants than permanently lived there.

Further research into the racial and ethnic population shifts in the New Mexico and Sierra County is possible. The maps, tables and analyses of this thesis would help aid in any future explorations on this topic. Evaluations for other counties or between different time frames could yield results that lead to a better understanding of the

settlement patterns of New Mexico. The surname analysis methodology could be applied

to future decades as they are released from the United States Census Bureau, and more

comparisons and conclusions could be drawn. There is room for future research on the

topics that are discussed in this thesis.

County	New Mexico Counties 1980			New Mexico Counties 1990			New Mexico Counties 2000		
	Total Hisp	Total Pop	% Hisp	Total Hisp	Total Pop	% Hisp	Total Hisp	Total Pop	% Hisp
Bernalillo	154449	419700	36.8	178309	480577	37.1	233565	556678	42
Catron	780	2720	28.7	727	2563	28.4	679	3543	19.2
Chaves	15637	51103	30.6	21271	57849	36.8	26904	61382	43.8
Cibola				8109	23794	34.1	8555	25595	33.4
Colfax	6478	13667	47.4	6190	12925	47.9	6739	14189	47.5
Curry	8193	42019	19.5	10014	42207	23.8	13685	45044	30.4
De Baca	758	2454	30.9	736	2252	32.7	790	2240	35.3
Dona Ana	50193	96340	52.1	76447	135510	56.4	110665	174682	63.4
Eddy	14691	47855	30.7	17144	48605	35.3	20023	51658	38.8
Grant	13442	26204	51.3	14060	27676	50.8	15126	31002	48.8
Guadalupe	3718	4496	82.7	3505	4156	84.3	3801	4680	81.2
Harding	482	1090	44.3	460	987	46.7	364	810	44.9
Hidalgo	2849	6049	47.1	2984	5958	50.1	3324	5932	56
Lea	11926	55993	21.3	16597	55765	29.8	22010	55511	39.6
Lincoln	2925	10997	26.6	3426	12219	28.1	4975	19411	25.6
Los Alamos	2023	17599	11.5	2008	18115	11.1	2155	18343	11.7
Luna	6140	15585	39.4	8627	18110	47.6	14435	25016	57.7
McKinley	7620	56449	13.5	7763	60686	12.8	9276	74798	12.4
Mora	3641	4205	86.6	3623	4264	85	4229	5180	81.6
Otero	9692	44665	21.7	12380	51928	23.8	20033	62298	32.1
Quay	3754	10577	35.5	4060	10823	37.5	3857	10155	38
Rio Arriba	21785	29282	74.4	24955	34365	72.6	30025	41190	72.9
Roosevelt	3374	15695	21.5	4547	16702	27.2	5998	18018	33.2
San Juan	9569	34799	11.8	17371	63319	13.1	26437	89908	15
Sam Miguel	9609	81433	81.4	12008	91605	79.6	17057	113801	78
Sandoval	18519	22751	27.5	20490	25743	27.4	23487	30126	29.4
Santa Fe	41900	75360	55.6	48939	98928	49.5	63405	129292	49.1
Sierra	2138	8454	25.3	2379	9912	24	3488	13270	26.3
Socorro	5868	12566	46.7	7056	14764	47.8	8810	18078	48.7
Taos	13444	19456	69.1	15007	23118	65	17370	29979	58
Torrance	3078	7491	41.1	3892	10285	37.8	6283	16911	37.2
Union	1474	4725	31.2	1390	4124	33.7	1465	4174	35.1
Valencia	22123	61115	36.2	22732	45235	50.3	36371	66152	55
New Mexico	301406	829371	36.4	579206	1515069	38.2	765386	1819046	42.1

Appendix B

Comparison of New Mexico Hispanic Populations 1930 and 2000

County	New Mexico 1930			New Mexico 2000			Changes 1930-2000		
	Hisp Total	Pop Total	Percent Hisp	Hisp Total	Pop Total	Percent Hisp	Hisp Change	Pop Change	Percent Change
Bernalillo	15621	45335	34.5	233565	556678	42	217944	511343	42.6
Catron	961	19549	4.9	679	3543	19.2	-282	-16006	1.8
Chaves	1678	3282	51.1	26904	61382	43.8	25226	58100	43.4
Colfax	5089	19134	26.6	6739	14189	47.5	1650	-4945	-33.4
Curry	50	8978	0.56	13685	45044	30.4	13635	36066	37.8
De Baca	578	2893	20	790	2240	35.3	212	-653	-32.5
Dona Ana	10757	26978	39.9	110665	174682	63.4	99908	147704	67.7
Eddy	2735	15842	17.3	20023	51658	38.8	17288	35816	48.3
Grant	5716	18926	30.2	15126	31002	48.8	9410	12076	77.9
Guadalupe	4236	7027	60.2	3801	4680	81.2	-435	-2347	18.5
Harding	1119	3442	25.4	364	810	44.9	-755	-2632	28.7
Hidalgo	1121	4421	32.5	3324	5932	56	2203	1511	145.85
Lea	21	6144	0.34	22010	55511	39.6	21989	49367	44.5
Lincoln	2045	7512	27.2	4975	19411	25.6	2930	11899	24.6
Luna	1219	6247	19.5	14435	25016	57.7	13216	18769	70.4
McKinley	708	20643	3.4	9276	74798	12.4	8568	54155	15.8
Mora	5329	7332	72.7	4229	5180	81.6	-1100	-2152	51.1
Otero	1702	9779	17.4	20033	62298	32.1	18331	52519	34.9
Quay	1310	10828	12.1	3857	10155	38	2547	-673	-378.5
Rio Arriba	2969	21381	13.9	30025	41190	72.9	27056	19809	136.6
Roosevelt	45	11109	0.41	5998	18018	33.2	5953	6909	86.2
Sam Miguel	11717	23636	49.6	17057	113801	78	5340	90165	5.9
San Juan	956	14701	6.5	26437	89908	15	25481	75207	33.8
Sandoval	5648	11144	50.7	23487	30126	29.4	17839	18982	93.9
Santa Fe	9247	19567	47.2	63405	129292	49.1	54158	109725	49.3
Sierra	1629	5184	31.4	3488	13270	26.3	1859	8086	22.9
Socorro	2753	4686	58.8	8810	18078	48.7	6057	13392	45.2
Taos	9602	15325	62.7	17370	29979	58	7768	14654	53.0
Torrance	3394	9269	36.6	6283	16911	37.2	2889	7642	37.8
Union	1541	11036	14	1465	4174	35.1	-76	-6862	1.1
Valencia	8224	16186	50.8	36371	66152	55	28147	49966	56.3
New Mexico	119720	407516	29.4	765386	1819046	42.1	645666	0	45.7

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