Making of a sub-region in the American West: a historical geography of logging, stock raising, and farming in "Pagosa Country," Colorado from the late nineteenth century to the early twentieth century

Sean D. Pummill

The University of Montana

Follow this and additional works at: https://scholarworks.umt.edu/etd

Let us know how access to this document benefits you.

Recommended Citation


https://scholarworks.umt.edu/etd/2902

This Thesis is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.
Permission is granted by the author to reproduce this material in its entirety, provided that this material is used for scholarly purposes and is properly cited in published works and reports.

**Please check "Yes" or "No" and provide signature**

Yes, I grant permission

No, I do not grant permission

Author's Signature: [Signature]

Date: 12/25/2004

Any copying for commercial purposes or financial gain may be undertaken only with the author's explicit consent.
THE MAKING OF A SUB-REGION IN THE AMERICAN WEST: A HISTORICAL GEOGRAPHY OF LOGGING, STOCK RAISING, AND FARMING IN "PAGOSA COUNTRY," COLORADO FROM THE LATE NINETEENTH CENTURY TO THE EARLY TWENTIETH CENTURY

by

Sean Pummill

B.A. University of Missouri-Kansas City, 2002

presented in partial fulfillment of the requirements for the degree of Master of Arts

The University of Montana

December 2004

Approved by:

Chairperson

Dean, Graduate School

1 - 5 - 05

Date
The Making of a Sub-Region in the American West: A Historical Geography of Logging, Stock Raising, and Farming in “Pagosa Country,” Colorado From the Late Nineteenth Century to the Early Twentieth Century

Chairperson: Jeffrey Gritzner

The creation of the sub-region “Pagosa Country,” Colorado began in the mid to late nineteenth century, owing in large measure to the expanding frontier of the United States and the land uses thereby introduced. Throughout history prior to that time, the area experienced varying intensities and types of land use, from big game hunting to fur trapping. However, these land uses did not modify the area nearly to the degree that resulted from the systematic settlement imposed during the time period of this study.

Pagosa Country is found in southwestern Colorado, from Wolf Creek Pass in the east to Yellow Jacket Pass in the west, and from the Continental Divide in the North to the New Mexico line in the south. Pagosa Country experiences a wide range of climatic conditions from semi-arid in the south to alpine in the north and east. The landscape is similarly varied, changing from a high desert replete with arroyos to tundra characterized by lichens and mosses.

One of the pillars of this study is the examination of the three selected industries using elevation as a guide. Elevation is one of the most important components in the formation of ecosystems and landscapes. Indeed, the influence of elevation on the historical geography of Pagosa Country is crucial, and throughout the study the terms “high-country” and “low-country” are used.

The patterns and history of settlement and land use in Pagosa Country are distinctive in part because of elevation, but its lack of significant mineral deposits is extremely important as well. Much of the area surrounding Pagosa Country was heavily mined during the early twentieth century and as a result it developed in a much different fashion.

This study examines the three primary land uses that were undertaken as a result of the physical limiting factors mentioned above, the lack of significant mineral deposits, and the culture of the settlers in an effort to better understand the historical geography of the American West.
CONTENTS

ACKNOWLEDGEMENTS

LIST OF FIGURES vi

Chapter

1 INTRODUCTION 1

Study Area

Boundaries of Pagosa Country

Purpose Statement

Physical Geography

2 PAGOSA COUNTRY BEFORE 1878 9

Paleo Indians

The Anasazi

The Utes

The Hispanics

The United States in Pagosa Country 1848-1878

3 LOGGING IN PAGOSA COUNTRY 1878-1899 32

The Military

Inception of the Logging Industry

The Ponderosa Pine Belt

Logging Around Pagosa Springs 1878-1899

Logging in Southern Pagosa Country 1878-1899

The Pagosa Lumber Company

The New Mexico Lumber Company
End of the Era

4 CATTLE RAISING AND GRAZING, FARMING, AND SHEEP RAISING AND GRAZING 1878-1905 ........................................ 46

The Cattle Industry

Early Cattle Raising

Cattle Herding Methods

Cattle Distribution at the Close of the Era

The Farming Industry

The Sheep Industry

Early Sheep Raising

Sheep Herding Methods and Effects upon the Range and Forest

Sheep Distributions at the Close of the Era

5. LOGGING IN PAGOSA COUNTRY 1900-1917 ........................................ 76

The Pagosa Lumber Company 1900-1916

The New Mexico Lumber Company 1900-1913

Overall Distributions of Logging Operations and the End of the Era

6. CATTLE RAISING AND GRAZING, FARMING, AND SHEEP RAISING AND GRAZING IN THE EARLY TWENTIETH CENTURY ........................................ 89

The Northwest Sub-Region

The Cattle Raising and Farming Industries

The Sheep Industry

Defining the Northwest
The Northeast Sub-Region

The Cattle Raising and Farming Industries

The Sheep Industry

Defining the Northeast

The Southwest Sub-Region

The Cattle Raising and Farming Industries

The Sheep Industry

Defining the Southwest

The Southeast Sub-Region

The Cattle Raising and Farming Industries

The Sheep Industry

Defining the Southeast

The Pagosa Springs and Southern Ute Sub-Region

7. THE LAND USE AREAS OF PAGOSA COUNTRY ........ 115

The Commercial Logging Area

The Cattle Belt

The Farming Belt

The Sheep Belt

The Land Use of Pagosa Country: The Paleo-Indians to the mid-Nineteenth Century

The Land Use of Pagosa Country from the late Nineteenth Century to the early Twentieth Century: The Making of a Sub-Region in the North American West.
FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Study Area</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>Logging Belt</td>
<td>31</td>
</tr>
<tr>
<td>3</td>
<td>High/Low Country</td>
<td>45</td>
</tr>
<tr>
<td>4</td>
<td>Subregions of Pagosa Country</td>
<td>74</td>
</tr>
<tr>
<td>5</td>
<td>Cattle Belt</td>
<td>75</td>
</tr>
<tr>
<td>6</td>
<td>Farm Belt</td>
<td>88</td>
</tr>
<tr>
<td>7</td>
<td>Sheep Belt</td>
<td>114</td>
</tr>
<tr>
<td>8</td>
<td>Photograph of irrigated pasture</td>
<td>125</td>
</tr>
<tr>
<td>9</td>
<td>Photograph of low-country</td>
<td>125</td>
</tr>
<tr>
<td>10</td>
<td>Photograph of oakbrush</td>
<td>126</td>
</tr>
<tr>
<td>11</td>
<td>Photograph showing effects of flood irrigation</td>
<td>126</td>
</tr>
</tbody>
</table>
Many people deserve recognition for helping to bring about the completion of this thesis. It seems that there are two broad categories into which these people fall; those who helped with technical and editorial concerns, and those who long before I ever began studying at the university level, facilitated and nurtured my study of geography. From the former category I need to thank my committee members, Dr. Jeffrey Gritzner, Dr. Carlos Baied, Dr. David Shively, and Dr. Dan Flores. Also, for his time and great insight, Glen Raby of the National Forest Service in Pagosa Springs needs mentioning. Finally, from this category, are Helen Girardin and August Warr, two individuals who have spent almost their entire lives in Pagosa Country. By listening to their stories of growing up in the area in the 1920s and 1930s I gained a much needed perspective on its historical geography. It would be a mistake I think to not further thank Mr. Warr for his trusting nature and generosity which were finely displayed as he treated me to a “pick-up tour” of Snowball Creek Road north of Pagosa Springs.

Individuals from the latter category include my parents; Cliff and Sandy Pummill, my brothers; Clayton and Adam, and my grandparents; Norman and Dorothy McCain, “Mom and Pa.” My journey back to university life would have been a much harder undertaking had it not been for the support of my parents, and a special thanks is owed to my mother for buying me my first globe at a young age, which surely hastened my decision to become a geographer. To Mom and Pa I give much credit for fostering my love of place in so many ways— from taking me on road trips, to providing me with a great many experiences and things most young boys from the suburbs miss out on—
perhaps most important, the encouragement to explore eighty acres of Missouri countryside.
INTRODUCTION

One way to analyze how humans inhabit the earth is to take a region or area and examine it in detail. This type of geographical research can be done by using a variety of temporal scopes that range from the all-encompassing regional study, which begins at the earliest date possible and ends at the present day, to a purely contemporary work that focuses only upon the present. The chronology of this work falls between these extremes by studying important elements of the human-earth relationship in a distinct area over a relatively short time span.

Another consideration of scope deals with the primary subject matter to be studied. True, one could try, as in a regional geography, to include as many elements as possible, but this approach can lead to problems in content. Alternatively, one could choose to pursue the other course and simply look at one element. This approach too seems like a poor choice, mainly because it would constrict the focus to such a degree that a satisfactory portrayal of an area would be nearly impossible.

Again, this work is betwixt the extremes, although admittedly it is closer to the latter. This study is a historical geography that will first provide a general overview of a sub-region of the North American West, and then examine three fundamental enterprises therein; commercial logging, stock raising, and farming. The study will roughly span a period from 1870 to 1920. These dates were chosen because they correspond to important
changes that occurred in settlement, transportation, and land usage in the study area.

Study Area

The study area is located in a section of south-central Colorado, and is commonly called “Pagosa Country.” It makes an excellent candidate for examining the geography of logging, stock raising, and farming in the North American West owing largely to the significant roles that they played in its livelihood systems.

Boundaries of Pagosa Country

The North American West is a vast region that can easily be divided into a varied set of sub-regions. Because of the large-scope of many textbook and maps, and the need for broad generalizations, oftentimes the particular geographies of smaller regions like Pagosa Country are not included. However, by adopting a smaller scope, it is possible to concentrate on the little known and understudied regions of the world. By researching crucial aspects of these places, and gathering a more in-depth understanding of them, one attains an important perspective that is useful in comprehending the regional geographies of the world.

Pagosa Country gets its name from the Great Pagosa Hot Springs, a collection of geothermal springs lying on about twenty-one acres near the center of Archuleta County, Colorado. The word “pagosa” is a corrupted version of the Ute word

"pah-gosa," which roughly translates to "boiling water." Pagosa Country is primarily inside the bounds of Archuleta County, but it does extend into parts of Mineral, Conejos, Rio Grande, La Plata, and Hinsdale Counties. The southern boundary is the Colorado/New Mexico line, the northern and eastern boundaries follow the Continental Divide, and the western boundary is found along the hydrological divide between the Piedra and Los Pinos rivers.

The only incorporated town inside Pagosa Country is Pagosa Springs, which is centered on the hot springs, and presently has a population of around 1500. Today, most of the people in Pagosa Country live in the general vicinity of Pagosa Springs, but there are other notable population clusters: Pagosa Junction, located approximately twenty-eight miles southwest of Pagosa Springs; Chromo, about sixteen miles south of Pagosa Springs; and Arboles, approximately thirty-eight miles southwest of Pagosa Springs in the extreme southwestern part of the area.

Purpose Statement

The goal of this thesis is to analyze and explain the role logging, stock raising, and agriculture played in the habitation and modification of "Pagosa Country" Colorado from around 1870 to around 1920, in an effort to understand their roles in its historical geography.

Logging, stock raising and farming are fundamental components in the

---

3 John M. Motter, Pagosa Country: The First Fifty Years (Privately published by the author 1984), 3, 5.
relationship between humans and the earth. The historical analysis of them, including an
examination of their spatial extents and the methods by which they were employed, can help one better comprehend a crucial part of the human condition. They are generally associated with “making a living,” and it is in this regard that one finds the greatest human effort, and thus the most significant alterations to the environment. Obviously, all sorts of phenomena accompany logging, stock raising, and farming in the greater system of settlement. Things such as trails, roads, railways, and irrigation ditches are but a few that contribute to the vast infrastructure created by these practices.

Physical Geography

Pagosa Country is a remote place, and the climate and topography are relatively harsh when compared to many other places in the United States. These realities are major limiting factors in most human endeavors in the area, and understanding their effect upon the geography of logging, stock raising, and farming is paramount to this study.

The San Juan River, a major tributary of the Colorado River, dominates the hydrology of the study area. With its headwaters in the northeast of Pagosa Country, it flows in a southwestern track until it is eventually damned in the far southwestern portion of the study area, helping to create the Navajo Reservoir. Three other rivers, the Piedra, in the west (which flows to Navajo Reservoir as well); the Navajo in the southeast; and

---

the Blanco in the east are also major rivers in Pagosa Country.

Pagosa Country encompasses two primary highland features, the San Juan Mountains and Sandoval Mesa. The San Juans are part of the Southern Rocky Mountains and are primarily composed of anticlinal arches, intervening basins, and glaciated peaks. In Pagosa Country, they are most imposing in the north and east, where summits near the Continental Divide reach elevations of more than 13,000 feet, and the relief is extreme. Around Pagosa Springs, the rugged nature of the landscape begins to lessen as the mountains decrease in elevation and become more rounded in the process of blending in with the high-desert.

The elevation in Pagosa Country ranges from around 6500 feet at various points along the southern boundary to more than 13,000 feet. This reality is not only stunning given the relatively small size of the study area, it is also a crucial component in the formation of ecosystems and a significant influence upon the human geography of the area. Elevation strongly influences temperature and the amount of moisture that can be retained in the atmosphere. Both of which are significant physical limiting factors in the creation of ecosystems.

As air masses from the Pacific and the Gulf of Mexico sweep across the four-corners area they are gradually forced upwards as the elevation increases, and cool at a rate of 10 degrees Celsius per Kilometer (or 5.5 degrees Fahrenheit per 1000 feet).

---


7 Ibid., 131-133.
Because cooler air can hold less moisture, and temperatures drop steadily with elevational gain, it follows that oftentimes more precipitation occurs in the higher reaches of the earth. This is the case in Pagosa Country, as evidenced by the semi-arid nature of the southern boundary in comparison with the moister conditions found in the east and north.\textsuperscript{8} All the precipitation that falls in Pagosa Country enters a vast watershed drained by rivers destined for the Colorado River. As will be shown, the use of water, especially for irrigation purposes, was critical in the historical geography of stock-raising and farming.

Temperatures generally fall as elevations increase. Given the immense range of elevations in Pagosa Country, it necessarily follows that a wide range of temperatures occur, helping to create many different ecological zones. The zones are akin in many ways to those that exist from Southern Colorado to the Arctic. Here is a simplified illustration. Roughly, every one-thousand feet of elevation gain is comparable to three-hundred miles of northward travel.\textsuperscript{9} The fauna that inhabit the ecosystems of the area include a wide array of creatures not normally found within such a small geographical area, including elk, black bears, jack rabbits, and Western spadefoot toads. The distance from one species to another may be only a few air miles, but the ecosystems, driven by elevation, change from semi-arid to alpine in the breadth of the study area.\textsuperscript{10}

Because the climate in Pagosa Country is so strongly dictated by elevation it should come as no surprise that it is varies greatly throughout the area. It is in the high-

\textsuperscript{8} The Historical Atlas of Colorado, 7.

\textsuperscript{9} Albert W. Spencer, and William H. Romme, “Ecological Patterns,” in The Western San Juan Mountains, 131-132.

\textsuperscript{10} Ibid., 139-142.
country of the north and east, roughly following along the Continental Divide, that the most extreme climates are found. Thus, it should also not be surprising that the primary settlement clusters of Pagosa Springs, Arboles, Pagosa Junction, Edith, Juanita, and Chromo, as well as the homesteads of previous inhabitants, are located in the relative comfort of the lower elevations.
Figure One: Study Area

Contours
- 7000'
- 8000'
- 10000'
- 12000'
- Townships
- Counties

Colorado
Hinsdale
Mineral
Rio Grande
Conejos
La Plata
Archuleta
Pageosa Springs
CHAPTER 2

PAGOSA COUNTRY BEFORE 1878

In the 1870s, Pagosa Country was a very isolated region of the North American West. This is not to say that people did not live in the area, alter their environment, or have contact with other regions before this time, only that after the construction of a military fort in 1878 Pagosa Country entered into a distinct era, complete with new land uses, settlement patterns, and transportation networks. Fort Lewis stood in Pagosa Country for only around three years, but its presence was powerful enough to spark the first large-scale settlement in the area.\footnote{History of Pagosa Country, 1-3.}

Five primary groups influenced the geography of Pagosa Country before Fort Lewis was established: the palaeo-Indians, Anasazi, Utes, Hispanics, and Fur Trappers. They each interacted with the area differently and, though an in-depth analysis is beyond the scope of this work, a short background description of their actions is important.

**Palaeo-Indians**

Of the three indigenous groups that made their lives in the study area, scholars and scientists know the least about the palaeo-Indians. The term palaeo-Indians refers to
those people that arrived in the Americas first; most likely by way of a land bridge that
existed between eastern Siberia and western North America. The land bridge, often called
“Beringia” was most likely passable for at least fifteen thousand years; from 25,000 years
ago to around 10,000 years ago. Though most scholars agree that they came over the land
bridge, some contend that evidence exists, which points to an arrival before twenty-five
thousand years ago by other means.

Whether palaeo-Indians arrived by land or sea, irrefutable evidence exists
pointing to a presence by 11,500 years ago in the form of a “Clovis” projectile found in
1932 near the town of Clovis, New Mexico. The projectile, and others like it, found
rooted in the ribs of a woolly mammoth suggests that palaeo-Indians engaged in big game
hunting to survive.12

Palaeo-Indians probably arrived in Pagosa Country around 10,000 years ago. The
geomorphology at that time would have included the San Juan Mountains and Sandoval
Mesa, but the climate was of a different type.13 The climatic period at that time, called the
“Anathermal,” was strongly influenced by the retreat of the Wisconsin-period glaciers,
which helped to create a much cooler and moister climate. As the glaciers retreated
further into the high country, the swamps and lagoons of Pagosa Country dried up and the
palaeo-Indians began to focus their hunting efforts upon smaller game such as deer and
elk. The second post-glacial period, called the “Antithermal,” was defined by an even
drier and warmer climate, and archaeologists have found little evidence of a human
presence in the entire four-corners region.

---

12 Jake Page, In The Hands Of The Great Spirit: The 20,000-Year History Of American Indians

Because of their reliance upon hunting and their lack of agriculture, it is likely that the only major human-induced modifications to the landscape during the reign of the palaeo-Indians would have been from over-hunting and prescribing large-scale fires. The practice of intentionally starting large fires is an ancient and effective technique for attracting game by creating a more favorable environment for annuals plants.\textsuperscript{14}

\textbf{The Anasazi}

Unlike the palaeo-Indians about whom little is known, the next indigenous group to inhabit parts of Pagosa Country left behind countless artifacts that allow for a much better understanding of their lives.\textsuperscript{15} The Anasazi lived in the southwest from around 200 B.C. to 1300 A.D, their territory extending from the middle of Arizona and New Mexico, northward to southern Utah and Colorado. Their east-west extent was from east of the Rio Grande, to points well west of the Colorado River.\textsuperscript{16}

Also unlike the palaeo-Indians, the Anasazi practiced sedentary agriculture and lived in large permanent settlements. Growing corn, squash, and pumpkins, as well as numerous bean varieties, the Anasazi thrived in the lower elevations of Pagosa Country for centuries. Today, within the bounds of their world, are thousands of dilapidated structures, millions of pottery shards, and all types of implements that can help one better understand their way of life.

\textsuperscript{14} Pagosa Country: The First Fifty Years, 14.


\textsuperscript{16} Ibid., 204.
comprehend the human-earth dynamic in Anasazi culture. By far the most significant site in Pagosa Country is the Chimney Rock archaeological district. Named for the twin spires of stone that jut from a cuesta approximately two and a half miles south of U.S. highway 160 on the west-bank of Stollsteimer Creek, the district represents the most northern outpost of the Anasazi people.

The rise of a distinct Anasazi culture has much to owe to the gradual domestication of plants along with improved methods of storing the harvest. As the farming industry advanced, the population increased, putting more pressure on the large mammal population, and further entrenching farming into the Anasazi culture.

The Anasazi built increasingly impressive settlements throughout their reign. As their society flourished, they constructed complex structures and exhibited impressive skill in masonry and road construction. Indeed, one of the primary ways archaeologists delineate the changes in Anasazi culture is by categorizing changes in their architecture.

Archaeologists have arranged the history of the Anasazi into periods. The Basketmaker Period extended from 200 B.C. to A.D. 750, and is further broken down into three subgroups, Basketmaker I, II, and III.

The Basketmaker I and II populations were probably quite small and sites are rare, but like future dwellers in Pagosa Country, they practiced sedentary agriculture,
although their diets were supplemented by hunting and gathering.\(^{20}\)

The Basketmaker III period is from A.D. 450 to 750. In this period, the Anasazi continued farming small plots, but from archaeological evidence, it appears that they were more successful than previous generations. Also during this period came a new style of shelter, called the "pit house," which was a semi-subterranean dwelling built from rock slabs, wooden beams, and adobe.\(^{21}\)

After A.D. 750, the name Pueblo is used to refer to the Anasazi periods, and like the Basketmaker Period, the Pueblo Period is broken into three sub-periods. One of the main differences between the Basketmaker and Pueblo periods is a change in the types of structures built; it is in the Pueblo period that the first wholly above-ground structures were built. Another difference is found in the types of tools, ceramics, and material goods used by the Pueblo Anasazi.

By A.D. 1100, Anasazi society in southwestern Colorado had reached its zenith. During this time, irrigation was developed to water extensive areas of cultivation that provided food to large population centers and specialized villages, the site at Chimney Rock among them.\(^{22}\) The exodus of the Anasazi from Pagosa Country and southwestern Colorado began in the late 1100s, and is not completely understood. One plausible explanation hinges on conflict amongst the Anasazi themselves and with neighboring hunters and gatherers. Another suggests that the onset of a severe drought in the San Juan River Basin around A.D. 1100 led to the mass departure. Credence is given to this claim.

\(^{20}\) Matlock, "The Anasazi," 204-205

\(^{21}\) Ibid., 205-206.

\(^{22}\) Ibid., 206-210.
by the fact that within fifty years after the drought, a systematic, rather than chaotic, departure began. Most Anasazi traveled south to occupy villages along the Rio Grande and its tributaries, and others may have blended in with the Hopi Indians in Arizona.

Whatever the reason for their departure, by A.D. 1300, they had all but vanished from their northern outpost on the mesas and broken lands of southern Colorado. They abandoned a multitude of structures and left behind countless tools and artifacts, but perhaps most relevant to this study, is their flight from the successful irrigation systems that watered extensive fields of squash, corn, beans, and other vegetables.

The Utes

The Utes resided primarily in the mountains, valleys, and plateaus of Colorado, New Mexico, and Utah. Calling themselves “Nuche” (the people) and called “Yutas” by the Spanish, certain segments of the Ute population lived and still live inside the bounds of Pagosa Country today. Within the main Ute tribe there existed around seven separate bands, each occupying a distinct territory within the greater Ute realm. The historical homeland of the Weminuche Band was based around the San Juan River Basin from its headwaters to points in northern New Mexico, thus placing them securely in the midst of Pagosa Country.

---


24 Ibid., 206-212.


Ute population numbers were small compared to the modern standard, and even in relation to other North American tribes. The total Ute population in historical times is estimated to have been around 5,000-10,000. However, given the rugged environment in which they lived, their lack of sophisticated technologies, and the immensity of their territory (150,000 square miles), their small populations begin to make some sense. Given these numbers, it becomes obvious that the population of the Weminuche Band could not have been more than a few thousand individuals at any given time.  

The Ute language belongs to the Shoshonean branch of the Uto-Aztecan language family. The neighboring Paiute, Chemehuevi, Hopi, Comanche, Bannock, and Shoshone tribes also belong to this language group. The territory encompassed by the Uto-Aztecan language family is massive, extending as far south as central Mexico. Unlike many other tribes of the Americas, some of the Utes have managed to retain their language, owing in no small measure to their rugged and isolated homeland.

The Ute people traditionally existed as semi-nomads who grouped themselves into small family units of ten to forty. Hunting mainly elk, deer, antelope, and occasionally mountain buffalo, and collecting wild berries, fruits, and seeds, they followed a pattern common among many mountain dwellers of the world. During the spring and summer months when the great snow-pack began to melt, they ventured deep into the mountains where ample water and big game could be had. Conversely, they traveled down from the high-country once autumn began to tighten its grip, and thus avoided the frigid temperatures and deep snows that characterize much of southern

---

27 Ibid., 24.

Colorado in the winter. This semi-nomadic existence was centuries old, and stood in almost diametric opposition to the extractive and pastoral systems of encroaching United States citizens.29

The first mention of the Utes in European circles occurred in 1626, when a Spaniard noted that some “dark skinned people” had made off with a significant number of horses. Indeed, the acquisition of the horse in the early seventeenth century proved to be the most important event in the formation of a “new” Ute culture around the mid seventeenth century.30

The everyday life of a Ute Indian circa 1550 was much different from that of a Ute living in the year 1650, owing mainly to the problems of mobility, and hence food procurement. Before the acquisition of the horse, the natural environment made securing a dependable food source difficult. Steep mountains and remote valleys provided refuge for all kinds of big game, but without a means to cover large distances and transport the game the Ute diet suffered. This is not to say that they did not ever bring down big game before the introduction of the horse or travel great distances, only that it made these activities much easier. Before horsemanship became a part of Ute culture, they harvested almost all available food sources, including snakes, crickets, lizards, caterpillars, and a variety of wild nuts and berries. The only domesticated animals they had were dogs, which were treated as pack animals.31

Before acquiring the horse, the Utes lived in a variety of shelters, but the most

---


30 Marsh, The Utes of Colorado, 7

common was the wickiup. Made from willows and juniper bark, the wickiup was made in a style similar to the teepee, but lacked its ability to be transported and its superior warmth. However, after the introduction of the horse and increased contact with the Plains Indians, the teepee became the shelter of choice for the Utes, because horses gave them the ability to bring down enough big game to cover a teepee frame and the means to transport the heavy poles.\textsuperscript{32}

The decline of the Utes in Pagosa Country and elsewhere is fundamentally linked to the arrival of the American miner and homesteader, and in particular to the colossal cultural clash that occurred shortly thereafter. The Utes did have contact with the Spanish well before encountering U.S. citizens, but because the Spanish were more interested in exploration and trade, as opposed to settlement, little damage occurred to the Ute culture. Encounters with the United States government and its citizens, however, were anything but beneficial because, unlike the Spanish, they were interested in securing territory and constructing permanent settlements, a process that displaced the Ute people and severely damaged their culture.\textsuperscript{33}

The beginning of the end for traditional Ute ways occurred in 1848 with the signing of the Treaty of Guadalupe Hidalgo, whereby Mexico ceded present-day Arizona, New Mexico, Southern Colorado, Utah, and California to the United States at the end of the U.S.-Mexican War. Directly after wresting control of much of the present American Southwest, the U.S. government signed a treaty with the Utes. The treaty was simply a peace agreement between the two nations, in which the Utes acknowledged U.S.

\textsuperscript{32} Ibid., 11-22.

\textsuperscript{33} Pettit, \textit{Utes: The Mountain People}, 101-102.
The arrival of appreciable numbers of United States citizens into traditional Ute lands began around fourteen years after the Colorado gold rush of 1859 (which happened on Arapaho lands in the Front Range). In 1873, the Utes signed the Brunot Agreement, which outlined the secession of 3.5 million acres in the heart of the San Juans. Following quickly on the heels of the miners were ranchers, railroad workers, and the usual collection of businessmen and vagrants. In the two decades to follow, the Ute lifestyle changed on a par with the period following the introduction of the horse, but this time the results were not positive. In fact, by the early 1880s, the Utes in Colorado only retained a small parcel of their once mighty territory.

In 1868, a treaty was signed whereby the Utes ceded their lands east of the Continental Divide and agreed to the construction of two Indian agencies, one in the north along the White River and a southern agency located on the Los Pinos River (which feeds into the San Juan River in northern New Mexico), just to the west of Pagosa Country. The Moache, Capote, and Weminuche bands, collectively called the “Southern Utes” moved to the territory around the Los Pinos agency, living as far east as the area around the San Juan River and as far west as points in southeastern Utah, with the U.S.

---

34 Ellis, “The Utes,” 227.
37 Pettit, Utes: The Mountain People, 110.
38 The Ute Indians of Colorado in the Twentieth Century, 26-27.
39 Ibid., 26.
government expecting them to become farmers.

The land on the reservation is considered to be poor for agricultural purposes. One band, the Weminuche, in an effort to escape it, moved far to the west of the reservation and had little contact with the government officials at the Los Pinos Agency.\(^{40}\)

It is a telling fact that the Weminuche, who traditionally lived in Pagosa Country (at least part of the year), moved to the outskirts of their homeland as the Moache, and Capote Utes, both from east of the Continental Divide, settled into it. The Weminuche band was historically the most isolated of the seven bands; owing no doubt partly to their rugged territory and partly to their aversion to White culture, and by moving to the edge of the reservation they were able to retain more of their own.\(^{41}\)

The way the Weminuche escaped farming was primarily achieved by settling on poor agricultural land and by refusing to take allotments, which were private plots of land usually of one hundred sixty acres and owned by individual Native Americans. A result of the allotment system was the buying up of un-allotted parcels by white farmers and ranchers in the east of the reservation, including parts of Pagosa Country; a consequence the Weminuche thus avoided. The very different situation the Weminuche found themselves in prompted the creation of two separate reservations in 1899 The Moache and Capote reservation became the “Southern Ute Reservation” and the Weminuche reservation, the “Ute Mountain Reservation.”\(^{42}\)

Life on the Southern Ute Reservation gradually began to revolve around

\(^{40}\) Ellis, “The Utes,” 227.

\(^{41}\) Young, The Ute Indians of Colorado, 15-70.

\(^{42}\) Ibid., 36-37
agriculture and stock raising as time progressed, although much of the farming was done
by tenant Hispanic farmers who gave half of the harvest to the Ute owner, and many
Indians still relied heavily upon government handouts. Because successful dry farming is
almost impossible in southwestern Colorado, the construction of irrigation systems is
paramount for success, and thankfully for the Southern Utes, a number of rivers and
streams, including the Los Pinos, Piedra, Las Animas, and San Juan Rivers, possessed
flows large enough to warrant construction of irrigation works.43

The un-allotted Utes of the Ute Mountain Reservation, in heavy contrast to their
eastern cousins, continued to scoff at the idea of farming. They choose instead to range
across their lands in a semi-nomadic state hunting game and collecting nuts and berries
(although some stock raising was practiced). The disdain for white ways certainly played
a part in the absence of farms, but even if they wanted to farm, the geography of their
lands almost completely barred it. Unlike the Southern Reservation, the Ute Mountain
Reservation contained only one substantial stream, the Mancos River, which was not
used for irrigation.44 The Weminuche continued living in a semi-nomadic state well into
the twentieth century, but gradually began to adopt some aspects of Western culture-
namely stock raising, which was primarily centered on sheep. In 1933, the band
possessed 11,015 sheep, 82 goats, 520 horses, and 81 beef cattle.45

Basic insight into how the Utes lived in southwestern Colorado and in Pagosa
Country is essential to understanding its geography, especially that of land use. Most of
the major modifications to Pagosa Country wrought from the Utes occurred subsequent to

43 Ibid., 48-56.
44 Ibid., 56-65.
45 Ibid., 83.
contact with U.S. homesteaders when they were forced onto reservations and compelled to undertake pursuits like farming and stock raising.

The Hispanics

Southern Colorado from the present-day city of Pueblo in the east, to the four-corners region in the west was at the extreme northern tip of the Spanish interior empire in the Americas from the early seventeenth century to 1821. Of course, on the Pacific Coast, their reach extended to a greater latitude, with the founding of numerous missions in California during the late eighteenth century- including San Diego and San Francisco. Santa Fe’, in present day New Mexico, founded in 1609, served as the capital of Spain’s Rio Bravo del Norte colony, which was the northern outpost of New Spain, and it is from there that many ventures into Pagosa Country and the frontier of Rio Bravo del Norte originated.

Documented expeditions into Pagosa Country occurred relatively late in the timeline of Spanish frontier exploration. The sequence of forays into the northern frontier of New Spain and more specifically the reasons for them followed a pattern seen in other colonial empires. Both the Spanish and the British searched in vain for the magnificent city of El Dorado in northern South America; therefore, it is not surprising to learn that the earliest explorations into the frontier of New Spain were geared towards the discovery...

---


47 Ibid., 58.
of fantastically wealthy kingdoms.\textsuperscript{48}

One of the most well known of the early Spanish explorers was Don Francisco Vásquez de Coronado. It is doubtful if Coronado ever set foot within the bounds of present-day Colorado, but his extended travels did take his party into present-day New Mexico, Texas, and Kansas in search of the fabled kingdoms of Cibola and Gran Quivira. Of course, Coronado never found these “shining cities.” Indeed, Spain’s recognition that magnificent kingdoms of gold did not exist played a central role in the relatively late exploration of present-day southern Colorado. With this knowledge, Spain’s policy towards the frontier areas of northern New Spain transformed into one increasingly concerned with trade, route finding, and missionary work.\textsuperscript{49}

The Spaniards did attempt some mining in Colorado, including in Pagosa Country, but their efforts met with little success. One expedition noted gold and silver deposits in the Upper San Juan River in the late eighteenth century, and some local legends tell of large caches of gold left by Spanish miners as they fled hostile Indians.\textsuperscript{50} Nevertheless, it was the trade in coarse furs and the exploratory expeditions that had the greatest effect upon the geography of Pagosa Country during their reign.

The first documented excursion into Southwestern Colorado took place in 1765. Under the leadership of Juan Maria de Rivera, a group of Spaniards with orders to seek out trade with neighboring Indians (Utes), traveled within the bounds of Pagosa Country,

\textsuperscript{48} Phil Carson, \textit{Across The Northern Frontier: Spanish Explorations in Colorado} (Boulder: Johnson Books, 1998), 1-14.

\textsuperscript{49} Ibid.

\textsuperscript{50} \textit{History of Pagosa Country}, 1.
and in doing so established a precedent for future expeditions, travel, and trade.\textsuperscript{51}

Following on the heels of the Rivera expedition were the friars Francisco Atanasio Dominguez and Silvestre Velez de Escalante. In 1776, their party totaling around eleven men set out from Santa Fe\textsuperscript{2} to locate a practical route to San Francisco. They never made it to San Francisco; in fact, the farthest they got from Santa Fe\textsuperscript{2} was in the general vicinity of the Great Salt Lake. The expedition began on July 29\textsuperscript{th} with the group picking a northern route that took them straight to Pagosa Country. On August 5\textsuperscript{th}, they camped along the San Juan River in the southern part of the area. They named the site “Nuestra Senora de las Nieves” (Our Lady of the Snows), thus making it the first official non-Native American place name in Colorado.\textsuperscript{52}

The group spent ample time exploring the area, and Escalante, acting as record keeper, made several notes concerning the agricultural potential of individual sites. Near the present-day town of Pagosa Junction, he wrote, “There is good land with facilities for irrigation and everything else necessary for three or four settlements.” Of the Pagosa Springs area he wrote, “It has fine meadows because it runs through a more open country.” When the group crossed the Piedra River near present-day Arboles in the southwest corner of the study area, Escalante noted, “It has very good land for crops, with opportunities for a settlement- firewood, stone, timber, and pasture all close at hand.”\textsuperscript{53}

The lasting legacy of the Dominguez-Escalante expedition, both in relation to the American West and to Pagosa Country, lies in the route taken by the friars. Though they

\begin{itemize}
\item \textsuperscript{51} Richard N. Ellis “The Spanish,” \textit{The Western San Juan Mountains}, 216-217.
\item \textsuperscript{52} Motter, \textit{Pagosa Country}, 63-64.
\item \textsuperscript{53} Ibid., 25.
\end{itemize}
failed to reach San Francisco, their path from Santa Fe’ to central Utah was anything but a failure, even if they did not live to know it. Others replicated the general course of the expedition, until it became the favored way to enter the western slope of Colorado and eventually southern California. 54 This is not to say that Spaniards were not traveling in Pagosa Country before the first official visits in 1765 and 1776. Indeed, two critical pieces of evidence point towards a Spanish presence before those expeditions. The first, that in the early eighteenth century, officials in Santa Fe’ had reason enough to prohibit trade in Ute territory, and the second that Escalante noted in his journal the feelings of their guide who did not want to upset the Utes for fear of “losing their ancient friendship which was based on trade in skins.”55 Therefore, it is likely that small parties of Spaniards traveled in Pagosa Country before 1765, however, after the expeditions, a well-worn path existed between Spanish New Mexico and Ute controlled Pagosa Country.

This path became known in later years as the “Old Spanish Trail,” and the eastern portion of it followed the route taken by Dominguez and Escalante. Its importance rose to epic proportions once Mexico gained independence from Spain in 1821. Under Spanish rule, trade in Indian Territory was severely restricted, few permits were granted, and those that were pertained only to Spaniards. Their general policy was to have Indian traders bring their pelts of deer and other coarse furs to established towns in New Mexico. This had a hobbling effect on illicit trading ventures into present-day Colorado and Pagosa Country, as the small number of hides seized from smugglers by Spanish


authorities suggests.\textsuperscript{56}

The Mexicans after gaining independence, immediately cast this policy aside, thereby transforming towns like Santa Fe\textsuperscript{'} and Taos into major commercial centers based primarily upon the trading of beaver pelts.\textsuperscript{57} The shift in focus from coarse to fine furs was a momentous yet largely undetectable development in the historical geography of Pagosa Country, and foreigners (mainly American and French), now with the right to trap on Mexican soil, initiated the change. The Spaniards, with eyes on mineral wealth and with little use for warm furs in much of their empire, tended to focus their trade upon coarse furs that could be tanned into leather goods, and only dabbled in the trade of fine fur.\textsuperscript{58} However, the Americans and French, with a long history of trapping beaver and other fine furs, elevated the economic situation in the study area and the West by further connecting them with the outside world.\textsuperscript{59}

This era, characterized by the quintessential “mountain man” trapping, trading, and transporting his precious furs, was a rather short-lived yet highly influential period in Pagosa Country and the American West. From roughly 1821 to 1846, the beaver trade, fueled by cosmopolitan fashion, catapulted Pagosa Country into a far-reaching semi-global economy.\textsuperscript{60} Granted, Pagosa Country during this period, without any permanent settlements, commercial logging, or agriculture, and only a few remote trails, was essentially a wilderness by many standards. However, even without overt indicators of an

\textsuperscript{56} Ibid., 27

\textsuperscript{57} Ellis, “The Spanish,” 219-220.

\textsuperscript{58} Ibid., 15-16.

\textsuperscript{59} Weber, \textit{The Taos Trappers}, 32.

\textsuperscript{60} Ibid., 52-65.
outside presence, Pagosa Country began to quicken its march from seclusion to the world stage aided chiefly by a burgeoning transportation system that facilitated access to its resources.

Pagosa Country, isolated as it was during the Hispanic period, nonetheless was on a creeping crescendo of modernity. Aided by explorers, prospectors, missionaries, smugglers, and traders, and the resulting trails that they created, Pagosa not only became more physically connected to the outside world, it also made its entrance into the global market.

**The United States in Pagosa Country 1848-1878**

In 1848, all of Colorado officially became the possession of the United States following the defeat of the Mexicans in the U.S-Mexican War, and the subsequent signing of the Treaty of Guadalupe Hidalgo. The transfer of power marked the beginning of a new period in Pagosa Country defined primarily by military exploration, fort building, and increased traffic through the area. Most of the civilians in Pagosa Country during this period (and to a large degree the military) were in one way or another connected to the booming San Juan mining industry, which sputtered in the 1860s and swelled in the 1870s. However, before the great influx of mining related activity occurred in the San Juans, the military had already conducted two notable expeditions into the area.

In the summer of 1852, the first official U.S-led expedition entered Pagosa

---


Country Traveling by way of the Old Spanish Trail, a group of soldiers under Captain R. E. Stewar reached the general vicinity of the Great Pagosa Hot Springs but, because of a hostile Ute encampment in the area, failed to behold it. Though not a momentous event in itself, the Stewar expedition nonetheless highlights the significance of the “southern gateway” in accessing the study area, a route anchored by the Old Spanish Trail.

In 1859, another military expedition entered Pagosa Country by way of the Old Spanish Trail, this time with orders to ascertain the feasibility of constructing a wagon road from Santa Fe to Utah. Commander John N. Macomb did not follow the trail exactly, but instead ventured north, and in doing so became the first white man to officially explore the Great Pagosa Hot Springs. From the springs, his party scouted a trail westward through the heart of Pagosa Country, roughly following the course of modern U.S. highway 160, and eventually left the area after passing over the hydrological divide between the Piedra and Los Pinos rivers.

Two important developments in the historical geography of Pagosa Country happened because of the Macomb expedition. First, Macomb’s unfavorable report pertaining to the wagon road directed attention away from Southern Colorado for a major east-west route within the United States, thereby ensuring the relative remoteness of the San Juan region for years to come. Second, the stories of gold in the San Juans told by members of the expedition upon returning encouraged prospecting in the region, and guaranteed that the San Juans and Pagosa Country would not remain isolated and devoid of settlement.  

The effects wrought from the San Juan gold rush in relation to the historical

\[\text{\textsuperscript{63}}\text{ Ibid.}\]

\[\text{\textsuperscript{64}}\text{ Motter, } Pagosa Country, \text{ 33.}\]
The geography of Pagosa Country are surprising, and crucial to understanding its settlement and land use. The effects are surprising primarily because the northern portions of the study area are well within the San Juan Mountains, yet this area contains little mineral wealth, as indicated by the lack of a single mining town during any point in its history. This is not to say that prospectors did not canvas the northern sections of Pagosa Country looking for evidence of minerals, as they certainly did, or that it is completely devoid of mineral wealth. However, the lack of substantial deposits served to set it apart from most of the rest of the San Juans, and consequently helped foster a separate identity based initially upon freighting, travel, and recreation.

The majority of mining towns in the San Juan Mountains were located to the northwest of Pagosa Country in the high-country north of Durango. The headwaters of many rivers are located in this territory, including the Rio Grande, Uncompahgre, San Miguel, Dolores, and Animas, which create deep canyons and hinder travel considerably. Coupled with the lofty elevations and extreme climate, the resulting landscape is among the most foreboding in the United States (especially in the days before the automobile). Needless to say, accessing the mining districts was a daunting task but, with dreams of striking the mother lode, trails were blazed, roads constructed, and, as a result, the geography of Pagosa Country changed.

In 1860, Charles Baker prospected in the Upper Animas Valley near the present-

---


67 Smith, *Song of the Hammer and Drill*, 2.

day town of Silverton. Upon returning, his glowing accounts of the mineral wealth in the area created a stir that spawned the first rush into the San Juan Mountains. The miners arrived in the spring of 1861, but met with little success for a variety of reasons, including hostile Utes, a deficiency in placer gold (gold panned from streams), difficult climate, and isolation.69

At this time, the predominant route into the mining districts began in northern New Mexico and from there followed the Old Spanish Trail into the south of Pagosa Country, where it diverted from the traditional trail and struck north to the Pagosa Hot Springs. At the springs, the miners turned west for the Animas River, which is approximately sixty miles to the west. They then followed the river north to the Upper Animas Valley (Baker’s Park), and began mining in the vicinity.70

Even though the route through the Pagosa Country had been used before (mainly by the military) it was Charles Baker and his associates that first commercialized it. The 175-mile toll road they built saw little traffic during the 1860s, but in spite of the poor returns in the mining districts, more people than ever before ventured past the Pagosa Hot Springs, thereby increasing exposure to the area. In fact, the springs were a valuable (albeit unrefined), resource that appealed to the weary travelers and very early on became a known layover on the route, as indicated by the name of Baker’s toll road company: Abiquiu, Pagosa, and Baker City Toll Road Company.71

---


70 Smith, Song of the Hammer and Drill, 8-9.

71 Motter, Pagosa Country, 5.
After the initial rush in 1861, the mining industry in the San Juan Mountains was basically nonexistent until the end of the decade. Both the Civil War in the east, and the previously mentioned problems with disapproving Utes, kept year-round inhabitants out of the mining territories until 1874. In 1873, the Utes signed the Brunot Agreement, in which they ceded 3.5 million acres of the San Juans at the core of the mining lands, thereby prompting a genuine mineral rush that greatly changed the historical geography of Pagosa Country.⁷²

---

Figure Two: Logging Area

- NMLC
- PLC
- Contours: 7000', 8000', 10000', 12000'
- Logging Area
- Townships
- Counties

Hinsdale
Mineral
Rio Grande
Conejos
Archuleta
La Plata
CHAPTER 3
LOGGING IN PAGOSA COUNTRY, 1878-1899

In 1878, the U.S. military helped to usher in a new era in Pagosa Country by choosing the Pagosa Hot Springs for a fort site, vaulting the area into the arena of large-scale U.S. settlement. The Denver and Rio Grande Railroad, on its course to Durango, passed through the southwestern reaches of the Pagosa Country in 1881, but it was not until 1900 that a railway spur reached the town of Pagosa Springs. The spur branched off the main line at Pagosa Junction and traveled northeast to service Pagosa Springs, thereby furnishing the core of the area with an important transportation artery that fundamentally changed the geography of Pagosa Country yet again, thus making the year 1899 the obvious bookend for this era.  

During these twenty-one years, Pagosa Country went through a series of profound changes that primarily centered upon a growing population of settlers and the subsequent land uses that they introduced. Although mining in the high-country in the northern and eastern sections was assuredly attempted, these efforts met with few successes, and by

---

the end of this era, two land uses dominated: logging and stock raising.\textsuperscript{73}

\section*{The Military}

After the Brunot Agreement, the San Juan mining boom began in earnest as U.S. citizens could now legally occupy the mining areas. Thousands of people poured into western Colorado in the mid-1870s, straining an already tenuous relationship with the Utes. Fearing violence, the military proceeded to take measures to protect U.S. citizens by increasing their presence in the region.\textsuperscript{74} Since the Pagosa Hot Springs acted as a layover of sorts on the southern route to the mining districts, the military chose to construct a fort there in 1878. Fort Lewis, lying on the west bank of the San Juan River directly across from the springs, existed only for a short time (1878-1881), but was the driving force behind the initial American settlement of Pagosa Country.\textsuperscript{75}

The relative protection the fort provided encouraged homesteaders and businessmen to migrate to the area, with most settling near the springs and along the San Juan River to the north. Many came to farm small grains, potatoes, and hay, and raise livestock, while others came to open businesses that catered to the soldiers.\textsuperscript{76} Logging also began during the tenure of Fort Lewis, but it was of a wholly different variety than

\textsuperscript{73} Archuleta County Records Vol. 1,” Transcribed by the Archuleta County Genealogical Society, Pagosa Springs, Colorado, Includes 1880 census data for Conejos County and 1885 census data for Archuleta County, Colorado, Colorado Historical Society, Denver. 1-25.

\textsuperscript{74} Motter, 	extit{Pagosa Country}, 5.

\textsuperscript{75} 	extit{History of Pagosa Country}, 2.

the large-scale commercial operations that were to come later in the era.77

Early in 1880s, the military realized that the Pagosa Hot Springs was not an ideal place from which to protect the miners of the San Juans, as most activity was taking place in the before-mentioned region in the heart of the mountains. As a result, Durango, Colorado, directly south of the principal mining districts, quickly emerged as the regional hub for the San Juan Mountains. With the addition of nearby smelters and a growing population, Durango now became the obvious place for a military presence. The move occurred in 1881, with the army abandoning the “old” Fort Lewis at the Pagosa Hot Springs for the “new” Fort Lewis in Durango.78

The role Fort Lewis played in “opening up” Pagosa Country is undeniable. In 1880, a road was constructed between Alamosa and Pagosa Springs to bring supplies to the fort and, unlike the previous circuitous routes to Pagosa Springs that dipped far into northern New Mexico, this road traveled due west over the Continental Divide.79 The Alamosa-Pagosa Springs road was very different from the luxurious mountain highways that are the standard today. However, poor conditions aside, its construction still effectively marked the first attempt at building a serviceable road over the Continental Divide, thus introducing a new element into the geography of transportation for the area.

The bulk of settlement and activity occurred near the hot springs during the tenure of Fort Lewis, and by 1883, the town of Pagosa Springs was surveyed and platted. The central location of the hot springs, and the relatively mild climate solidified it as the

77 “Letter to District Forester,” 30 July 1915, folder 78, San Juan National Forest, Rocky Mountain Regional Records Historical Files 1900-1892, RG 95, Regional Office of the National Archives, Denver, Colorado, 1.

78 Smith, Song of the Hammer and Drill, 107

nucleus of Pagosa Country- which experienced an expanding and intensifying system of land usage.  

Inception of the Logging Industry

Genuine commercial lumbering began during this era, but was confined to a few select areas. In the immediate vicinity of Pagosa Springs, trees were harvested and transported to local sawmills by horse-drawn wagons. The mills turned out rudimentary products in comparison to those of the massive mills that came later in the era, and really only existed to supply building materials for Pagosa Springs. The other areas of prominence were around Pagosa Junction and in the southeast near the Navajo River. These areas were heavily wooded with mature stands of Ponderosa Pine, but, because of transportation issues and the fact that areas to the south in northern New Mexico were being logged first, true commercial logging did not begin until the mid-1880s. In the late nineteenth century, the railroad presented the most efficient way to move large quantities of goods overland, and it is precisely by this means that commercial logging entered Pagosa Country.

The Denver and Rio Grande Railroad completed a line from Chama, New Mexico to Durango, Colorado in 1881. It entered the study area near the middle of its southern border. The railroad crossed the San Juan River and paralleled its northern banks, eventually crossing one of its many tributaries, Cat Creek, near its confluence with the San Juan approximately three miles from New Mexico. At this location existed the small

---

80 History of Pagosa Country, 3.
settlement of Gate (ca. in Spanish), which was later renamed Pagosa Junction, and
destined to become one of the early epicenters of logging operations in the study area.
Further to the east, the line ran approximately five miles south of where the Navajo River
leaves Colorado, and it is from this spot that the inroads to the Ponderosa Pine of
southeastern Pagosa Country originated.82

Two companies, the Pagosa Lumber Company and the New Mexico Lumber
Company, conducted the bulk of commercial lumbering in the study area during the
chronology of this study. A.T. Sullenberger headed the former, and initially concentrated
his operations in the Pagosa Junction area, while Edgar Biggs owned the latter and
logged primarily in the southeast. Both men got their starts in northern New Mexico and,
as is to be expected, logged primarily in close proximity to the Denver and Rio Grande.

Their arrivals in Pagosa Country coincided not with the first appearance of the
railroad, but shortly after, because of the time required to “log-over” their holdings in
northern New Mexico. The path of the rails and the new land uses that it spawned is
another fine example of the significance of the “southern gateway.” As almost all the
other activities cited previously, the railroad and the commercial logging industries had
little choice regarding how to enter Pagosa Country- verified by the gradual northward
progression of the cuttings and temporary narrow-gauge rail lines employed to transport
the logs. During this era, only a smattering of lines existed and the areas logged were but
a short distance from the Denver and Rio Grande line. However, the northward
progression of logging operations was certain, and it was only short time before the more

82 Chappell, Logging Along the Denver & Rio Grande, 38.
remote stands of Ponderosa Pine fell to the axes and saws of the industry.  

Regardless of the era, one aspect of commercial logging remained consistent in Pagosa Country throughout the chronology of this study, which is the almost exclusive cutting of Ponderosa Pine. Referred to by many names, including Western Yellow Pine and Bull Pine, this tree occupies a distinct geographical niche and was cut-over with impunity, radically altering the landscape.

The Ponderosa Pine Belt

Ponderosa Pine dominates the southern half of Pagosa Country and grows mainly between 6500 and 8500 feet, reaching its greatest level of maturation near 7500 feet. In 1907, the Ponderosa harvest averaged around 4000 board feet per acre, with some sites producing as much as 15,000 board feet per acre. The diameters and heights of the trees in the better areas averaged from two to three feet, and eighty to one hundred respectively, while the poorer stands averaged from one to two feet and thirty to fifty

---

83 Ibid., 29-34, 38.
84 Coert, Dubois, "The Proposed San Juan Forest Reserve, Colorado," Examination, Report, and Recommendations, 1904, folder 301C, LP Boundaries: Legislation, Examination, Report, and Recommendations-Proposed San Juan Forest Reserve, 1904, Rocky Mountain Regional Records Historical Files 1900-1892, RG 95, Regional Office of the National Archives, Denver, Colorado, 28.
The soils found in the Ponderosa Pine forests of southern Pagosa Country are very good for agricultural purposes, granted that water is available for irrigation, and many of the cut-over areas were quickly converted.

The San Juan National Forest, created in 1905, covers a massive amount of Pagosa Country (roughly 745,000 acres) and early in the twentieth century it almost gained hundreds of thousands more. Around 1910, a number of reports were made pertaining to the proposed addition of a large portion of southern Pagosa Country (mainly in the Ponderosa Pine forests) into the San Juan National Forest. The addition was never made, but the reports still provide valuable documentation concerning the overall character of the Ponderosa belt, including information about logging in the late nineteenth century.

Logging Around Pagosa Springs, 1878-1899

In 1879, the first sawmill in Pagosa Country was erected about half of a mile east of Pagosa Springs. It was a small operation, and like the rest of the mills around Pagosa Springs during this era, catered exclusively to the local market. In 1883, this mill was


87 “The Proposed San Juan Forest Reserve, Colorado,” 9.


89 “A Favorable Report on the Proposed Additions to the San Juan National Forest and to the Cimarron National Forest,” 5.
moved to the West Fork of the San Juan, approximately sixteen miles north of Pagosa Springs. Another mill with the same capacity was built six miles east of the town in 1890 and, in 1893, a small capacity mill was started three miles northeast of Pagosa Springs and later moved to a new location four miles east of the town.\(^{90}\)

The most significant aspects of logging in Pagosa Country throughout the course of this study pertain to transportation. Without a practical means to transport the logs long distances, operations necessarily remained small, thus checking modifications to the forests, as illustrated by the limited reach and small-scale of the Pagosa Springs logging industry throughout this era. However, when a viable means to transport the timber long distances became available, the effects on the landscape were of a wholly different class.

In countless places in the American West, the railroad served as the harbinger of extensive geographical change. The awesome power it possessed was first tapped into in southern Pagosa Country, and was the principal reason for the beginning of large-scale commercial logging in that area. Indeed, the contrast between logging operations around Pagosa Springs and southern Pagosa Country during this era existed because the former did not have access to a railroad and the latter did, thus demonstrating the importance of transportation (and the railroad in particular) in bringing about geographical change.\(^{91}\)

In the lower elevations of southern Pagosa Country, the growth of Ponderosa Pines reached their peaks. According to a government report from 1907, sections of the forest were striking both in regards to the overall density of trees and to individual

\(^{90}\) "Letter to the District Forester," 30 July 1915, 1.

\(^{91}\) Robert Sullenberger, "San Juan Basin Pioneers: Lumberman - A.T. Sullenberger and Indian Post Trader - Emmet Wirt," 1 October 1988, This document, written by the grandson of A.T Sullenberger, gives a brief account of key figures in the Pagosa Lumber Company, Box FF47, Sullenberger Collection, Western History Collection, Denver Public Library, 1.
specimens. The report goes on to say that had the southern reaches been included in a National Forest earlier the entire area would have contained one of the premium stands of Ponderosa Pine in the entire Southwest.92

The Pagosa Lumber Company

A.T. Sullenberger created the Pagosa Lumber Company in 1885, and was a pivotal figure in the lumber industry of Pagosa Country for over thirty years. Before arriving in Pagosa Country, he directed logging outfits in northern New Mexico. His first mill was built near Chama, New Mexico sometime in the early 1880s, shortly after the arrival of the railroad. Then, around 1885, he constructed the first big sawmill in Pagosa Country at Pagosa Junction. It was situated approximately sixteen miles southwest of Pagosa Springs in an area heavily timbered with Ponderosa Pine on the Denver and Rio Grande. The site supplied all that was necessary to anchor the logging industry of Pagosa Country for many years.93

During this era, as in the era to follow, most of the logging took place near the tracks. Since the only railroad in the study area between 1881 and 1900 was the main line of the D&RG one can easily infer the general area of the cutting. However, because the bulk of the early operations occurred well before the creation of the San Juan National Forest, and because these cut-over areas were never added into the national forest,


93 Ibid.
determining specifically where trees were harvested becomes almost impossible. While digging through the records of the Pagosa Lumber Company in an effort to determine this might yield favorable results, such an undertaking is well beyond the scope of this work. Furthermore, most records in the Sullenberger Collection at the Denver Public Library pertain to the zenith of the company from 1900-1912, when the majority of cutting occurred around Pagosa Springs.94

The absence of thorough records pertaining to the first era in the commercial logging of Pagosa Country is not surprising given the previously mentioned circumstances. Nevertheless, even without them, the greater pattern of land use can still be understood. Commercial logging, like almost all other ventures before it, arrived from northern New Mexico and gradually worked itself northward to the heart of the area, which is in the vicinity of Pagosa Springs.

The New Mexico Lumber Company

The New Mexico Lumber Company came into being in 1892 and, as the name suggests, it had intimate ties with the state of New Mexico. Like Sullenberger, the owner of The New Mexico Lumber Company, Edgar Biggs, concentrated his earliest efforts on logging Ponderosa Pine in northern New Mexico. During the 1880s, he was active in the lumber industry around Chama, New Mexico, and eventually returned to northern New Mexico after operating in southeastern Pagosa Country for a little over two decades.

The push into the study area by The New Mexico Lumber Company came after

---

94 “Sullenberger Collection Container List,” 2001, 6-10, This document lists the holdings of the Sullenberger Collection, Western History Collection, Denver Public Library.
the establishment of the town of Lumberton, New Mexico in 1894. From this point began the main line of the Rio Grande and Pagosa Springs, a narrow-gauge railroad that ran north into Pagosa Country and primarily existed to transport timber cut by The New Mexico Lumber Company. Biggs and his partners owned the RG&PS, but owing to legal reasons they decided to make it independent of The New Mexico Lumber Company. Chief among the legal reasons was the fact that as a common carrier the owners of the RG&PS could obtain profitable mail contracts, as well as exchange passes with other railroads that allowed for free travel on their lines. The intention of the owners was to eventually connect the RG&PS with the town of Pagosa Springs, but because of competition from Sullenberger’s Rio Grande, Pagosa, and Northern this never occurred.©

The main area cut over by The New Mexico Lumber Company in Pagosa Country during this era centered on the Navajo River Valley. By 1899, the company had constructed two large sawmills; one where the Navajo River leaves the state of Colorado at the town of Edith, and another five miles further up the river at the town of Chromo, and had laid track as far as fifteen miles up the valley. Using the rails, the company was able to transport large quantities of logs and lumber (as many as nineteen carloads a day in the late 1890s), and consequently employ a sizable number of people. As the Pagosa Springs News wrote in February of 1897, “Edith and Chromo are the business hubs around which circulate a hundred men and a well built railroad, all employed in lumbering.” After 1899, The New Mexico Lumber Company continued to expand its operations northward into the valleys of smaller streams, thanks to the Rio Grande and

---

Pagosa Springs railroad and its temporary spurs.\textsuperscript{96}

**End of the Era**

The overall state of the logging industry in the study area from 1878 to 1899 could best be termed “adolescent.” Without a developed railroad network, the difficult topography and relatively remote location of Pagosa Country checked widespread commercial logging by making access to and transportation of the trees economically impractical. One can plainly see the reason southern Pagosa Country experienced large-scale commercial lumbering first is because it was closer to the main branch of the Denver and Rio Grande Railroad, which presented the only realistic means for moving the timber.

One important difference between logging and stock raising and farming is that while almost all arrived from the south, logging, with its heavy reliance on transportation, migrated northward more slowly, and almost always in conjunction with the construction of rail lines. Because the latter two land uses were more subsistence based and relied less on modern transportation, the farmers and stock raisers of this era were able to more freely select where to settle. Many homesteaders opted over the far south of the area for acreage in the proximity of Pagosa Springs, conceivably because the town could provide services that were not available elsewhere, as well as safety from hostile Utes. Moreover,

\textsuperscript{96} Ibid., 30-34
the relatively open and flat character of the area and its superior irrigation potential further encouraged numerous settlers to bypass the south.\textsuperscript{97}

\textsuperscript{97} "Archuleta County Records, Vol. 1," 1-25.
Figure Three: High/Low Country

- Low Country
- High Country

High Country

Low Country

Pagosa Springs

0 5 10 20 Miles
CHAPTER 4

CATTLE RAISING AND GRAZING, FARMING, AND SHEEP RAISING AND GRAZING 1878-1905

Of the three land uses in this study, stock raising was the most stable. Farming, on the other hand, was much more unstable, but because of its intimate connections with cattle raising it will be included in the study of stock raising. In fact, today the raising of cattle is a highly visible industry and still accounts for a fair amount of economic activity in the area, while sheep raising and commercial lumbering are barely practiced.

The railroad did allow for the easier transport of animals and animal-related products, but its influence was not nearly as great, as it was on the logging industry. Thus, it makes little sense to use the arrival of the line to Pagosa Springs as a bookend for the era, given the impact the creation of the San Juan National Forest had in 1905. The San Juan National Forest acted as a regulatory and administrative force that managed the area with a wider vision. The most important aspect of this wider vision was the protection of the San Juan River watershed, which provided natural flood control and water for irrigation to countless farms, not only in Pagosa Country but in northern New Mexico as well.98

In Pagosa Country today, the protection of the watershed is still of vital concern.

Even though tourism has toppled the stock raising industry from its position as one of the most important components in the geography of Pagosa Country, factions nonetheless remain. Because the industry is not extinct, and its success depends greatly on irrigation, it makes sense that irrigation works have greatly modified the landscape. Almost all the irrigation in Pagosa Country is part of the “flood irrigation” system. It has been in use in the area since the late nineteenth century, and a more detailed description of the system will appear in chapter 6.

During almost the entire time span in question, cattle, sheep, goats and horses were all grazing sections of the study area, creating unique geographical patterns, and utilizing and modifying the landscape in different ways. Like the preceding section on logging, the data available for ranching before the creation of the San Juan National Forest is scanty, making it almost impossible to determine the exact numbers of animals on the range and the precise areas in which they foraged. Furthermore, the boundaries of the forest changed a number of times before the national forest took its present form, meaning that some of the “overall” numbers do not pertain to Pagosa Country exclusively. Nevertheless, it is still possible to reconstruct the general character of the livestock and farming industries during this time, and to recognize the prevailing geographical patterns that they imposed upon the area.

The Cattle Industry

Cattle were the first livestock to arrive. They were directed into Pagosa Country by a ranching operation in Cedar Hill, New Mexico, and their appearance in 1878 (the
same year as the inception of Fort Lewis) is surely more than a coincidence. The construction of the fort was the tangible manifestation of a growing U.S. interest in the area, and though it was in Pagosa Country only a short time it still had a lasting impact. Once regular citizens saw that the government had “tamed” the area, it rather quickly experienced a boom in new settlement and new land uses.

An important aspect to consider in the historical geography of cattle raising is the size of individual operations through time. Pagosa Country, like much of the West in the 1880s, was largely undeveloped and sparsely populated, meaning that people could easily range stock over vast distances with little problem. The before-mentioned ranch for example had a range of around eight thousand square miles, and was for a short time the only one grazing stock in the study area. The next operation to graze stock in the area came in 1880, and like the first, it was a massive operation, running cattle from points in Utah, east to Trinidad, Colorado. However, as more people arrived, the feasibility of such colossal operations decreased dramatically, because private property and numerous small-scale ranches dotted the landscape, and began restricting the range.99

Records indicate that it was not until 1896 that the first local cattle ranch was established in Pagosa Country. It consisted of approximately four hundred head that ranged in Piedra and O’Neal parks in the northwest of the area, while in 1899 another ranch put sixteen hundred cattle in Piedra Park in the northwest.100

As more people intent on making permanent homes in Pagosa Country arrived,

---

99 “Chapter IV, Grazing: Early use, class of stock, numbers, areas used, range wars,” folder 77, San Juan National Forest, Rocky Mountain Regional Records Historical Files 1900-1892, RG 95, Regional Office of the National Archives, Denver, Colorado, 1.

100 The term “parks” is a reference to relatively large, generally level, grassy areas that exist in mountainous regions.
the feasibility of maintaining the massive ranches waned. The cattle raising industry began to change from a system of a few massive ranches to one increasingly characterized by small independent "family style operations." Three interesting components in this transition were topography, elevation and climate, each of which imposed strict limitations that considerably narrowed the ways in which cattle could be raised. To be sure, the research area was never devoid of larger ranches, but by the 1890s the most massive operations were gone and only a few large ranches—like the ones in Piedra and O'Neal parks remained, leaving the balance in small-scale subsistence type farms.101

As people began to settle in the valley bottoms of the broken landscape of Pagosa Country it became generally unfeasible for them to even consider maintaining huge herds of cattle. The typical settler did not possess enough private land to "winter" a large herd, because during the harsh winter months when snowfall accumulations are high the cattle must be fed on hay. Generally this was done for three and a half months, from December 15th to April 1st. Ordinarily each cattle-owner would grow hay or harvest the wild grasses on their private acreage. Flood irrigation usually supplemented this process, which helped to produce a highly nutritious feed. Each animal required around one and half tons of hay for the winter months, and since each acre produced about this weight, most settlers could maintain only as many cattle as they had hay in acres. Because cattle could not be allowed on the cultivated areas during the growing season, the settlers adopted a system of seasonal migration that made use of the "high-country" of the area.

This term will be used throughout the study, and refers to lands that are near to, or in excess of, 8000 feet. This elevation represents the upper limit for the practical

101 Glen Raby, interview by author, 15 June 2003,
cultivation of crops, and in Pagosa Country generally marks the point at which streams begin to narrow, thus creating a landscape that is defined less by valleys and more by canyons. Using these criteria it is seen that the high-country is usually associated with the northern and eastern portions of the area, and thus with the lands near the Continental Divide. Cattle need around fifteen acres per head during the summer months, which barred most stockmen from owning private summer ranges, and though some ranchers did lease privately owned plots, this practice was not common. Likewise, the southern portions of Pagosa Country are too dry for summer range, although much of the area was used for spring and fall grazing. However, the northern sections possessed all the features needed for successful summer grazing.  

Very few, if any, permanent homes were maintained in the high-country because of the harsh winters. This allowed the herds to graze on the nutritious grasses relatively unhindered during the summer season. The main problem in using the high-country during the summer was not connected to natural phenomena, but instead revolved around conflicts between owners of different types of stock. Cattle were not the only animals grazing on the public domain during this era; in fact, the number of sheep using the range far surpassed cattle throughout the chronology of this work. Nevertheless, by the mid-1880s, the cattle industry was a fixture on the landscape of Pagosa Country and was quickly transforming from massive operations characterized by absentee ownership to family operations that maintained a relatively small number of animals. In 1904, the Archuleta County tax roll placed the average herd size at 222 head, and the largest ranch

---

The transition to small-scale family farms was a necessity given the number of people moving into the area and its geographical realities. The core of the new system has remained essentially the same. Today, the industry is still characterized by individuals who maintain relatively small herds, either theirs, or cattle that are shipped in for the summer, in the foothills and mountains of the high-country. If the Pagosa Springs area served as the heart of the new system, then the San Juan River was surely the carotid artery; in 1904, ranches were located all along its course, from the junction of the East and West forks in the north to the state line, and beyond. 

Early Cattle Raising

The examination of census data from 1880 and 1885 further illustrates the limited scope of the cattle industry in the nineteenth century. In 1880, all of Pagosa Country was included in Conejos Country, and the census records for that year are subdivided into geographical areas and include occupations, making them extremely useful for studying the spatial extent of cattle grazing during the 1880s.

The Navajo River Valley, located in the southeast of the area, had only three families and two individuals listed in the 1880 census, and no people considered themselves to be involved in the cattle industry. The various terms used to describe the occupations in both censuses include, “stock-raiser,” “sheep-raiser,” “herder,” “sheep-herder,” “cattle- raiser,” “cattleman,” and “rancher.” The reason for the inconsistency is

103 The Proposed San Juan Forest Reserve,” 25

104 Ibid., 11.
most likely owing to the census taker recording the answers of the respondents more or less verbatim, instead of entering a standardized term. Nevertheless, the data is still significant and most of the terms are easily assigned to either the cattle or sheep industry. The only two in question are "stock-raiser," and "rancher." In the opinion of the author, both terms are most likely a reference to the cattle industry, but because no clear explanations are given this cannot be known for certain.

The 1880 data for the valley of the Rio Blanco, approximately seven miles southeast of Pagosa Springs, includes only eleven people, of which all are single males. Only two reported an occupation in animal husbandry, one as "stock-raiser," and the other as "herder." Clearly the latter job is part of the sheep industry, which means that only one individual was possibly raising cattle in this area in 1880.

The San Juan and Piedra Valleys, which were grouped together also received separate consideration in the 1880 census, (The San Juan Valley within the vicinity of Pagosa Springs was not included in this subdivision). Nine families and eighteen individuals were listed as living in these areas, and only two are recorded as involved in the cattle industry. One can only call the number of people living in these river valleys during this time extremely modest, and the cattle industry, though comprising a percentage of the total occupations listed, was basically non-existent. In fact, the two people engaged in the business in the San Juan and Piedra river valleys, along with the one respondent in the Rio Blanco Valley, and four people in Pagosa Springs apparently represent the full extent of the industry in 1880.

The town of Pagosa Springs had thirty-five families and around ninety-eight single people according to the 1880 data. Many of the single people are registered as
soldiers or other military personnel, and only four references to an involvement in the cattle industry occur. In point of fact, hardly any agricultural occupations were given for the town. Apart from the four cattle listings, “farmer,” “sheep-raiser,” and “herder,” appear all together only ten times. The remainder of non-military and non-agricultural jobs includes titles such as “saloon keeper,” “merchant,” “brick maker,” “brewer,” “cook,” “butcher,” “house keeper,” “freighter,” “druggist,” and “hotel keeper.” These types of jobs are to be expected given the date, and provide evidence backing up the claim that Pagosa Springs functioned more as a layover and seasonal retreat for people either going to, or working in, the mining districts of the San Juan Mountains. This is not to say that this was its only function, as it was also a military town and burgeoning settlement, but given the lack of agriculture and industry it is fair to conclude that the town was primarily service oriented and had yet to establish a stock raising identity by the early 1880s.

Another factor that highlights the frontier-like status of the entire area is the listing of sixteen “miners” in the 1880 census. This is hardly a fraction of a percent compared to the number of miners in the San Juan mining districts, but given the overall population of Pagosa Country at this time, approximately 300, it warrants consideration. Indeed, when compared to the 1885 data, which lists only six “miners” and three “prospectors” in a total population of around 550, one can plainly see the waning importance of mining.

The overall population of Pagosa Country was extremely small in 1880, and clustered largely around Pagosa Springs, which supported around two hundred people, including children. As shown, cattle raising and agriculture in general were barely
practiced. However, by 1885, a dramatic shift in the livelihood systems of Pagosa Country had already occurred, as evidenced by the occupations listed in the census of that same year.

In 1885, agricultural occupations accounted for 188 of the 352 jobs listed, or a little over fifty per cent. Of the 188 agricultural jobs, twenty-one pertained to cattle raising, one hundred seven to the sheep industry, and sixty to farming. In the 1880 census, 169 jobs are listed, and of these only thirty were agricultural: seven in cattle, nine in sheep, and fourteen in farming. When the numbers are converted to percentages it is seen that in 1880, seventeen per cent of the occupations were agricultural, compared to fifty-three per cent in 1885. However, because the 1885 data seems only to pertain to Pagosa Springs and is not subdivided by river valleys, a complete picture of the situation cannot be formulated. Nonetheless, it must be assumed that the areas outside of Pagosa Springs did not support enough people engaged in non-agricultural occupations to nullify the claim that by 1885 agriculture was beginning to dominate the area.105

Cattle Herding Methods

Cattle raising continued to grow after 1885, and by 1903 approximately 6350 head were grazing the ranges of the high-country during the summer months. The method of handling cattle in the high-country was a fairly simple affair, made so partly by the topography of the area. The cattle were kept in watered gulches, and because of the rugged nature of the landscape wandered very little from the bottom-lands and hillside

meadows, and rarely went over 10,000 feet, making the only necessary herding an occasional ride along the ridges to see that no trails led out.\textsuperscript{106}

Cattle grazed two primary forest types during the summer, the sub-alpine and the Ponderosa Pine. The sub-alpine type exists from around 8500 feet to 10,000 feet, and is characterized by moderately deep soil that averages around eight inches and supports eight principal tree species. Listed in order of their occurrence from greatest to least, they are Aspen, Engelmen Spruce, Red Fir, Blue Spruce, White Fir, Cottonwood, Ponderosa Pine, and Limber Pine. The ground cover consists of bunch grass in the parks and bottomlands, and moss, ferns, Lupines, Larkspur, and related plant types in the timbered areas. The Ponderosa Pine forest type runs from around 6500 feet to the lower limit of the sub-alpine. On the whole it is the most valuable forest type for agricultural purposes (although generally irrigation is necessary if successful farming is to occur), and many of the farms and ranches in Pagosa Country are found in this forest type. Excellent crops of oats and alfalfa were being grown in cut-over areas of the Ponderosa Pine forest type by 1903. In the forest proper cattle grazed on blue-stem grass, and on bunch grass in the forest parks.\textsuperscript{107}

**Cattle Distributions at the Close of the Era**

The spatial extent of summer cattle grazing is well documented for the year 1903, as are its effects upon the range. In this year, a study by the Bureau of Forestry (later the National Forest Service) estimated the number of cattle grazing different areas in the

\textsuperscript{106} "The Proposed San Juan Forest Reserve," 25.

\textsuperscript{107} Ibid., 8-9
The overwhelming majority of the ranges in the report are located in the northern and eastern parts of Pagosa Country. Only the lower reaches of the San Juan River and the Piedra River are not in these sections, and both are southwest of Pagosa Springs. In the years following 1903, the growth and diffusion of the cattle industry continued throughout the area, with the most noticeable changes occurring in the southern reaches, where more homesteaders arrived to set up small-scale cattle operations. Judging from the condition of the ranges in 1903, and the relatively small number of cattle owned, it is

proposed San Juan Forest Preserve and ranked the conditions of each range. Fourteen streams and one mountain in Pagosa Country are included in the report. All the respective ranges were found to be in “good condition and not overstocked,” which was the highest ranking given, the other two being “showing signs of overstocking” and “plainly overstocked.”

The streams listed are Weminuche Creek, with no stock grazing; Williams Fork, 400 cattle; Middle Fork of the Piedra, 400; East Fork of Piedra, 150; Piedra below Weminuche, 500; Four Mile Creek, 300; Turkey Creek, 600; West Fork of the San Juan, 600; Wolf Creek, no stock; San Juan River to Ute Reservation boundary, 500; Big Blanco, 1200; Little Blanco, 800; Navajo River, 400; Devil Mountain, 300; and East Fork of the San Juan, 200. Even though this report does not pertain to all of Pagosa Country, the climatic limitations which relegated summer grazing to the high-country make it an accurate data source for the entire area. It is assumed that the cattle raisers living outside of the proposed Forest Preserve had to send their animals to the areas within it for summer grazing, thus the estimations in the report must include almost all cattle in Pagosa Country.
seen that at the close of this era the industry was firmly in place, but had not yet threatened the carrying capacity of the range.\textsuperscript{108}

Two other primary agricultural activities were occurring in the study area during these twenty-seven years: sheep raising and farming. Sheep raising, like cattle raising also experienced rapid growth during this era. However, that is practically all that the two industries had in common. The sheep industry was dominated by Hispanic-Americans and adhered to a completely different system of land use, which created a very distinct geography. Both relied upon Pagosa Country for survival, but the effects that they had on the landscape and livelihood systems were extremely different. The raising of crops had an intimate connection with the cattle business. The overwhelming emphasis of farming was aimed at growing winter feed for cattle and horses, with the bulk of the remainder being personal “garden type” operations, thus leaving only a smattering of acres not producing feed for livestock.

The Farming Industry

Owing to a variety of limiting factors, both natural and human-related, farming in Pagosa Country has never flourished. The natural obstacles to success include high elevation, rugged topography, mediocre soil, scanty rainfall, little water available for irrigation, and extreme cold. The human-related complications are mainly a product of transportation problems and remoteness from large markets, both of which are of course intimately connected to the natural world. However, it must be assumed that if the area

\textsuperscript{108} Ibid., 26.
were capable of producing valuable crops, a more concerted effort to connect it with outside markets would have occurred.

The natural conditions of Pagosa Country do not preclude all farming, but they do relegate it to the more hardy types of crops, such as, alfalfa, timothy, oats, potatoes, and some small grains, such as wheat. The average precipitation for the area varies greatly, with the most significant amounts occurring in the higher elevations. Pagosa Springs, at an elevation of around 7000, feet receives approximately twenty inches of precipitation per year; Arboles is located at around 6500 feet and receives around fourteen inches; and Wolf Creek Pass at 10,800, feet receives as much as four-hundred inches of precipitation- mainly in the form of snowfall. Nowhere in Pagosa Country does enough rain fall for any of the above-mentioned crops to be grown successfully with any regularity, hence extensive irrigation works run throughout much of the area. Above 7500 feet, the likely occurrence of killing frosts dissuaded most people from attempting to harvest anything but hay and natural grasses. The average number of days without a killing frost in the Pagosa Springs area varies from year to year, and for the three years of 1911, 1912, and 1913 the average was sixty-two days.109

The connection between farming and cattle raising was very strong during the chronology of this study, and in reality relatively few people practiced farming exclusively. To secure a decent living, most farmers were also involved in the cattle industry and vice versa. Indeed, one could go as far as saying that the farming that did take place in Pagosa Country was actually just a facet of the cattle industry, since most of the acreage under cultivation produced hay and other fodder for livestock.

Though some of the following paragraphs will discuss farming after the “official”

close of this era, they are necessary to demonstrate important facets of the industry, namely limitations from elevation. The restraints placed on farming by elevation are among the most difficult to overcome, especially during the late nineteenth and early twentieth centuries when problems associated with transportation were more acute.

The history of farming and permanent settlement at the higher elevations is best understood by examining the reasons for their numerous failures. Above 8000 feet, the only reliable crops are those harvested specifically for livestock, which presented the only practical means of securing a living—especially in the late nineteenth and early twentieth centuries when transportation difficulties were more pronounced. In spite of this, small sections of valley land above 8000 feet were being cultivated remotely during this era. The most crucial element needed for year-round high elevation homesteads to work was community settlement, and no such arrangements were present in Pagosa Country during this era. Thus it is not surprising to find that the failure rate for permanent homes above 8000 feet was almost one hundred per cent.

Between the years 1904 and 1908, seven separate claims were made along Weminuche Creek and by 1916 none were occupied permanently. Instead, they were used as summer cow-camps and for the cultivation of timothy and wild hay. On Williams Creek, also in the northwest, four claims were made in 1901 and 1902. All four were near 8000 feet, and even though they were situated in a natural meadow and thus had the best chance for success, the claims changed hands often, and by 1916 were devoid of permanent settlement. The Middle Fork of the Piedra around the 8000-foot mark saw four claims between 1901 and 1908, with all eventually abandoned by 1916. Indeed, the only permanent home maintained in the higher reaches of the northwest was by an elderly
single male who lived on the East Fork of the Piedra, but it appears that he was retired, and the only way to reach his home during the winter was by snowshoeing. The only successful high-country farm cited in the 1916 *San Juan Forest Land Classification Atlas* was on the Navajo River in the southeast of Pagosa Country. There, timothy and wild hay, along with a small number of hardy vegetables, were grown. This farm was certainly the anomaly, because nearby several other claims were lying idle.\(^{110}\)

As shown above, almost every attempt at high-country homesteading was confined to the bottomlands of streams. This was partially because of the lack of appropriate topography (ninety per cent of the San Juan National Forest in Pagosa Country is too steep for cultivation) and partially because the best suited soils also occurred in them. There are eight primary soil types found in Pagosa Country. Generally, in the higher elevations, the parent material of the soils is igneous rock, quartzite, glacial deposits, or volcanic rock. In the lower elevations shale and sandstone are the two main parent materials.\(^{111}\) In point of fact, however, the soil type did not affect the crops nearly to the degree that the previously mentioned factors did. If adequate water could be harnessed through irrigation, and the acreage was relatively flat and located below 8000 feet, then the type of soil was not the supreme concern.\(^{112}\)

Like the cattle industry, farming was also poorly represented in the censuses of 1880 and 1885. The total number of people claiming to be farmers in 1880 was only fourteen, or eight per cent of the total population. In 1885, the number jumped to sixty,  

---

\(^{110}\) Ibid., 3.


\(^{112}\) "San Juan Land Classification Atlas," 2.
but the growing population offset any huge gains percentage-wise, and constituted around ten per cent of the job market.113

Because almost all of the farming activity in Pagosa Country takes place within the bounds of Archuleta County it is believed that the agricultural censuses for that county provide an accurate portrayal of the extent of the industry for all of the entire study area. Granted, the high-country valleys producing hay for winter-feeding were sometimes located in Mineral and Hinsdale Counties, but because they were relatively small operations, any contributions to the overall acreage under cultivation in Pagosa Country would be miniscule. This is not to say that these areas were not significant in the historical geography of the study area. Indeed, the chief reason for the repeated efforts at settling the high-country was precisely because they could produce valuable feed crops. However, as was shown, because they lacked other important elements necessary for year-round habitation they were rendered useful only during part of the year.

Rounding out this section will be a brief examination of the more detailed twelfth agricultural census of the United States, which was taken in 1900. It will take the same basic form as the previous paragraphs by only using the data pertaining to Archuleta County to examine the condition of Pagosa Country. In 1900, Archuleta County contained 215 farms with an average size of 192 acres per farm. Compared to the other counties of Colorado, both the number of farms and average size of farms in Archuleta were well below the average. The county with the largest number of farms was Arapahoe (2,105), which is just to the east of Denver. Lincoln County, located just southeast of Arapahoe, had the greatest average size, 1182 acres. The low position of Archuleta County should come as no surprise given the numerous limiting factors with which

farmers had to contend, including its remote setting.\textsuperscript{114}

Hay and forage crops made up a large percentage of the land under cultivation in Pagosa Country at the end of this era. When all of the different classes are totaled together, it is seen that Archuleta County had 5536 acres of land planted in grasses and forage crops in 1900. The census does not provide a figure indicating what percentage of these crops were sold commercially, but most likely it is small in comparison to many of the other counties in Colorado. Another important crop during this time was oats; in 1900, 1154 acres of oats were planted yielding a total of 36,270 bushels.\textsuperscript{115}

Very few crops that are intended primarily for human consumption are grown in Pagosa Country, and in 1900 only four were listed: sixty-three acres of barley, three acres of corn, 115 acres of potatoes, and 790 acres of wheat. The census also has a heading of "Miscellaneous Vegetables," which accounted for only twenty-eight acres.\textsuperscript{116} Through conversations with local residents, it was communicated to the author that most of the farmers or homesteaders in Pagosa Country obtained much of their vegetables from personal "gardens," which may help to explain the scanty amount of acreage devoted to "miscellaneous vegetables." It was also made clear that commercial farming was not a defining characteristic of Pagosa Country, but more of a side-venture that brought in extra money. Indeed, all of the residents interviewed listed the cattle industry as the most important means of securing a living during the years of this study. Granted, most of the

\textsuperscript{114} "Census Reports, Volume V, Twelfth Census of the United States Taken in the Year 1900: Agriculture, Part I, Farms, Live Stock and Animal Products," United States Census Office, Washington, 1902, 64

\textsuperscript{115} "Census Reports, Volume VI, Twelfth Census of the United States Taken in the Year 1900: Agriculture, Part II, Crops and Irrigation," United States Census Office, Washington, 1902, 156, 232.

\textsuperscript{116} Ibid., 363.
interviewees lived only during the final years of this study, but most grew up on farms and therefore their opinions are worth recounting. Furthermore, the author does not believe that significant changes in the livelihood system of Pagosa Country occurred between the end of this era, and the 1920s (when the interviewees were children).  

Again, the most important feature of the farming industry in Pagosa Country during this era, and the one to follow, was the critical connection that existed between it and the cattle industry. Archuleta County farmers cultivated only a miniscule amount of crops for human consumption throughout the entirety of this study, for example only 1142 acres in 1899, (this includes oats, of which a good deal were probably fed to horses). Yet the census lists the total acreage of farms at 41,298 acres, of which 5536 acres were forage crops, making a total of 6678 acres of land under cultivation. Essentially what this indicates is that the overwhelming percentage of land in farms was pasture land, meaning that it was used for grazing purposes only, and was probably only utilized during part of the year.

The Sheep Industry

In 1900, approximately 6350 head of cattle were maintained in Pagosa Country, while in the same year somewhere around 150,000 sheep grazed its ranges. Although these figures pertain to the industries about fifteen years after their arrival, they are

---


nevertheless still highly valuable for understanding the conditions in the late nineteenth
century. Obviously one can safely infer that sheep populations were far greater
throughout the era, and continued to be during the chronology of this work. The sheep
industry played a much different role in the historical geography of Pagosa Country than
did cattle raising, and while the overall populations of the respective industries are
important, especially in relation to the effects on the landscape, they do not automatically
establish the raising of sheep as the most significant industry in the area.\(^{119}\)

As will be shown, sheep raising did bring about substantial modifications to
Pagosa Country, but because it was dictated by climate and seasonal migrations to a
greater degree than cattle raising it necessarily lacked the permanence associated with
cattle raising and farming. The high elevation in the area, and more specifically its
relationship with snow cover, was the primary factor that barred the industry from a
permanent presence. This fact, coupled with the transitory nature of sheep raising, helped
to instead create an extremely profound, yet seasonal, influence upon the landscape.\(^{120}\)

Sheep arrived in the early 1880s, and were usually tended by Hispanic-American
shepards who directed their flocks from points in New Mexico to near the Continental
Divide in accompaniment with the seasons. In 1903, it was estimated that approximately
seventy per cent of sheep using the San Juan Mountains were wintered in New Mexico,
with the remaining thirty per cent in the San Luis Valley on the east side of the
Continental Divide. Unlike much of Pagosa Country, these areas do not experience deep
snow coverage during the winter, and generally have a milder climate.


\(^{120}\) "The Proposed San Juan Forest Reserve, Colorado," 14-18.
Although Pagosa Country does not have a winter range, a significant number of sheep were still owned by people living in it (mainly in Archuleta County). In 1903, approximately 106,000 head of sheep were owned out of Archuleta: 22,000 from Rio Grande County; 50,000 from Conejos County; 4000 from La Plata County; and 86,000 owned in New Mexico used the San Juan Mountains. In 1902, 187,000 New Mexican sheep were estimated to be in the San Juan Mountains during the grazing season. The huge discrepancy between these years is most likely a result of severe fluctuations in the condition of the New Mexican range (the average number was around 100,000 for any given year). The total number of sheep using the proposed San Juan National Forest in 1903 came to 268,000, which is staggering given that 109,000 was the recommended figure for the area. It must be stressed however that the National Forest at this time included parts of Colorado well outside of Pagosa Country, most notably sections of Conejos and Rio Grande counties that made up most of the summer range for the sheep.\textsuperscript{121}

\textbf{Early Sheep Raising}

The censuses of 1880 and 1885 provided the bulk of the data for studying the sheep industry between 1878 and 1885, as they did for the cattle industry. From examining these reports, two very interesting and important facts came to light. The first is the huge increase in sheep industry jobs that occurred over the five-year span, and the second is the almost complete dominance of Hispanic-Americans over the industry by 1885.

\textsuperscript{121} Ibid., 14-19.
For the entire 1880 census, a total of only nine people were listed as involved in the sheep business, out of 169 jobs. The Navajo Valley had no people claiming involvement in the industry; the Rio Blanco Valley had one; the Pagosa Springs area seven; and one in either the Piedra or San Juan valley, (because the data from the two valleys were combined it is not possible to discover from which came the lone member). These figures agree with National Forest reports from the early twentieth century, which stated that sheep raising did not come to Pagosa Country until around 1880.

The census of 1885, however, contains a markedly different set of numbers that place the sheep industry well ahead of cattle raising and farming. In this year, thirty per cent, or 106, of the jobs included in the census were connected to sheep raising, and of these, wholly ninety per cent were performed by individuals with Hispanic surnames. Another interesting fact to arise from an examination of the surnames is that of the six non-Hispanic individuals engaged in the sheep industry, half were immigrants, from Western Europe.\(^{122}\)

Clearly, by the mid-1880s, the sheep industry had arrived in Pagosa Country. The tremendous growth that occurred during the five years between censuses is a telling indicator, not only of the value of the range, but also of the broader “taming” of the West. It cannot be doubted that the construction of Fort Lewis and the removal of the Ute people to reservations encouraged sheep owners and herders to enter the area. In truth, the overall modifications to the landscape and livelihood systems owing to sheep grazing in the 1880s do not compare with the end of this era when the range was critically overstocked. However, it must be kept in mind that before this decade Pagosa Country

\(^{122}\) “Archuleta County Records, Vol. 1,” 1-25.
was basically untouched by large-scale domestication and, by the middle of it, had over one half of its population engaged in that very enterprise— the bulk in the sheep raising industry

**Sheep Herding Methods and Effects upon the Range and Forest**

As stated earlier, no winter range exists in the study area and close to seventy per cent of the sheep spent the winters on the brush flats of northern New Mexico, while the remainder wintered in the San Luis Valley. Interestingly, some snowfall was actually a requirement for wintering the animals, as it represented their primary source of water. During a good winter, sheep could range as far as fifty to seventy-five miles south of the Colorado-New Mexico line.\(^{123}\)

Individual bands of sheep were small by western U.S. standards, averaging around 1000 to 1200 head and usually tended by one herder and a young helper. The herders began the northern movement around April 1\(^{st}\), following the melting snow into the southern part of Pagosa Country, where spring lambing took place. Because the snow did not last the entire spring, it was necessary to have a lambing ground picked out beforehand that had a water source. These areas were almost exclusively located in the south, and generally around 7000 feet in elevation. Often only 40 acres in size, they were highly sought after and fetched the private owners as much as $1500 dollars for around a month of usage, when otherwise they would not have been worth $15 dollars. After lambing, the ewes and their lambs were directed slowly upwards towards their eventual destination—

\(^{123}\) "The Proposed San Juan Forest Preserve," 14-19.
the Continental Divide, while the herders usually took the buck bands no higher than 10,000 feet. The range near snow-line produces much finer and succulent grasses compared to the bunch grass and forest weeds of the lower elevations, and is the primary reason for the separation.\footnote{124}

By 1903, certain parts of Pagosa Country were showing serious signs of overstocking, particularly along the Continental Divide and its spurs, from where it turns south to the New Mexico line. However, the places hit hardest tended to be on the eastern side of the divide, especially from Conejos Peak southward. In this area, grass was eaten off to only one inch in length and significant tracts of timberline willow were almost nibbled to the ground. In a National Forest Service report, mention is made of the good condition of the timberline range west of Summitville. Summitville is located on the eastern slope of the divide and is therefore outside of Pagosa Country, but because it is only around three miles from the divide, the reference to ranges west of it surely must include parts of the research area.\footnote{125}

Sheep grazing not only had an effect on the grasses and annuals in the parks and above timberline, but in the alpine and sub-alpine forests as well. In these areas, the sheep had no impact upon trees or seedlings over four inches in height, but because the emergence of the seedlings coincided very closely with the arrival of the herds many were trampled. The ground made soft by melting snow compounded the problem and, in 1903, a perceptible lack of very young seedlings was reported in the proposed San Juan Forest Reserve. The tree most susceptible to sheep was the Aspen, because apart from grazing on the seedlings, the animals also foraged on the branches of saplings and

\footnote{124} Ibid., 15-17

\footnote{125} Ibid., 19-20.
gnawed the bark of mature trees—oftentimes girdling them. In the early twentieth century, it was often the case that every tree in a given Aspen grove, (up to an acre in extent) was found to suffer from damage caused by foraging sheep.

An even bigger problem associated with sheep grazing in the forests of Pagosa deals not with the destruction of trees, but with the destruction of ground cover and the resultant damage to the watershed. The animals were directed over well-defined trails that passed through the forested areas of Pagosa Country before spreading out in the timber-line country. As the thousands of head made their way through the forests, their sharp hooves easily disturbed the thin soil and scanty ground cover, which was then exposed to the drying effects of the sun and wind. With the upper soil and ground cover in this condition, the first heavy rains easily carried the soil towards the creek bottoms and created favorable conditions for further erosion and flooding. If the sheep passed over extremely steep slopes the problems were magnified, as was the case along the trail from Devil Mountain to the Piedra River in the west of Pagosa Country; where in 1903 the route was devoid of vegetation and bands could be tracked by the cloud of dust hanging over the trees. Destruction of the ground cover wrought from sheep traffic was generally a localized affair and therefore did not pose a disastrous threat to the watersheds of the study area and the San Juans Mountains. However, the watersheds did face serious injury resulting from actions by the herders and handlers of the sheep bands.

Foremost among these was the misuse of fire. Fire was used in a host of ways, from prescribed burns used to improve the range, to negligence associated with campfires and protective fires. Damage resulting from fire was a common occurrence in the San Juan Mountains, and was the most harmful aspect of the entire sheep raising industry
during the chronology of this study. In 1903, a Bureau of Forestry report stated that “Over and over again abandoned sheep camps are found with unextinguished camp or protection fires.”

The most severely affected region of the San Juans was not in Pagosa Country; but rather on the Rio Grande side of the divide where fires had swept over practically all of the lands from the south fork of the Conejos River in the north to Elk Creek in the south—approximately 30 square miles. The fires did indeed improve the quality of the range, but without the trees to provide shade, the snow-pack melted off quickly. The melt markedly increased the chances for serious spring floods, created irrigation water shortages during the summer, and led to severe erosion, especially on steep slopes. If farming is to succeed on a yearly basis in the areas surrounding the San Juan Mountains, then irrigation was a must. In the census of 1900, it is shown that 314,097 acres in Colorado, or 1333 farms were dependent upon irrigation water from streams rising in the San Juans, and owing to the irrigation works in New Mexico it is reasonable to increase this figure to 400,000.

**Sheep Distributions at the Close of the Era**

Determining this aspect of the sheep industry in a satisfactory manner has proven to be an extremely difficult task, primarily because of significant discrepancies in the data consulted. For instance, the twelfth agricultural census of 1900, places the total number of sheep (including lambs and rams) in Archuleta County at 220,480, and lists 126,625 as

---

126 Ibid., 20-21.
the number of fleeces shorn, for a combined weight of 506,500 pounds. While a Bureau of Forestry report from the early twentieth century places the figure at only 25,000. Obviously, the reason for the huge discrepancies must be due to something other than simple error, namely that different methods of counting sheep as having "ranged" in any particular area were used. Perhaps the agricultural census counted all sheep moving through, or owned in the area, while the Bureau of Forestry report looked at the final destination of the bands.

As will be shown, by 1905, Pagosa Country was home to a significant number of sheep, but according to some available records, they did not heavily graze its high-country during the summer months. In light of the numbers and the trails used, it seems Pagosa Country served the spring and autumn grazing needs of the animals in its southern reaches, as well as facilitating the northward movement of hundreds of thousands of head up towards the Continental Divide, and eventually over it. This took them out of the area. Of the eight districts named in a Bureau of Forestry report, five were accessed by two primary trails running through Pagosa Country—Weminuche Trail and Turkey Creek Trail. Nevertheless, given the transient nature of the industry and the slippery nature of many of the herders who did their best to avoid paying taxes, it is fair to conclude that a greater number of sheep than registered grazed along the divide in Pagosa Country during the summer months.

In 1903, the business of sheep raising was a firmly rooted industry in Pagosa Country, as evidenced by the 106,000 head that were owned in Archuleta County. In the

---

130 Ibid., 16, 24.
same year, the neighboring counties of Conejos, Rio Grande, and La Plata had a combined total of 76,000 head, while New Mexican sheep grazing in the San Juans numbered 86,000. Given that approximately eighty per cent of the study area is in Archuleta County it figures that a good deal of grazing would take place in it. However, in a 1904 report concerning the present San Juan and Rio Grande national forests by the Bureau of Forestry, only one of the eight grazing districts cited falls inside the bounds of Pagosa Country. Called the Weminuche district, it encompassed the second most acres at 85,900, and supported only 25,000 head, which was only 5000 over the number recommended. In stark contrast to this is the Conejos district, which was 79,000 acres in extent, supported 75,000 sheep, and was overstocked by a staggering 62,000. Conejos County had 50,000 sheep owned within it in 1903. Two of the districts were found in it, providing range for 135,000 head. Three of the districts were in Rio Grande County, which supported summer grazing for 90,000 sheep, but only had 22,000 head owned in the county. North of the Continental Divide in Hinsdale County was the Ute district. It accounted for 8000 head and was the only district not overstocked in 1903. The last district outside of Pagosa Country was the Pine River district. Like the Ute, it supported a small number of sheep (10,000) and was overstocked by 1000 head.

If the forest report is taken to be true, it would appear that although Pagosa Country was by far the leader in sheep ownership in the San Juan Mountains, only a small fraction of the 268,000 head grazing in them did so in it’s high-country. In 1903, forty per cent of the sheep using the San Juans for summer grazing were owned out of Pagosa Country- yet it had only one sheep district, which accounted for nine per cent of the summer grazing. Eight per cent of the total head came out of Rio Grande County,
which had three districts that accounted for thirty-three per cent of the summer grazing. Nineteen per cent of the head using the San Juans in 1903 were owned by interests in Conejos County, which had two districts that accounted for fifty per cent of the summer sheep range. One per cent of the sheep came from La Plata County, which had one district and supported three per cent of the sheep using the San Juans. New Mexican sheep grazing the San Juan Mountains made up thirty-two per cent of the total.\footnote{131}

The reason for the veritable lack of summer grazing in the high-country of Pagosa Country during this era is not well understood, especially when the huge proportion of Archuleta sheep is considered and the fact that by 1916 approximately 82,000 sheep used this same area (an increase of 57,000). Perhaps the range on the north and east sides of the divide was of superior quality and thus attracted herders earlier, but no mention is made of this in any data possessed by the author. One thing is certain though; the landscape of Pagosa Country was severely altered during the twenty-seven years of this era, with most of the modifications occurring in its southern reaches.\footnote{132}

\footnote{131}{Ibid., 24.}

\footnote{132}{“San Juan National Forest Land Classification Atlas,” 8.}
Figure Four:
Subregions of Pagosa Country
Figure Five: Cattle Belt

Timing of Grazing
- Spring & Autumn
- Summer
- Little or No Grazing

Legend:
- Light green: Spring & Autumn
- Dark green: Summer
- Yellow: Little or No Grazing

Map shows the distribution of timing of grazing across different regions, with specific areas marked for spring and autumn grazing, summer grazing, and little or no grazing.

Key:
- Pagosa Springs
- San Juan River
- Other rivers and streams

Scale:
0 5 10 20 Miles
CHAPTER 5
LOGGING IN PAGOSA COUNTRY, 1900-1917

During the seventeen years from 1900 to 1917 the large-scale logging industry of Pagosa Country completed its short but highly effectual life cycle. The Rio Grande and Pagosa Northern ceased operations in 1935, and the Rio Grande and Pagosa Springs was finished by 1917. Though the rails gave birth to "big lumber" in Pagosa Country, they could not thwart the inevitable "logging out" of the available commercial stands that helped to bring about its death near the close of this era. Both of the principal companies ceased operations around the same time. The Pagosa Lumber Company shut down in 1916, and The New Mexico Lumber Company probably cut little timber in the area after 1913. Had it not been for the protection of Ponderosa Pine in the areas of Pagosa Country within the San Juan National Forest, operations would have continued northward and the two companies would have stayed in business a few years longer.  

Of course, logging did not come to a complete stop in the area once the two principal companies ceased cutting, but towards the end of the era a noteworthy event occurred, which signaled a forthcoming shift in method that changed the lumber industry

133 Chappell, Logging along the Denver and Rio Grande, 69-70.
from its “frontier-like operations” to one that is more mainstream. At first glance, it may seem incorrect to label the lumber industry as frontier-like given the massive scale upon which they operated. However, given further examination it is realized that the enormity of the operations and the dominance of only two companies occurred in large measure, because of the frontier quality present in Pagosa Country during this time. Like the massive ranch outfits of the 1880s that operated over thousands of square miles because an infrastructure did not exist to stop them, The Pagosa Lumber Company and The New Mexico Lumber Company also entered the area at a time when huge amounts of land could be obtained cheaply, or free of charge. Of course, later in this era both companies were held to account for timber the Federal Government deemed they illegally cut, but the point here hinges upon their early arrivals.

The “noteworthy event” occurred in 1916, when crews finished construction of a road over Wolf Creek Pass in the far northeast of Pagosa Country. The road began the process of breaking the centuries old monopoly on travel and transport held by the southern gateway. Granted, the road was only passable during part of the year, and thus did not experience much commercial traffic (especially trucks bearing heavy loads like timber and lumber), but it did substantially increase the overall visibility of motor vehicles, which shortly thereafter became the preferred mode of transportation. The first instance of the internal combustion engine being used in logging came in 1918, when a tie and lumber company out of Pagosa Springs purchased a fifty-five horsepower truck. This event, and the departure of the logging railroads occurred at around the same time and, when taken collectively, solidify the late 1910s as the close of this era.\(^{134}\)

\(^{134}\) Ibid., 76.
Two important features present during this era serve to set it apart from the previous one. The first is the acquisition of large amounts of government land (both outside and within the San Juan National Forest) by the lumber companies through the timber and stone and homestead laws, and the second is the dominant role that the temporary railroad spurs came to play in reaching the more remote sections of timber. In 1915, the western boundary of the San Juan National Forest was moved east and followed the hydrological divide between the Los Pinos River and the Piedra River, thus making it fall entirely within Pagosa Country. In that same year, a forest service report from Pagosa Springs placed the total acreage of that forest acquired through the timber and stone law at 33,940, and 67,655 was obtained using the homestead law. Obviously not all of the land was obtained by the big lumber companies, but according to the report "Much of the land taken up under the homestead law was in reality acquired for the timber which it possessed. This is indicated by the fact that after patent had been issued no further use of the land for raising crops has been attempted. In many instances these homestead claims were acquired with their timber by the large lumber operators." \(^{135}\)

Another important element regarding the acquisition of timber is the frequent occurrence of "timber trespassing" carried on by the two major logging companies. During the construction of the main line of the Denver and Rio Grande Railroad from Chama, New Mexico to Durango, Colorado, the federal government allowed for the cutting of timber immediately adjacent to the right of way in an effort to alleviate some of the burdens associated with building the line. In a likely move, the owners and management of the railroad bent the rules by interpreting the provision in a manner to suit their needs. By their reckoning, the offshoot railroads of the D&RG, the Rio Grande

\(^{135}\) "Letter to District Forester," 30 July 1915, 2, 5.
and Pagosa Springs and the Rio Grande and Pagosa Northern, were also entitled to take timber for construction purposes (in 1930, it was estimated that 10,000 acres of timber had been cut illegally from government lands). Forestry as a science was not well established during this era, and according to various governmental reports the methods used by the lumber industry were extremely wasteful. Little or no re-planting occurred after an area had been logged over, which created excellent conditions for erosion and, in the words of a government employee; these areas "were left a desolate waste."^136

The Pagosa Lumber Company 1900-1916

The Pagosa Lumber Company was the largest lumber company in the study area during the chronology of this study. The company owned the most land, cut the most timber, and had a much more extensive railroad network than did The New Mexico Lumber Company. In October of 1900, the main line of the Rio Grande and Pagosa Northern reached Pagosa Springs, ushering in a period of widespread cutting that tracked northward along this route, and often deviated up smaller valleys with the help of temporary railroad spurs which were constructed between 1900 and 1912.137 The quality and density of the Ponderosa Pine along the northern sixteen miles of the thirty-one mile track from Pagosa Junction to Pagosa Springs was excellent. In a newspaper article from 1901, it was written that, "The Pagosa Northern runs through an almost solid belt of


137 Robert Sullenberger, "A.T. Sullenberger's Railroads and Sawmill Locations From 1900 to 1912," 30 January 1989, 1. This document written by the grandson of A.T. Sullenberger discusses the infrastructure of Pagosa Lumber Company, Sullenberger Collection, Box FF49, Western History Collection, Denver Public Library.
timber, except the first 15 miles up the canon which is an open park for from a quarter to half a mile for the above distance.\textsuperscript{138}

The primary sawmill continued to be at Pagosa Junction for approximately half of this era. In 1906, a new, even larger mill located just south of Pagosa Springs on the San Juan River was completed and served as the main sawmill for the remainder of the life of the company. Apart from these monstrous sawmills, a number of more transitory lumber camps and mills existed, but the amount of lumber cut at those mills pales in comparison with the Pagosa Junction and Pagosa Springs mills. In 1902, the Pagosa Junction mill cut an average of around 100,000 board feet per day, compared to only 25,000 feet at a sawmill located north of Chimney Rock on the east bank of Devil Creek, which was abandoned in 1906. The length of time that the smaller mills and railroad spurs were used varied, with some in use for only a few years. For instance, the Devil Creek mill and the spur that serviced it were abandoned in July of 1906, meaning that it was in operation for only around four years.\textsuperscript{139}

All told, The Pagosa Lumber Company built approximately fourteen spurs off of the main line connecting Pagosa Junction to Pagosa Springs between 1900 and 1912, and five of these lines spawned further spurs, thus making the total number of temporary lines constructed by the company around twenty-six. The most northern spur, and also the longest built by the company, followed a series of creeks north of Pagosa Springs and measured over ten miles.\textsuperscript{140}

\textsuperscript{138} Chappell, \textit{Logging along the Denver and Rio Grande}, 51.

\textsuperscript{139} Ibid., 2-3.

\textsuperscript{140} Ibid., 38.
Almost all of the logging carried out during this era was on lands below 8500 feet and outside of the San Juan National Forest. Apart from producing excellent stands of timber, much of the area also converted well to agricultural acreage once the Ponderosa Pine was removed. In deciding what parts of Pagosa Country to include in the San Juan Forest Reserve, the Federal Government took this into account, along with the fact that lands below 8500 feet were not deemed crucial for watershed protection— and, as a result, shaped the Forest Reserve (National Forest) to roughly coincide with the 8500-foot contour. It just so happens that the upper limit of the Ponderosa Pine belt is around 8500 feet, meaning that the bulk of Ponderosa Pine was not on federal lands, thus allowing the lumber companies to acquire vast sections of it without having to deal with the Federal Government.\footnote{\textit{The Proposed San Juan Forest Reserve},” 8-9, 28.}

There can be no doubt regarding the influence The Pagosa Lumber Company had upon the historical geography of Pagosa Country. Not only did the company own a staggeringly large amount of land in the area (93,562 acres in 1906), cut hundreds of thousands of trees, and employ hundreds of people, it was also partly responsible for changing the transportation network from a fairly closed system dependent on trails and rough roads to one increasingly connected to outside markets, such as Durango and Denver. The Rio Grande and Pagosa Northern allowed the somewhat isolated residents of Pagosa Country to travel outside of the area more easily, and gave ranchers and farmers a more practical means for moving livestock to larger marketplaces.\footnote{\textit{San Juan Basin Pioneers,” } 9
The end of Pagosa Lumber Company operations in Pagosa Country came about in the summer of 1916. The company had nearly run out of timbered land in the area, especially in the vicinity of Pagosa Springs, and a fire at the primary sawmill just south of Pagosa Springs and a damaged railroad engine effectively cemented the shut down. However, the company was not finished completely. In lieu of the impending shortage of timber, they signed a large contract that allowed for the cutting of Ponderosa lands near the town of Dulce, in northern New Mexico on the Denver and Rio Grande Railroad.\textsuperscript{143}

\textbf{The New Mexico Lumber Company 1900-1913}

The New Mexico Lumber Company represented the only true competition for The Pagosa Lumber Company during this era and, in similar fashion, pushed its operations northward with the use of the railroad. From the base town of Edith, Colorado, tracks were laid, with the principal line running almost due north and terminating at the settlement of Flaugh, which was approximately five miles southeast of Pagosa Springs. The company was not as great an influence on the geography of transportation in the area as The Pagosa Lumber Company, but some non-timber traffic did make use of the lines. In the fiscal year 1904, the Rio Grande and Pagosa Springs Railroad transported just 2747 passengers and 95,070 tons of freight, and experienced a deficit of $3728 dollars. The loss was of no consequence, however, because the owners of the line also happened to be the owners of The New Mexico Lumber Company, which did not lose money in 1904. All told, the company constructed around nine temporary spurs, ranging from

\textsuperscript{143} Chappell, \textit{Logging along the Denver and Rio Grande}, 76.
around eleven miles to one-half mile in length; the longest being the line running up the valley of the Navajo River and the shortest a secondary spur branching off a west-bearing spur south of the Flaugh settlement.\textsuperscript{144}

One important difference between the two rival logging outfits was the fact that The New Mexico Lumber Company was making use of logging railroads in Pagosa Country at an earlier date. Granted, the Denver and Rio Grande line coursing through the southwestern part of the area was used extensively for the hauling of logs by The Pagosa Lumber Company, but it was not until 1900 that tracks were laid north of Pagosa Junction for the explicit purpose of servicing interior Pagosa Country. On the other hand, The New Mexico Lumber Company had already constructed fifteen miles of track in Pagosa Country by 1900, thus it must be concluded that at least part of the reason for the earlier departure of the former had to do with their “head start,” given the ephemeral nature of large-scale logging.

The company built several different sawmills throughout its existence in Pagosa Country, but unlike Pagosa Lumber, New Mexico Lumber never moved its primary mill to a location farther inside the area. Indeed, the sawmill at Edith was just barely inside the bounds of Pagosa Country, and for a time even this was under contention. During an Archuleta County election in 1899, in which Edgar Biggs was running for County Commissioner, a debate actually ensued which revolved around the contention that Edith was in fact located in New Mexico, and therefore its residents should not be allowed to vote in the election. In reality, Edith sits a little over a quarter of a mile from New Mexico, a circumstance that not only reinforces the importance of the southern gateway in the diffusion of land use practices in Pagosa Country, but also points to the fact that the

\textsuperscript{144} Ibid., 33-34, 38, 56.
timber holdings of The New Mexico Lumber Company in the more northern sections were not extensive enough to necessitate the relocation of its primary sawmill.\textsuperscript{145}

**Overall Distributions of Logging Operations, and the End of the Era**

During the early part of the twentieth century, some employees of the Federal Government were assigned the task of delineating the boundary of the proposed San Juan Forest Reserve. The northern and eastern boundaries were easy enough to decide on, given the natural boundary that the Continental Divide provided. Instead, the main point of contention surrounded the southern boundary of the reserve, and in particular if it should stretch to the Colorado-New Mexico line. Ultimately, it was not included as part of the Preserve, or National Forest, but this did not prevent further studies from taking place that focused upon the addition of the lands from the state line to the southern limit of the Preserve. This area became known as the “southern addition” and, though its east-west extent varied from report to report, one in particular fits perfectly within the bounds of southern Pagosa Country. It is well known to the reader by now that a huge portion of the cutting done in the study area during the chronology of this study transpired in the south, thus making much of the data included in the reports about the southern addition particularly valuable.

The report from which the following numbers originate was written in 1930, thereby placing it thirteen years past the end of the second era of logging. However, given the afore-mentioned “perfect fit,” and the fact that large-scale logging was not nearly as prevalent between 1917 and 1930, it provides the best data with which to

\textsuperscript{145} Ibid., 38, 41.
evaluate the overall condition of the area. The total acreage of the proposed addition was 160,294. Of this, 99,180 were public land and 61,114 were privately held. In 1930, 75,856 acres bore commercial stands of timber, which included three species; Ponderosa Pine, Douglas Fir, and Engleman Spruce, with Ponderosa Pine dominating over the other two species. Only around 19,000 acres of treed acres were deemed non-commercial (15,363 acres of which was listed as "woodland type"), meaning areas of Juniper, Pinyon, and Aspen. When the "cut-over lands" are entered into the discussion, the excellent timber-producing quality of southern Pagosa Country becomes evident, as well as the large number of acres that were cut. In 1930, the area had 8280 acres of cut-over timberland with good young growth, and 25,015 acres of cut-over timberland with poor or no growth—making for a total of 33,295 acres of cut-over timberland.\footnote{146}

By 1917, logging by way of the rails was almost completely finished in Pagosa Country. Both of the primary companies departed from the area the same way they arrived, through the "southern gateway," and continued operating in northern New Mexico for a few more years. Of the two, The Pagosa Lumber Company left the more lasting legacy, in the form of the rail-line built from Pagosa Junction to Pagosa Springs. The line remained in operation until 1935, carrying passengers, freight, and livestock.\footnote{147}

The overall influence of logging upon the landscape of Pagosa Country between 1900 and 1917 was massive, yet contained. Owing to a host of factors, such as, topography, elevation, climate, politics, technology, and culture, the low-country was...
subjected to much more intensive cutting than the high-country. The significance of the individual factors varied, and many of their restrictive qualities came to bear at different times throughout the history of logging, thus creating a formidable barrier that barred most operations in the northern third of the area.

These factors can also be classified as “natural” and “human.” Obviously, the first three, topography, elevation and climate were not created or associated with humans—while the remaining three, politics, technology and culture are. An interesting aspect of this situation lies in the complex interactions between factors from each respective group, and how they helped to inhibit logging in the higher elevations.

Overall, elevation was probably the biggest single factor to check the expansion of logging. As discussed early in this study, elevation plays a principal role in the amount of moisture that falls in a given area, which in turn influences the flora that can grow and flourish. Because Ponderosa Pine does not need as much moisture as some other species it can flourish below 8500 feet, and as a result the logging companies tended to have less interest in the high-country areas. However, it is believed that if other limiting factors had not arisen, the logging operations would have continued upward—albeit on a smaller scale.

On the human side of things, the dominant limiting factor was politics— and in particular, federal politics concerning the value of forested lands which began in earnest in the early twentieth century. As is well known by this point, the Federal Government conducted numerous studies of Pagosa Country during this time in an effort to determine where to mark the boundaries for a protected, federally managed forest reserve. In these studies, the overwhelming message was that the higher elevations were most valuable for
maintaining a healthy watershed, principally because the forests therein retarded spring run-off and controlled erosion. The San Juan National Forest was delineated to include the higher elevations of Pagosa Country, which are primarily located in the north and east, thereby making commercial logging of the high-country even more impractical.

Of course, the other natural factors of topography and climate, combined with the available technologies, further dissuaded logging in the high-country. Steep terrain and deep snow presented considerable difficulties for railroad construction and usage, and the absence of settlements in the high elevations meant that logging companies would either have to build them or transport their logs further and further distances.

Instead of dealing with the problematical scenario of logging in the high-country of Pagosa Country, The Pagosa Lumber Company and The New Mexico Lumber Company, instead retired from the area to pursue operations in the more hospitable and federally unprotected region of northern New Mexico. In doing so, they left behind a massive area of cut-over acreage, a void in the economy of Pagosa Country, and a scattering of buildings- but most important was the main line servicing Pagosa Springs, and the fact that much of the cut-over land was used converted for agricultural purposes.148

Cropping Potential
- Universal Belt - small grains & forage crops
- Forage Crop Belt - forage crops only
- Little or No Cropping

Figure Six: Farm Belt

- 0 5 10 20 Miles

- Springs
- Pagosa Springs
CHAPTER 6

CATTLE RAISING AND GRAZING, FARMING, AND SHEEP RAISING AND GRAZING IN THE EARLY TWENTIETH CENTURY

Unlike the previous chapter on livestock and farming, which focused primarily upon their emergence, general systems, and methods, this chapter will examine their spatial components to a greater degree. This will be accomplished by first arranging Pagosa Country into five roughly equal “sub-regions,” and then examining and identifying the significant elements and limiting factors of each respective sub-region in relation to the livestock and farming industries in the early twentieth century.

Most of the data comes from the mid-1910s, and since the aim of this chapter is to reinforce and elaborate upon the critical roles played by certain limiting factors in regard to influencing the spatial extent of cattle raising, farming, and sheep herding, and because these industries changed little throughout the early twentieth century, the findings will be presented as more of a spatial model, instead of chronicling the minute changes in settlement and land use over a finite span of time.

It is believed that such an approach will lend support to one of the overall assertions of this study, which is that the extreme differences in topography, elevation, climate, and water availability between the high-country, and low-country of Pagosa Country significantly dictated the possible land uses. It is evident that they led to the dominance of transient animal husbandry practices, such as seasonal sheep herding and cattle grazing in the former, and more fixed year-round practices, such as farming and
cattle ranching in the latter

The term low-country is understood to mean all of the land in Pagosa Country at, or below, 8000 feet in elevation. In the low-country, the limiting factor of elevation became less of an issue, and the negative impacts wrought from steep topographical conditions were lessened. However, these reductions in influence (mainly the lower elevation) helped to create an environment that highlighted the limiting factor of water availability to a greater degree. Without the lofty elevations to assist in triggering precipitation, and because of its relatively distant location from the perennial streams of the high-country, much of the low-country suffered from a lack of year round, or summer water.

Many of the streams that originate in the low-country are ephemeral, thereby rendering topographically suitable locations for farming worthless. Therefore, the pattern created by agricultural homesteading in this area tended to be confined to a select number of streams, not because of topography, as was the case in the high-country, but because only a few streams contained an adequate amount of water necessary for cultivation.

Two important caveats to the high-country/low-country model need to be introduced at this point. The first is that the dividing contour of 8000 feet is not a precise boundary that indicates the absolute beginning or ending of steep topography and harsh climatic conditions. Nor is it the point at which all homesteading and farming activity ceased- although above 8000 feet only forage crops were reliable. Because of the more difficult topography, few areas in the high-country were cultivated, and owing to the increasingly harsh climate, only a handful of permanent homes were maintained. The second point that needs to be made clear is the difference between “seasonal cattle
grazing" and "cattle ranching." The meaning of "seasonal cattle-grazing" is obvious enough, and the dates when this activity occurred have already been stated as early June to late October. "Cattle-ranching," on the other hand, implies the business or endeavor of raising cattle, and more importantly the "wintering" of them at a central location where they were fed cultivated feed—usually hay, which was grown on, or near the site.

The five sub-regions of Pagosa Country were decided upon by dividing the lands of the San Juan National Forest into four roughly equal sections: northwest, northeast, southwest, and southeast. The fifth section is comprised of the remaining land, and includes the acreage found around Pagosa Springs, in the Southern Ute Indian Reservation, and in the Tierra Amarilla Land Grant in the far southeast. By far, the most useful tool that was employed to better understand the individual character of the sub-regions was the 1916 *San Juan National Forest Land Classification Atlas*. It provides detailed information on thirty "units" based upon the township and range system—including acres of timberland, woodland, grassland, and burned timber, as well as discussions and data on farming and grazing. The most important elements to be examined on the "unit-scale" include the number of permanent homes maintained, acres of land "alienated" (meaning land not owned by the federal government) and more precisely acreage acquired by homestead (both by the old homestead law and National Forest Homestead Acts, which took effect in 1906), acreage under cultivation, fenced pasture, and the number of livestock which grazed the National Forest during the summer season.

So as not to burden the reader, reference to individual units using the township and range system will be infrequent. Instead, this will be accomplished by assigning a
number to each unit within a respective sub-regions, which are indicated in figure 4
Owing to the extremely varied circumstances found in the individual units it would be
disadvantageous to attempt to categorize whole sub-regions without referencing them.
Indeed, it is believed that not alluding to individual units would almost render this
chapter meaningless.

Unfortunately, the atlas does not provide detailed information regarding the fifth
sub-region, “Pagosa Springs and Ute Reservation,” as they were outside of the National
Forest. Therefore, the primary focus will be on the four remaining sub-regions. It is
expected that because of the similarities among the Southwestern Sub-Region and
western portions of the Southeastern Sub-Region, and the Pagosa and Ute Sub-Region,
some valuable inferences can be made.

The Northwest Sub-Region

The Northwest Sub-Region as delineated by the author, has elevations ranging
from 7500 feet to over 13,000 feet, and includes seven units from the 1916, San Juan
National Forest Land Classification Atlas which extends from “townships 37 and 38
north, range 2 west” in the east, to “township 36 north, range 5 west” in the west, and
from un-surveyed sections just south of the Continental Divide in the north, to
“townships 36 north, ranges 3, 4, and 5 in the south.

The Cattle Raising and Farming Industries

Probably the most striking natural features of the Northwest Sub-Region are the
extremely high average elevation (10,250 feet) and the exceptionally rugged topography. Since the 8000-foot contour marks the upper limit for practical farming, and all but unit 6 in this sub-region are at least ninety-seven per cent topographically unsuited to cultivation, it naturally follows that very little of this area was farmed. Of the approximately 4069 acres alienated by way of homestead, about 850 acres were cultivated (all in either timothy or native hay) and in only four of the seven units (1, 2, 6, and 7), and much of the rest of the alienated lands were fenced pastures. No attempts at farming of any kind were made in the remaining units by the mid-1910s, and access to these units was by trail only 149

Another indication of the remote and difficult nature of the Northwest Sub-Region is the small number of permanent homes maintained there (approximately ten). Unit 2, contained seven permanent homes, and Unit 6, according to the land-classification atlas had only a “few.” Given, the livelihood systems in place in Pagosa Country, and in much of the United States during the chronology of this study, and the fact that these homes were in an extremely rural area, one must conclude that almost all of the people living in these homes were involved in agriculture and, more specifically, in the cattle industry. Most assuredly attempting to make a living was tough, especially in Unit 2, where the lowest elevation was around 8000 feet.

However, unlike many of the other units in this sub-region, Unit 2 had valleys of some significance, and therefore could support small-scale ranches and the wagon roads that were crucial for year-round habitation. Williams and Huerto creeks in this unit each have valleys that are approximately seven miles long and from one-half mile to a mile in width, and both contained wagon roads. A small portion of Weminuche Creek also falls

within the bounds of this unit, and its valley also contained a wagon road. The atlas does not specifically state where the permanent homes were located, but in spite of this, given the rugged nature of the unit outside of the valleys, the author is confident that all the producing ranches of this unit were found along one of these three creeks.

This unit was the only one of the northwestern sub-region to provide summer forage for a large number of cattle (900 head cattle), and the only one to support more than 500 head of cattle. Units 1, 4, and 7 all were grazed by approximately two hundred cattle in the summer, and units 3, 5, and 6 supported no cattle whatsoever. When the elevation and topography are considered, it is seen that units 3 and 5 contained no valleys of any consequence, and were instead dominated by small rocky canyons. This helps to explain not only the absence of cattle, but also why they had no acres acquired under homestead. The reason Unit 6, is devoid of cattle cannot be because of a lack of level ground, as this unit had 440 acres acquired under homestead, and 295 acres under cultivation. However, it did have a very important sheep driveway running through it, over which approximately 100,000 sheep passed on their way to the Continental Divide. This undoubtedly anchored the sheep industry in that area and dissuaded cattle owners from grazing their animals there.

Units 1 and 4 are generally rugged, but unlike units 3 and 5, they contain small pockets of level ground, which is why they were able to provide forage for a small number of cattle during the summer grazing season, but were unable to support permanent homes or ranches. Unit 7, located in the far southeastern corner of the sub-region, also provided summer forage for 200 cattle, and because it contains enough “open” land near its southern border along some small creeks, a few permanent homes
were found there.

The above-mentioned altitudinal and topographical conditions place the entire Northwestern Sub-Region well within the bounds of the high-country, and the data from the atlas supports the claim that this area did not generally provide forage for large herds of cattle or contain significant numbers of permanent homesteads or ranches. Rather, the high-country, with its steep slopes, lofty elevations, and harsh climate, narrowed the possible land uses to such a degree that its defining characteristic with regard to land use was the seasonal onslaught of massive bands of sheep tended only by a few shepherds.

The Sheep Industry

The summer grazing of sheep in Pagosa Country was most strongly represented in the Northwest Sub-Region, where an estimated 40,000 head grazed from around mid-June to late September. Units 1, 3, 4, and 5 all supported over 5000 thousand animals in the mid-1910s, and Unit 1, provided forage for a staggering 14,000 head. Only 1200 sheep grazed within Unit 2, but an additional 3000 used a part of the area for lambing grounds, and another 3000 grazed the slopes of Unit 7. The only anomaly in the sub-region is found in Unit 6, where only 500 sheep grazed during the summer. The reason for the modest number of “permanent” grazers is undoubtedly owing to the Turkey Creek Sheep Driveway, which dominated the unit, and thus necessitated careful management practices in order to ensure that sufficient forage existed for the tens of thousands of sheep on their way to the upper reaches of Pagosa Country, and beyond.\textsuperscript{150}

Another important sheep driveway found in this sub-region was the Weminuche

\textsuperscript{150} Ibid.
Creek Trail, which followed along Turkey Creek mainly in unit 1, and eventually led many herders and their animals to the Continental Divide, where they picked a route along it and eventually dropped down into another watershed basin- some of which were to the west, and thus outside of Pagosa Country. Another central element of the summer grazing of sheep is the fact that the routes used by the herders were often “semi-loops,” meaning that the bands left the high-country by way of a trail that was different from that on which they arrived, further demonstrating the very transient nature of the industry. There were other trails that were used to access the high-country, but it seems that the most important were in the Northwest Sub-Region.151

**Defining the Northwest**

The rugged and climactically harsh nature of the Northwestern Sub-Region, and the land uses associated with it, have been very clearly stated in this study, and it is hoped that from this effort its function in the historical geography of Pagosa Country will be better understood. The whole area, with a few exceptions, is within the high-country. It had an extremely limited transportation network that was based around the trail system and included only a few wagon roads, which followed a few of the larger streams. It contained a smattering of permanent homes located in the lower elevations of two of the seven units, and supported a miniscule farming industry which only produced hay for livestock.

The human land usage was centered on the seasonal and transient industry of

---

summer sheep grazing to such a degree that it would not be inappropriate to include the entire area within the broader category of the "sheep belt." From this position of awareness, one can plainly see one of the fundamental tenets of this study; which is that the limiting factors associated with the high-country imposed a demanding set of circumstances vastly different from those of the low-country and, in doing so, narrowed the possible land uses to a select few, from which the sheep industry emerged dominant. In the following section on the Northeastern Sub-Region, a similar pattern emerges that further demonstrates the profound influences that the high-country wielded over the cattle raisers, shepherders, and farmers of Pagosa Country.

The Northeast Sub-Region

The Northeast Sub-Region, as delineated by the author, has elevations ranging from 7200 feet to 13,272 feet, and comprises seven units from the 1916, San Juan National Forest Land Classification Atlas. The Continental Divide forms the northern and eastern boundary to this area, and townships 36, 37, and 38 north, range 1 west, roughly constitute its western border, while township 36 north, ranges 1west, 1 east, and 2 east, make up its boundary to the south.

The Cattle Raising and Farming Industries

The elevation and topography of the Northeast Sub-Region are similar to the Northwest Sub-Region; therefore it is not surprising to find that analogous land uses
existed between them. Overall, the cattle and farming industries of the northeast were poorly represented, especially with regard to year-round ranches where cattle were wintered. The total number of cattle that grazed within this area during the mid-1910s was approximately 2200 head, and only two units (4 and 5) supported more than 500 head, of which, only unit 5 contained year-round ranches.

Unit 5 had fourteen permanent ranches on around 5000 homesteaded acres, but only 775 of these acres were actually under cultivation, the bulk in hay. It is also the only unit in the Northeast Sub-Region to have elevations below 7500 feet. Thus in favorable years a small amount of small grains could be matured. The high point is 9700 feet, which places it firmly in the midst of the "cattle belt," as verified by the 1100 cattle that grazed in it during the 1910s. The only other unit where permanent homes were maintained was Unit 3, which had a low point of 7700 feet.

Almost all of the land alienated in Unit 3, was acquired through the homestead process before the inception of the National Forest, and totaled only around 1800 acres. The homestead claims were all located in the extreme south of the unit in the valley of the West Fork of the San Juan River, which coincides with the lowest elevations of the unit. On these claims, three year-round ranches existed, with a combined total of 1000 acres of fenced pasture and 600 acres of hay. The remaining units had a total of 860 head of cattle that grazed only during the summer season, and an almost nonexistent farming industry based solely upon the cultivation of hay. Clearly, the Northeast Sub-Region, like the northwest, lacked the elements necessary for widespread year-round cattle raising to succeed, and was almost wholly devoid of a permanent human presence.

During this period of history, transportation issues dictated the practicability of
living in rural areas to a much greater degree than is the case today, as it was usually necessary to procure a living close to home. Furthermore, the possible livelihoods available to the average citizen of the early twentieth century who was interested in living in a rural area were narrowed to such a point that one was almost forced to be an agriculturist. Thus, when the limiting factors associated with much of the Northeast Sub-Region are viewed with the previous factors in mind, one can understand the relative absence of year-round cattle ranching and farming.\textsuperscript{152}

\textbf{The Sheep Industry}

The sheep industry dominated the Northeast Sub-Region of Pagosa Country during this era. Every June, it was inundated by an estimated 36,000 head, which were primarily taken to the most remote and topographically difficult units, and every late September these same animals, minus a few lost to predators, injury, and diseases were directed from it. Hence, most of the area was devoid of humans and human-related activities for two-thirds of the year. Indeed, the general pattern of land use that the industry created in the Northeast Sub-Region differed very little from that discussed in the section devoted to the northwest.

Unit 1, in the extreme north of the sub-region, is backed by the Continental Divide and supported around 16,000 head of sheep during the summer months, making it the leading unit by a large margin. The other units to have at least 5000 head were units 2 (7000), 4 (6500), and 7 (5000) - all of which had a low point at or higher than 8000 feet. None of the remaining units (3, 5, and 6) supported more than 5000 head, and not

\textsuperscript{152} "San Juan National Forest Land Classification Atlas," 24-41.
surprisingly they all had low points below 8000 feet. The smaller number of sheep in these units is not so much a consequence brought about solely by elevation, but rather is a by-product of it.

Feuds and disputes between the members of the sheep and cattle industries were common during this era, a consequence of their inherently contrasting natures and competition for forage. Sheep can graze in higher elevations more easily than can cattle, and ewes, along with their rapidly maturing offspring actually prefer the forage found in the high-country because it affords more nutrition. However, they can also graze in relatively low areas, which they did to a limited extent during this period. In contrast, if cattle are to thrive in mountainous regions they generally need to stay below 11,000 feet. When this requirement is united with the more rooted and overall stable nature of the cattle industry, it is seen that the relegation of the larger bands to the high-country stemmed not so much from a natural requirement set by the stomachs of the sheep, but rather by a cultural clash from which the cattle-owners emerged victorious.153

**Defining the Northeast**

Owing to the striking similarities found between the Northeast and Northwest sub-regions, this section will be brief. The fundamental limitations placed upon the land use dynamic by elevation and topography in the northeast, combined with the cultural composition of the American West in the early twentieth century, basically precluded the formation of a well established “built environment.” One noteworthy exception to this

statement, and one that helps to distinguish the Northeast from the Northwest, is the state highway that connected the town of South Fork, on the east side of the divide, to Pagosa Springs. Today this route is called Colorado State Highway 160, and not surprisingly it travels through the heart of Units 3, and 5, where the lowest elevations of the sub-region are found.

Overall, however, during this period the northeast existed as a veritable wilderness, characterized by a scanty year-round human presence that was strictly confined to the narrow valleys created by the West Fork of the San Juan River and similar streams near the southern edge of the sub-region, and by a transient industry that was within its bounds little more than four months of the year.\textsuperscript{154}

The Southwest Sub-Region

The Southwest Sub-Region, as delineated by the author, has elevations ranging from 6500 to 10,000 feet, and is comprised of six units from the 1916, \textit{San Juan National Forest Land Classification Atlas}. It bounds the Northwest Sub-Region on its northern edge; the hydrological divide between the Los Pinos and Piedra rivers on its western border; townships 34 north, ranges 4 and 5 west are found at its southern edge; and its eastern boundary reaches as far as township 36 north, range 2 west. Two of the units (5 and 6) were at one time part of the Southern Ute Indian Reservation, but the land in these units was opened to homesteading in 1896, shortly after allotments were granted to some of the tribal members. In the mid-1910s, approximately 8000 acres in these two units

\textsuperscript{154} "\textit{San Juan National Forest Land Classification Atlas}," 24-41.
were Southern Ute Indian allotments.155

The Cattle Raising and Farming Industries

During the mid 1910s, every unit in the southwest sub-region contained year-round homes and acreage under cultivation. Units 1, 2, and 4 supported over 500 head of cattle each during the summer season, and units 1, 4, and 6, each contained at least 400 acres of cropland. The lower elevations of the sub-region might lead one to expect to find a plethora of permanent homes, usually cattle ranches, and a highly successful farming industry, but this was not the case.

The constraints placed upon the selected industries of this chapter by elevation and topography is well understood by this point, and they greatly influenced land use in the Southwestern Sub-Region. However, water availability was another important limiting factor that influenced the southern sub-regions, and in particular the low-country to a greater degree than the northern sub-regions, and is the primary reason for the relatively small homesteading presence found in those areas.

In the three southern sub-regions, rainfall averages are highly variable because of extreme changes in elevation over very short distances. Overall though, the southern periphery of the San Juan National Forest, and most of the Pagosa Springs/Southern Ute Sub-Region, excluding the high-country of the Southeast sub-region, is basically semi-arid, with an annual average rainfall somewhere near twenty inches. This fact makes

irrigation a near-necessity if crops wish to be matured with any regularity.  

The irrigation system adopted and still used by the farmers of Pagosa Country is the flood irrigation system, which is one of the most simple and inefficient methods of getting water to crops. In flood irrigation, a set of diversions are built along a stream that channel a portion of the water to small canals, which then carry the water to strategic points, where it is allowed to escape and slowly flow across the land. This system, though inefficient, is highly effective when the intended streams contain an adequate amount of water during the growing season.

The effects that flood irrigation has had on the landscape of Pagosa Country are seen throughout a good portion of the low-country. Indeed, one could argue that almost wherever adequate conditions exist for flood irrigation to work, it has been employed. The landscape depicted in Figure 8 is representative of much of the irrigated low-country in the vicinity of Pagosa Springs, and when viewed in conjunction with Figure 11, the power and importance of flood irrigation becomes evident.

It then follows that during the 1910s, the permanent homes and cultivated areas of the Southwest Sub-Region needed to not only be in topographically suitable areas, but also in close proximity to streams that carried sufficient water for irrigation during the growing season. Indeed, it is seen on closer examination that the units with substantial crops under cultivation (1, 4, and 6; unit 3 was on the cusp) fit this criteria. In Unit 1, the only level land of any extent is either in the valley of Yellow Jacket Creek or Squaw Creek and, not surprisingly, these valleys supported the ten permanent homes of the unit in the 1910s. The water in these streams was used extensively to irrigate 635 acres of alfalfa and small grains, almost all or which were intended for consumption by

livestock. This unit also supported 1525 head of cattle during the summer (the second highest of the National Forest sub-regions).

Unit 4, contained only a few permanent homes, and 485 cultivated acres, but included 5900 acres alienated by homestead, which is striking when compared to the 2340 acres alienated by homestead in Unit 1. The reason for this apparent inconsistency harkens back to the previous chapter on logging, when the practice of acquiring land through the homestead laws was discussed. Most of the homesteaded acres in Unit 4, contained mature stands of Ponderosa Pine when they were “filed on,” after which they were often cut-over and abandoned. Most of this land then became part of the “open range,” and was collectively used by cattle-raisers, who grazed around 800 head within the entire unit. In this unit too, irrigation was close to essential, and represented the only way to ensure reliable crop returns.

Unit 6, at the southern boundary of the National Forest, had eight permanent homes on approximately 2500 acres, and contained 600 acres of crops, and 300 head of cattle in the mid-1910s. All the acres of hay and small grains required a significant amount of water during the summer, thus all of the cultivation occurred on, or near, the significant streams of the unit.

The main problems facing people intent upon living in and cultivating the semi-arid regions of Pagosa Country, were not remote locales, steep topography, or excessively harsh winters, but rather finding sites along streams with enough flow to successfully irrigate crops. From the standpoint of a cattle-raiser or farmer, these sites were perhaps the most coveted in the study area, precisely because they afforded one the ability to make a living in the relative comfort of the low-country. However, these sites
were scarce, and did not afford the same luxuries to the other major industry of this chapter.  

The Sheep Industry

Of the four sub-regions inside the San Juan National Forest, the Southwest provided summer forage for the least amount of sheep by a large margin. In the mid-1910s, an estimated 10,000 head of sheep used the sub-region annually, and 6000 of these animals were ewes that were directed to units 4 and 6 in mid-April for “lambing.” The lambing process took place for about a month, and was primarily a stationary affair; therefore it really has very little in common with the summer grazing system that began in mid-June.

A slow movement northward into the high-country occurred during the interim between the end of the “lambing season” and the start of the “summer season.” This is important because it indicates the dry nature of the low-country of the sub-region, which did not support a sustainable yield of forage for yearly summer grazing. Moreover, the total number of sheep grazing during the summer season in units 4 and 6 in the mid-1910s was 600 and 0 respectively. These figures are intimately connected to the average elevation of each unit (Unit 4 had an average elevation of 8600 feet, and Unit 6 had an average elevation of 7800), which greatly affected the availability of water during the summer months. Both of the average elevations are extremely low in comparison with the

157 Ibid., 24-41.
other units found in the San Juan National Forest and, as expected, the number of
"summer sheep" was small, or non-existent, as was the case in Unit 6.158

The only other units to support summer grazing were 2 and 3, which contained
2000 and 1500 head respectively. Both units possess similar altitudinal conditions; that is
they are relatively low in average elevation (around 8500 feet) which, because of cultural
and natural factors, dissuaded large-scale summer sheep grazing. However, Unit 3 did not
support significant numbers of cattle, nor provide forage for many sheep- at least in the
traditional sense. This was presumably because of the "Turkey Springs counting pens,"
where an estimated 100,000 sheep were tallied up on their way to the high-country
Obviously, the health of the range in Unit 3 was of critical importance if a successful
count were desired, and a massive burden was assuredly placed upon it each year by the
migrating sheep.

Defining the Southwest

The Southwest Sub-Region contains a good deal more low-country than high-
country, and the patterns created by humans and their livestock during this era very much
reflect this circumstance. The semi-arid low-country of the sub-region was less
problematic in regard to elevation and topography, which allowed for a more developed
transportation network, but consequently "showcased" the limiting factor of available
surface water. For that reason, the defining characteristics of the southwest during this era
were the near necessity of irrigation for successful cultivation and a relatively small

summer grazing industry\textsuperscript{159}

The Southeast Sub-Region

The Southeast Sub-Region, as delineated by the author, has elevations ranging from 6600 to 11,900 feet, and is comprised of ten units according to the 1916, \textit{San Juan National Forest Land Classification Atlas}. The southern boundary of the Northeast Sub-Region forms its northern limit, the Continental Divide its eastern, and township 33 north, ranges 1 east, 2 east, and 1 west form its southern boundary, while its western limit reaches to township 34 north, range 2 west. It is well represented by both the high-country and the low-country and, not surprisingly, was the sub-region exhibiting the greatest overall range of land uses throughout the chronology of this study.

The Cattle Raising and Farming Industries

The cattle raising and farming industries of Pagosa Country reached their zenith in the Southeast Sub-Region. During the mid-1910s, it supported approximately 5000 head of cattle during the summer season, and around 3400 acres were under cultivation. In fact, every unit, but 3, supported both industries to some extent, with the general model based on "limiting factors" dictating their representation to a significant degree. All the cultivation occurred in close proximity to streams, and the great majority of ranches and cattle-grazing operations were established in the lower elevations.

\textsuperscript{159} "San Juan National Forest Land Classification Atlas," 24-41.
Many times the words "few" and "some" are used to describe the number of permanent homes in the southeast instead of the specific number. This is a disheartening circumstance, but it does not render an inquiry futile, mainly because the word "few" is taken to mean less than the word "some." This is partly based upon the perceived meaning of the words by the author, and partly on the fact that in the units where "few" is used to describe the number of permanent homes, either the limiting factors of elevation and topography, which usually coincide, or available water, were present to a greater degree than in the units where "some" is used.

Units 1, 6, and 9 were the three units to support over 500 cattle for summer grazing annually. Their combined total of 3350 made up two-thirds of the entire number of the summer cattle grazing population in this sub-region, owing in large measure to the lesser significance of the selected limiting factors in these units. Unit 1, lies just to the east of the town of Pagosa Springs, and owing to this fact and its relatively lower elevations (which occur in most of the unit outside of the northeast corner) and numerous streams, it contained the second largest amount of acreage alienated by means of homesteading (5013), the second highest number of permanent homes (13), and the largest amount of acreage under cultivation (775).

Unit 6 was one of the few units to contain un-alienated land suitable for cultivation in the mid-1910s. Not surprisingly, all of the producing farms were located along either the Big Blanco River or Sheep Cabin Creek, and produced the typical crops of alfalfa and timothy hay, as well as some potatoes and oats. Approximately 535 acres out of around 3600 homesteaded were put to this use according to the land classification atlas, thus underscoring the importance of irrigation. It also furnished summer range for
around 1000 head of cattle.

The final unit to provide summer range for at least 500 cattle and have at least 400 acres under cultivation was Unit 9 on the southern edge of the National Forest. It contained wagon roads that allowed for access to most of the lower elevations in the mid 1910s, and presumably the most heavily traveled were those along the Little Navajo River, and Coyote Creek, where all of the permanent homes were located. This unit contained the largest amount of acreage alienated by homesteading (6640) and provided summer range for 700 head of cattle. Unit 2 is also deserving of mention because it supported six permanent homesteads, all of which were located near the Big Blanco River in an area called the “Blanco Basin.” The low point for the whole unit is 8000 feet, making the cultivation of oats and other small grains unreliable. However, because the valley of the Big Blanco is comparatively wide, enough level land was available for the cultivation of frost-tolerant crops like native and timothy hay- which accounted for 490 acres of the 1880 homesteaded.

The remaining units were not devoid of cattle-raisers or farming activity, but because of either rough terrain or meager water supplies these industries were not as successful as those in units 1, 6, 9, and 2. Therefore, the most important aspect of the cattle raising and farming industries in the Southeast Sub-Region, and the thing that allowed for portions of it to “thrive” in comparison to the other sub-regions, was the fact that many of the streams carried sufficient water for irrigation and tended to have relatively wide valleys in the high-country. Of course, irrigation, gentle slopes, and the production of hay are not necessary components for the sheep industry to prosper and, as will be seen, many of the units of the Southeast Sub Region supported a healthy number
of sheep during the summer.\textsuperscript{160}

The Sheep Industry

The 28,700 head of sheep to annually graze the Southeast Sub-Region during the mid-1910s, places it third on the list of units in the San Juan National Forest, and most likely third overall in Pagosa Country. The low elevations and the lack of summer feed in the Pagosa Springs-Southern Ute Sub-Region most certainly placed it at the bottom of the list, but without concrete data this cannot be proven. Nevertheless, the situation in the southeast was comparable to most of the northwest and northeast sub-regions, and portions of the southwest. Units 2, 3, 7, and 10 were predominantly defined by high-country land use, and were therefore analogous to most of the former, and units 4, 5, and 8 were principally defined by semi-arid low-country land use, and therefore comparable to a large portion of the latter. Finally, units 1, 6, and 9 possess natural aspects of the high-country and low-country, and in the mid-1910s, supported land uses associated with both areas, thereby creating a “multiple-use zone” in those areas.

Units 2, 3, 7, and 10 fall almost entirely in the high-country of Pagosa Country (the low point in Unit 10 is 7900 feet), and not surprisingly they provided forage for two-thirds of the sheep. 4200 sheep grazed the multiple-use zone found in units 1, 6, and 9 in the mid-1910s, and it is believed that since these units afforded summer range to a significant number of cattle, most of the sheep grazing occurred in the higher eastern portions of each unit. Units 4, 5, and 8, contain the three lowest average elevations of the four sub-regions in the San Juan National Forest (7700 feet), and the only sheep presence

\textsuperscript{160} Ibid., 43-50, 73-94.
in these units was concurrent with the spring lambing season, when an estimated 5000 ewes grazed within Unit 8.

**Defining the Southeast**

Of all the sub-regions in the research area, the southeast was by far the most varied in terms of natural conditions and land uses. Of course, it would be foolish to credit the limiting factors of the natural environment solely for dictating the land use patterns found there, and in the rest of Pagosa Country. However, in the same vein, it would be foolish to not recognize their potent sway in narrowing the possible land use options.

Because of its diverse conditions, an examination of the Southeast Sub-Region is important for understanding the historical geography of the livestock and farming industries in Pagosa Country. The patterns created by those industries reflect the roles played by elevation, topography, climate, and water availability in superb fashion—from the lush high-country, to the semi-arid low-country, and all points in between. Indeed, of all the sub-regions, the southeast was the closest to a microcosm of the livestock and farming industries in early twentieth century Pagosa Country.\(^\text{161}\)

**The Pagosa Springs and Southern Ute Sub-Region**

The analysis of this sub-region will be of a different nature from the previous

---

\(^{161}\) Ibid.
four, because it lies outside of the San Juan National Forest and therefore was not included in the land classification atlas. In spite of this fact, it is believed that an accurate portrayal of the livestock and farming industries is still possible by using inference and other less specific sources. It will not be broken down into three parts like the previous four sub-regions, because without data on the "unit-scale" it makes little sense to devote separate sections to cattle raising and sheep herding. This sub-chapter will instead be like the third section of the previous four sub-regions by examining and defining the overall condition of the cattle, farming, and sheep industries in the Pagosa Springs/Southern Ute Sub-Region.

The Pagosa Springs/Southern Ute Sub-Region, as delineated by the author, includes the areas of Pagosa Country not within the San Juan National Forest, meaning that it extends across its southern border with New Mexico from the Tierra Amarilla Land Grant in the east to the Piedra/Los Pinos River hydrological divide in the west, and also includes the area in the general vicinity of Pagosa Springs. The width of the sub-region changes from east to west, stretching from around a half township in the east, to around three and a half townships in the center, to two and a half townships in the west. With the exception of the eastern portion along the Continental Divide, the entire sub-region is within the low-country, making the examination of the selected land uses a more straightforward affair than was the case in the previous four sub-regions.

The overall arrangement of cultivated acres and year-round homes during the early twentieth century further reinforces and demonstrates the power of the limiting factor of water availability. Most settlement was confined to a few select areas and, in the overwhelming majority of cases streams that contained enough water to support irrigation
during the growing season defined these areas. Owing to the afore-mentioned scarcity of such places in the low-country, this sub-region possessed notable settlement in only five places during the early twentieth century: the general vicinity of Pagosa Springs, the valleys of the San Juan and Piedra Rivers, and the parks of Coyote and Cat creeks.\textsuperscript{162}

From various governmental sources dating from the early twentieth century, and interviews conducted by the author, it is clear that the dominant land uses of the low-country of this sub-region during this era were the cultivation of hay and other forage crops, cattle-ranching, the spring and autumn grazing of cattle and sheep, and the use of select areas for lambing grounds. However, in the vicinity of Pagosa Springs, it is doubtful that any lambing grounds existed or that large-scale autumn and spring sheep-grazing took place owing to the considerable presence of cattle ranchers and homesteaders there.

The high-country of the sub-region that fell inside the Tierra Amarilla Land Grant furnished range to a significant number of sheep during the summer season (probably around 12,500). The primary differences between it and the other units were the facts that it was privately owned, and cattle and horses were barred from the property. This latter point created significant ire with nearby cattle-raisers, who contended that vast quantities of good cattle forage went to waste every year, prompting many to demand that the federal government acquire it and place it in the San Juan National Forest— which never happened.\textsuperscript{163}


\textsuperscript{163}"Banded Peak Property. Clarke-McNary Report for Boundary Addition," 3 March 1928, folder 301, LP Boundaries: Legislation, San Juan/Tierra Amarilla Grant 1939-1943, Rocky Mountain Regional Records Historical Files 1900-1892, RG 95, Regional Office of the National Archives, Denver, Colorado, 6-7.
Figure Seven: Sheep Belt

Grazing Use
- Lambing Grounds
- Spring and Autumn or Little or No Grazing
- Summer Grazing - Buck Bands
- Summer Grazing - Ewes and Lambs
CHAPTER 7
THE LAND USE AREAS OF PAGOSA COUNTRY

The importance of limiting factors in regard to shaping and influencing the historical geography of Pagosa Country has been discussed at length in this study, and it is hoped that from this central concept the reader will begin to see an emerging pattern, not only in Pagosa Country, but in similar areas around the globe. This chapter will work off the previous four in an effort to classify distinct land use areas and belts in early twentieth century Pagosa Country.

The aim of establishing land use areas and belts is to augment the “high-country/low-country argument” through the inclusion of the commercial logging industry, and by establishing “multiple-use zones” where more than one industry was well represented. By virtue of the time period under examination, the incorporation of these elements will effectively render a near-complete picture of the geography of land use in the study area during this time. To finish off this chapter, and the study, will be an overarching discussion on the essence of land use in Pagosa Country as it pertains to the chronology and topics examined in this historical geography.
The Commercial Logging Area

Commercial logging in Pagosa Country during the late nineteenth and early twentieth centuries was chiefly confined to the cutting of Ponderosa Pine from around 7000 feet to 8500 feet, which corresponds with the "Ponderosa Pine forest type." This places the commercial logging operations almost entirely within the low-country and, in point of fact, the majority of the timber harvested by the Pagosa Lumber Company and the New Mexico Lumber Company occurred at elevations below 8000 feet.164

The limiting factors of elevation, climate, and topography played a strong role in commercial logging, while water availability did not have much bearing. The natural conditions imposed by those factors led to thriving communities of Ponderosa Pine in places with a more manageable climate, relatively low elevation, and less steep topography, all of which allowed for the large-scale logging industry to thrive as well. However, even in the low-country, difficulties produced from the natural environment were encountered, especially in regard to transportation and restrictions on the "logging season" imposed by heavy spring rains and blizzards.165

Overall, the commercial logging area of early twentieth century Pagosa Country was almost entirely within the low-country, primarily because that was where the preponderance of valuable timber was located. If the natural environment of the area were different, and the bulk of Ponderosa Pine located predominantly in the high-country, it would not be unreasonable to believe that large-scale commercial logging in the early twentieth century would have been severely restricted. The selected limiting factors and

165 Chappell, Logging along the Denver and Rio Grande, 36, 49.
the desire of the Federal Government to protect the watershed would have created a scenario that would have been quite unfavorable to large-scale lumbering.

The Cattle Belt

The cattle industry in early twentieth century Pagosa Country was composed of two principal facets that were determined in large measure by the featured limiting factors. The first was the enclosure of cattle on ranches during the “winter season,” where they grazed on privately owned fenced-pasture and were fed on hay, and is associated with the low-country. The second facet was the open-range grazing of cattle on public lands during the “summer season,” and is associated with the high-country. Therefore, cattle had a widespread presence, and the entire “cattle belt” of Pagosa Country went from its lowest elevations up to around 10,000 feet. Not only did the limiting factors help create a seasonal system of cattle raising that shifted from parts of the high-country to the low-country, they assisted in the formation of a “multiple-use zone” from roughly 7000 to 8000 feet, where summer grazing and year-round ranches co-existed.

The Farming Belt

The “farming belt” of Pagosa Country in the early twentieth century could be found from the lowest elevations to slightly over 8000 feet, granted the limiting factors of topography and available water were suitable. The types of crops harvested during this time were confined to forage crops such as native and timothy hay and small grains, such
as wheat. These crops can be broken down into the “universal sub-unit” and the “forage crop sub-unit.” From the title of the former, it is obvious that it consisted of all of the available crops, while the latter comprised only forage crops. Since the 7500 foot contour roughly marks the upper limit at which small grains can be regularly matured, it necessarily follows that the universal sub-unit went from 6500 feet to 7500 feet. Since no cultivation of any kind occurred much higher than 8000 feet, the forage crop sub-unit is seen to be from 7500 feet to around 8000 feet.166

**The Sheep Belt**

At any given time during the course of a year, excluding the winter months, sheep could be found somewhere within the bounds of Pagosa Country. Indeed, over the course of two-thirds of the year, the sheep industry made use of the entire range of elevation from 6500 feet to over 13,000 feet. Within the whole of the area, two distinct areas frequented by sheep and their herders qualify for inclusion in the sheep-belt, each forming a sub-unit. The first is the “lambing-grounds/spring and autumn grazing sub-unit,” which ran from the New Mexico/Colorado line to around 7000 feet, and was used during early and mid-spring and late fall. The limiting factor of climate is primarily responsible for cordonning these phases of the industry to this relatively small area. Because of the deep snows in the high-country, this sub-unit was the only place capable of supporting the sheep. However, it could only do so during the spring and autumn, when either sufficient rain falls to encourage the growth of forage, as is the case during the spring, or the mid-day temperature was not high, as is the case during the spring and

166 “San Juan National Forest Land Classification Atlas,” 2.
The second sub-unit is the “summer grazing sub-unit,” which went from around 8000 feet to the Continental Divide, and was used for only approximately four months—from around May 15th to September 15th. Obviously the short season reflects the harsh climate of the high-country, and in reality it was the only limiting factor of consequence. The sheep were divided into ewe and lamb and buck bands. In general, the ewe and lamb bands stuck to the areas above timberline, which is around 11,500 feet in Pagosa Country, and as a consequence represented the only significant human presence in the upper limits of the high-country. On the other hand, the buck bands were generally taken no higher than 10,000 feet, which corresponds to the upper limit of cattle grazing. At first, this circumstance might lead one to the conclusion that between 8000 and 10,000 feet, where cattle and buck-sheep functioned equally well, there existed a multiple-use zone. However, because the term multiple-use zone in this study pertains to an area where more than one industry was well represented, and owing to the fact that the percentage of buck sheep was no more than one per cent of the total number of sheep, it can hardly be stated that this area was a multiple-use zone.167

The Land Use of Pagosa Country: The Palaeo-Indians to the mid-Nineteenth Century

This section will first briefly discuss the principal land uses characteristic of the palaeo-Indians, Anasazi, Utes, Hispanics (before 1878), and fur trappers, in Pagosa Country, and the principal limiting factors associated with them. The final section will consist of a few paragraphs about the essence of land-usage in Pagosa Country during the

---

heart of this study, which will substantiate its classification as a distinct sub-region of the American West.

Clearly, the types of land use in Pagosa Country changed dramatically from around 10,000 years ago, when the first people made a living in the area, to the early twentieth century, when this study ends. However, it is still possible to draw out an overarching, binding theme from this study. Above all else, the prevailing features of Pagosa Country have been its relatively small population and remoteness from large population centers, and its powerful and influential natural environment. Indeed, it could be argued that the principal reason for the remote character of the area stems from the limiting factors of climate, elevation, topography, and available-water. This study has postulated and demonstrated that from this central theme a significant narrowing of possible land uses occurred, which in large measure dictated the historical geography of the area. Obviously, the palaeo-Indians who spent their lives in Pagosa Country made up a small fraction of an already minute population of people in North America, who were characterized by hunting and gathering practices. The palaeo-Indians of Pagosa Country had few choices concerning the methods of procuring a living, and were thus constrained more by technological limiting factors than by natural ones. However, it must be assumed that the palaeo-Indians of Pagosa Country still had to struggle with problems wrought from the natural environment, including a harsh climate and difficult topography, both of which would have made hunting and gathering more challenging than in other comparatively lower, flatter areas.

Unlike the palaeo-Indians who lacked agriculture and lived nomadic lives, the Anasazi practiced irrigated cultivation and lived in permanent settlements. The vast
Anasazi cultural realm stretched for hundreds of miles, with a northern terminus around Chimney Rock in the west-central part of the study area. In this remote outpost the “Pagosa Country Anasazi” contended with the harsh climate and lack of significant streams, hacking out a living based upon the irrigated-cultivation of squash, beans, and corn, and supplemented by hunting.¹⁶⁸

The Utes were the next group to live in Pagosa Country, and were the first to incorporate the domesticated horse into their livelihood strategy. Before the acquisition of the horse, the Utes, without agriculture, lived a life similar to that of the palaeo-Indians. They had the difficult task of hunting big game by foot and as a consequence, focused their efforts upon smaller animals, and gathered a broad range of other available foods to supplement their diets. After contact with the Spanish, the Utes quickly acquired the horse, which allowed them to focus upon big game hunting and more easily range into the more remote sections of the area and beyond. Like all of the groups featured in this study, the Ute people probably spent the majority of their time in the low-country, but they did venture into the high-country of the area during the late spring, summer, and early autumn to hunt and gather berries. Overall, the harsh climate and rugged nature of Pagosa Country were the leading natural features in shaping the Ute livelihood system of hunting and gathering, as their seasonal passage from low-country to high-country attests.¹⁶⁹

The Hispanic presence, (before 1878), in Pagosa Country was based upon exploration, prospecting, and trade, and, strictly speaking, they engaged in very little “land use” apart from some clandestine trapping and mining ventures. Pagosa Country


lay at the northern reaches of New Spain, and because of this and other political factors, such as the prohibition of ordinary Spanish citizens from traveling into the area; it did not have a large Spanish presence. However, as was discussed in Chapter 2, the Spanish Government did send out exploratory parties that touched most of its southern reaches, and presumably, some of the illicit travelers ventured into the northern reaches in search of precious metals and pelts. Taken as a whole, the politics of New Spain combined with the inaccessibility, inhospitable climate, and lack of significant ore deposits in the study area kept it from becoming a more connected part of New Spain. The Mexican reign over Pagosa Country lasted only a few decades but was much more focused on trade, than the Spanish.170

The final group of people to have an impact upon the historical geography of the study area before the United States gained control was the trappers. They were involved solely in the collection of furs and pelts destined for outside markets- apart from some presumed prospecting. Their extensive travel and trade are a primary reason for the initial “opening up” of the “wilds” of Pagosa Country to much of the outside world. Owing to the nature of their enterprise, it follows that the parts of the area to experience the highest degree of usage were along the streams, and that the principal natural limiting-factor was climate.171


The Land Use of Pagosa Country from the Late Nineteenth Century to the Early Twentieth Century: The Making of a Sub-Region in the American West.

Perhaps a few lines from the 1916, *San Juan National Forest Land Classification Atlas* are appropriate at this point to lead into the closing remarks of this study. "This region is essentially a stock country. Without exception the only successes obtained on farms have been made in connection with livestock, principally cattle. There is no evidence at hand which would lead one to conclude that present conditions will change and that successful farming may be carried on without livestock." 172

Those few sentences do an excellent job of characterizing the land use potential of Pagosa Country, as well as the state of the area in the early twentieth century. When the livelihood systems common in the United States during this time are considered in conjunction with its natural features, the sway the cattle industry wielded over the pattern of land use is obvious.

Of course, commercial logging and the sheep industry were huge components in the historical geography of the area as well, but each had a crucial flaw that prevented it from usurping the cattle industry for dominance. The logging industry made a huge and relatively long-lasting influence on the landscape, but because of its ephemeral nature, never had a chance at becoming the dominant land use in Pagosa Country. Likewise, the harsh winters of the area saw to it that the already transient sheep bands, which were generally tended by only two people, oftentimes non-Pagosans, spent the winters in New Mexico, making its presence "fringe-like," or seasonal.

Of all the natural features found in Pagosa Country, the lack of significant mineral

---

deposits was the catalyst that propelled the development of its land use system. Without the possibility of large-scale mining, settlers bent on agriculture arrived, and began constructing a unique regional culture and infrastructure that was greatly influenced by elevation, topography, climate, and water availability.

---

[173] Glen Raby, interview by author, 15 June 2003,
Fig. 8. View of irrigated pasture north of Pagosa Springs.
Photograph by the author

Fig. 9. Typical view of the low-country in the vicinity of Pagosa Springs.
Photograph by the author
Fig. 10. View of landscape approximately seven miles southeast of Pagosa Springs. Notice oakbrush in foreground and small arroyos in background. Photograph by author

Fig. 11. Parched hill surrounded by verdant summer growth, illustrating effects of flood irrigation. Photograph by the author
Sources Consulted

Published Sources:


Government Documents:


“Chapter IV, Grazing: Early use, class of stock, numbers, areas used, range wars”. folder 77. San Juan National Forest. Rocky Mountain Regional Records Historical Files 1900-1892. RG 95. Regional Office of the National Archives, Denver, Colorado.

Dubois, Coert, “The Proposed San Juan Forest Reserve, Colorado” Examination, Report, and Recommendations, 1904, folder 301C, LP Boundaries: Legislation, Examination, Report, and Recommendations-Proposed San Juan Forest Reserve, 1904, Rocky Mountain Regional Records Historical Files 1900-1892, RG 95, Regional Office of the National Archives, Denver, Colorado.

Regional Office of the National Archives, Denver, Colorado.


“Letter to District Forester” 30 July 1915. folder 78. San Juan National Forest. Rocky Mountain Regional Records Historical Files 1900-1892. RG 95. Regional Office of the National Archives, Denver, Colorado.


Manuscripts:

“Sullenberger Collection Container List” 2001. This document lists the holdings of the Sullenberger Collection. Sullenberger Collection, Western History Collection, Denver Public Library


Sullenberger, Robert. “San Juan Basin Pioneers: Lumberman - A.T. Sullenberger and Indian Post Trader - Emmet Wirt”. 1 October 1988. This document, written by the grandson of A.T. Sullenberger, gives a brief account of key figures in the Pagosa Lumber Company Box FF47. Sullenberger Collection, Western History Collection, Denver Public Library

Interviews:


Warr, August, interview by author, 14 June 2003, Pagosa Springs, Colorado.