

National Park Service
U.S. Department of the Interior



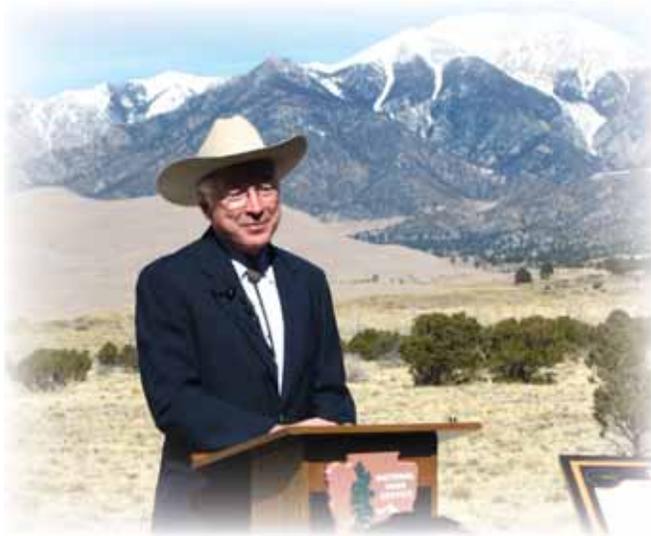
WORKING DRAFT

San Luis Valley and Central Sangre de Cristo Mountains

Reconnaissance Survey Report

December 2011

San Luis Valley and Central Sangre de Cristo Mountains Reconnaissance Survey Report



This reconnaissance survey report has been prepared at the request of Secretary of the Interior Ken Salazar for the purpose of identifying opportunities to preserve and interpret nationally significant American Latino heritage sites within the San Luis Valley and central Sangre de Cristo Mountains, as well as opportunities for conservation of the area's landscape, environment and natural resources.

Publication and transmittal of this report should not be considered an endorsement or commitment by the National Park Service to seek or support specific legislative authorization for the project or its implementation. This report was prepared by the U.S. Department of the Interior, National Park Service, Intermountain Regional Office.

Table of Contents

Executive Summary — 1

Introduction — 3

Background — 3

Purpose and Scope of the Reconnaissance Survey — 3

Survey Area Description — 4

Regional Context — 4

Land Ownership — 5

American Latino Heritage Resources Overview — 7

Introduction — 7

Mexican Land Grants and Latino Settlement — 8

Significant American Latino Heritage Resources — 18

Natural Resources Overview — 29

Introduction — 29

Geology — 29

Topology — 29

Hydrology — 30

Climate — 30

Ecoregions — 31

Vegetation — 33

Wildlife — 33

Assessment of Significant Natural Features — 33

Previous NPS Studies and Ongoing NPS Efforts — 51

Previous NPS Studies — 51

Ongoing NPS Efforts — 52

Recommendations for Conservation and Interpretation — 55

1. Recommend that Congress authorize a special resource study of American Latino sites within the San Luis Valley and central Sangre de Cristo Mountains, which would allow for a more complete evaluation of alternatives to protect these resources — 55
2. Recommend that Congress authorize an update to the Vermejo Park Ranch Special Resource Study — 56
3. Create a corridor of conservation easements on public and private lands — 57
4. Identify and develop state heritage tour routes — 57
5. Provide NPS technical assistance to state and local heritage sites — 57

Appendices — 59

Appendix A. The National Park System New Areas Study Act (1998) — 59

Appendix B. Nationally Significant Themes: History and Prehistory — 61

Appendix C. National Register of Historic Places and State Register Properties — 62

References — 69

Preparers — 73



San Francisco, Costilla County, Colorado - Photo Courtesy of Front Range Research Associates, Inc.

Executive Summary

The survey area, which includes a portion of the San Luis Valley of southern Colorado and northern New Mexico, as well as the central Sangre de Cristo Mountains, represents the northernmost expansion of the Spanish Colonial and Mexican frontier in the region. The establishment of Mexican land grants in the area, the impact of those land grants on settlement patterns, and the history and culture of the people associated with them are significant chapters in the history of the United States. The legacy of Latino settlement is still clearly evident within the area. The survey team identified a distinctive and exceptional concentration of historic resources associated with Latino settlement, including properties that reflect the massive size and scale of the land grants. Also here is Colorado's oldest documented town, only communal pasture, first water right, and oldest church. Many of these Latino historic resources, including the Trujillo Homesteads and La Vega and Associated Sites, are currently being studied as new National Historic Landmarks. Pike's Stockade already has been designated as a National Historic Landmark. Segments of the Old Spanish National Historic Trail and the Santa Fe National Historic Trail also pass through the survey area. This rich legacy,

however, includes more than historic sites, trails and structures. Centuries-old traditions including folklore, farming practices, religion, and art can still be found in this isolated and predominantly agricultural region, including the San Luis Valley of Colorado where a version of 17th century Spanish is still spoken by about 35 percent of the population.

The legacy of Mexican land grants, as well as the ruggedness of the Sangre de Cristo Mountain Range, also resulted in a natural landscape that remains largely unfragmented by subdivisions, development, and other changes in land ownership. As a result, the survey area includes vast tracts of land where wildlife can migrate between the high prairies of northern New Mexico and the high mountain valleys of central Colorado. There are few other places in the United States where such an open and unchanged landscape exists.

These findings led the survey team to conclude that resources and traditions existing within the survey area meet National Park Service criteria for national significance and possess exceptional value in illustrating and interpreting the theme of American Latino heritage. Latino resources and lifeways within the survey area

depict a distinctive and important chapter of American history that likely has the potential to fill a gap in the National Park Service Thematic Framework. Preservation of these important resources has the potential to ensure that the stories and places associated with American Latino heritage will be shared and protected for future generations.



Trujillo Homestead - Photo Courtesy of Front Range Research Associates, Inc.

The 1979 Special Resource Study of Vermejo Park Ranch determined that the ranch was a suitable addition to the National Park System. The 1979 study noted that the ranch was significant under several national themes including environmental conservation, recreation, American ways of life, the cattlemen’s empire, the mining frontier, western trails, law, and Native American history. Vermejo Park Ranch also offers an excellent opportunity to interpret the history of Mexican land grants in the region. The 1979 study needs to be updated with current and accurate information and the original findings validated. This study update should be authorized by Congress so that the full range of alternatives can be evaluated and meaningful civic engagement can take place.

As such, the survey team recommends five actions that could be taken – either individually or in combination – to conserve and interpret the nationally significant resources of the survey area. These are:

- 1. Recommend that Congress authorize a special resource study of American Latino sites within the San Luis Valley and central Sangre de Cristo Mountains, which would allow for a more complete evaluation of alternatives to protect these resources.**
- 2. Recommend that Congress authorize an update to the Vermejo Park Ranch Special Resource Study.**
- 3. Create a corridor of conservation easements on public and private lands.**
- 4. Identify and develop state heritage tour routes.**
- 5. Provide NPS technical assistance to state and local heritage sites.**



Elk in Great Sand Dunes National Park and Preserve

Introduction

Background

The San Luis Valley comprises a picturesque high alpine valley that stretches for nearly 122 miles, beginning along the Continental Divide in south central Colorado and extending southward into northern New Mexico to a point near Santa Fe. The valley is flanked on the east by the Sangre de Cristo Mountains, which form the southernmost range of the Rocky Mountains. A large portion of the mountains is publicly accessible and under conservation through various National Forest designations: the Rio Grande and San Isabel in Colorado, and the Carson and Santa Fe in New Mexico. These areas are popular for a variety of outdoor recreational pursuits: hunting, camping, hiking, backpacking, climbing, and cross-country as well as downhill skiing. The National Park Service (NPS), Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), and the U.S. Forest Service all have interests and landholdings in the area. One major segment of the Sangre de

Cristo Mountains, 60 miles in length, between Carson National Forest in northern New Mexico and San Isabel National Forest in southern Colorado, is currently under private ownership.

The region contains a mosaic of cultures stretching back over 11,000 years, including Native Americans, the descendants of Spanish and Mexican colonists, and Anglo-American settlers. Beginning in the late 16th century this region became Spain's and then Mexico's most northern frontier. To encourage settlement on this isolated northern edge of Mexico, in the 1840s the Mexican government awarded five large land grants comprising millions of acres along the present-day Colorado-New Mexico border. After the Treaty of Guadalupe Hidalgo, when Mexico ceded its northern frontier to the United States in 1848, two distinct societies were brought together and the San Luis Valley became a shared cultural and natural landscape where both Mexican/Spanish and American traditions and practices still endure.

Purpose and Scope of the Reconnaissance Survey

This reconnaissance survey report has been prepared at the request of Secretary of the Interior Ken Salazar for the purpose of identifying opportunities to preserve and interpret nationally significant American Latino heritage sites within the San Luis Valley and central Sangre de Cristo Mountains, as well as opportunities for conservation of the area's landscape, environment and natural resources. Although the National Park Service cannot initiate studies of potential new units of the National Park System without the specific authorization of Congress, Congress does permit the National Park Service to conduct preliminary resource assessments and gather data on potential study areas or sites. The term "reconnaissance survey report" has been used to describe this type of assessment (see Appendix A). Due to the scope and scale of this survey effort, the resource overview sections are based on information gathered through literature surveys and previous studies; no new on-site surveys were conducted and public outreach was limited.

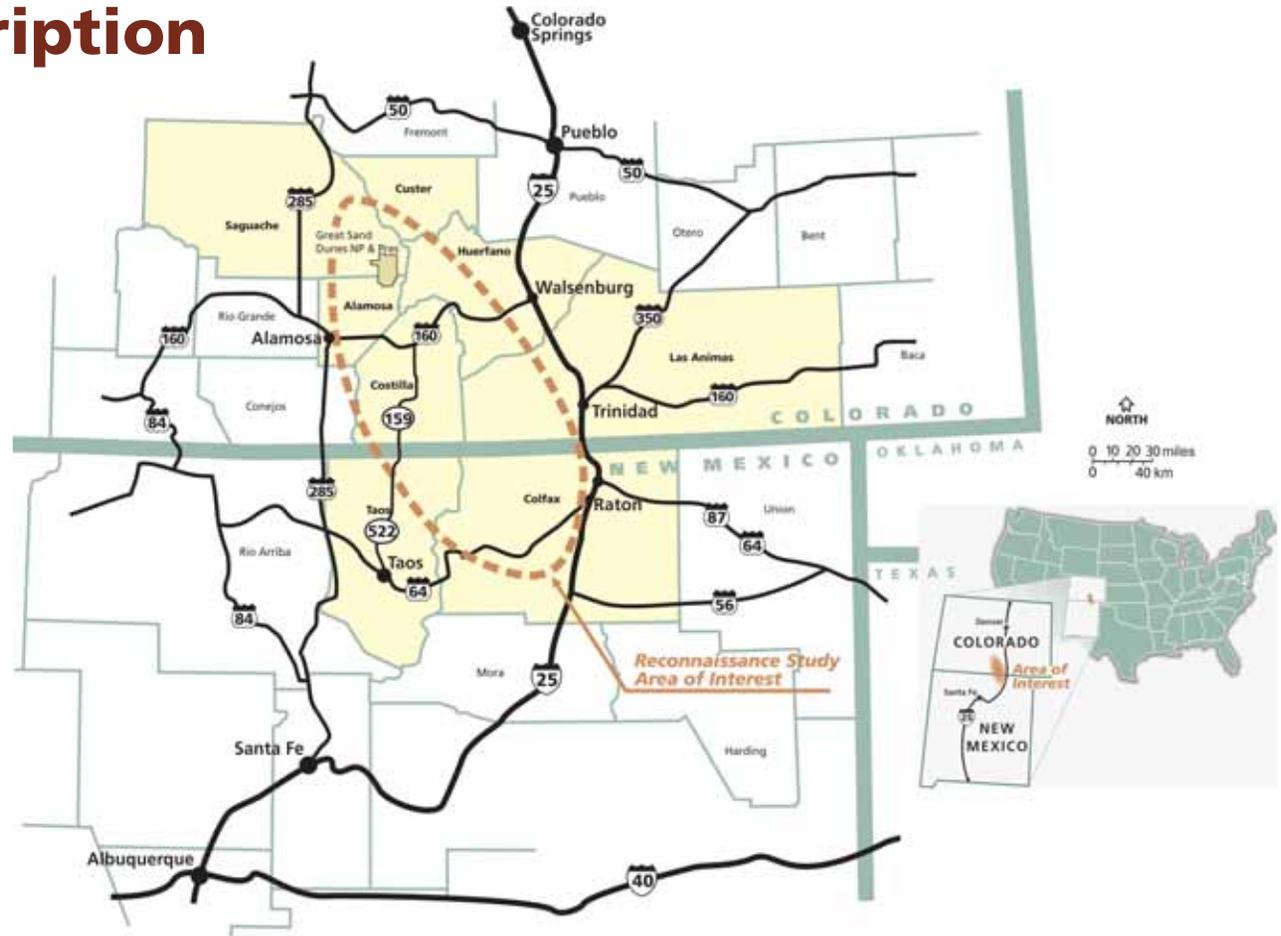
Survey Area Description

Regional Context

The reconnaissance survey area of interest includes over 3,264,000 acres (approximately 5,100 square miles) situated within the San Luis Valley and central Sangre de Cristo Mountains of south-central Colorado and northern New Mexico. The area includes parts of Saguache, Alamosa, Conejos, Costilla, Custer, Huerfano, and Las Animas counties in Colorado, and Taos and Colfax counties in New Mexico.

Interstate Highway 25 parallels the eastern flank of the central Sangre de Cristo Mountains. U.S. Highway 160 from Walsenburg, Colorado provides a western connection over La Veta Pass into the San Luis Valley from I-25. New Mexico Highway 522 and Colorado Highway 159 provide access into the eastern side of the San Luis Valley, while U.S. Highway 285 provides access to the south-central and western portions of the valley.

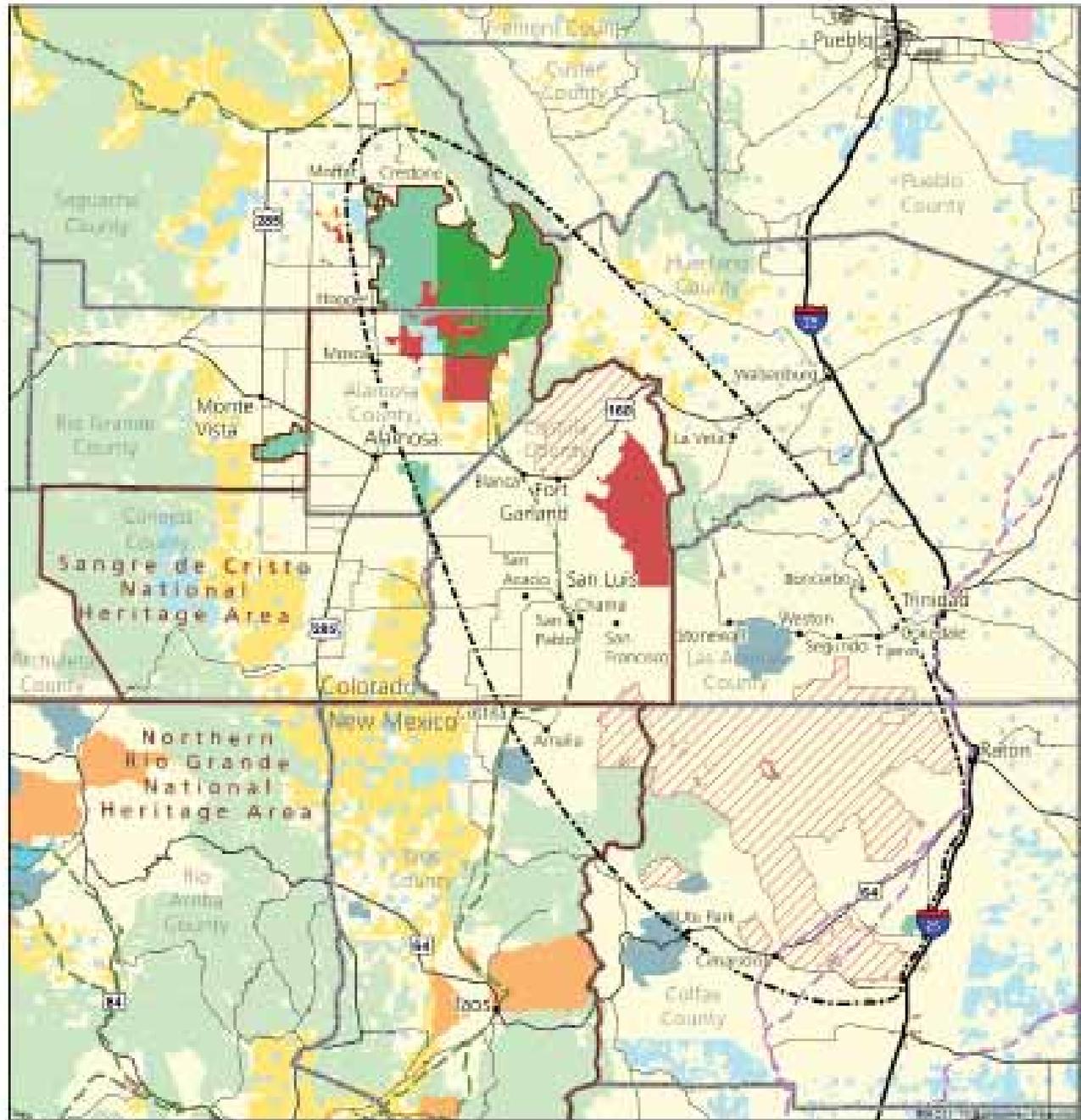
The survey area is approximately 220 miles from Denver, Colorado and 130 miles from Santa Fe, New Mexico.



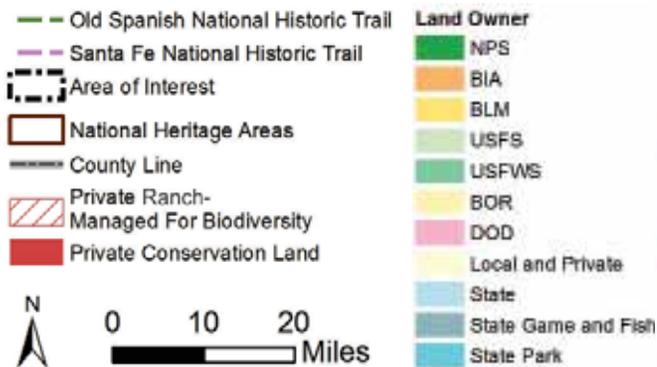
The Blanca Group taken from Colorado Highway 17 - Photo Courtesy of 14ers.com

Land Ownership

Most of the land within the survey area is in private ownership, primarily within large ranchland holdings. There are a number of small village areas, principally along the base of the Sangre de Cristo Mountains. The publicly owned areas include Carson National Forest, Maxwell National Wildlife Refuge, Bureau of Reclamation lands, and state game and fish lands in New Mexico; and Rio Grande National Forest, San Isabel National Forest, Great Sand Dunes National Park and Preserve, Baca National Wildlife Refuge, Alamosa National Wildlife Refuge, Bureau of Land Management, and state lands in Colorado.



Legend



Land Ownership

San Luis Valley and
Central Sangre de Cristo Mountains
Reconnaissance Survey Report



Gallegos Farm, Costilla County, Colorado - Photo Courtesy of Front Range Research Associates, Inc.

American Latino Heritage Resources Overview

Introduction

The San Luis Valley and Sangre de Cristo Mountains comprise an area rich with historic places, many of which are associated with America's Latino heritage. On the north, the survey area boundary is defined by Great Sand Dunes National Park and Preserve, which contains some of the oldest known archeological sites in America, dating back 11,000 years. On the south, extending into New Mexico, the survey area is anchored by the nearly 600,000-acre Vermejo Park Ranch, which a 1979 Federal study evaluated as a suitable addition to the National Park System. On the east, the survey area is bounded by the Sangre de Cristo Mountain range and its Front Range foothill communities. At the heart of the survey area is the San Luis Valley, home to Colorado's oldest documented town (San Luis), only communal pasture (La Vega), first water right (San Luis People's Ditch), and oldest church (Our Lady of Guadalupe). Covering much of the survey area is the Sangre de Cristo National Heritage Area, the heritage of which is diverse but especially rich in Hispano culture, folklore, religion and language, where 35 percent of today's residents still speak a version of Castilian Spanish used by the area's earliest settlers. Extensive Mexican land grants triggered initial Latino settlement, and



Great Sand Dunes National Park and Preserve

Latino cultural traditions and settlement patterns are still evident. The area reflects land patterns established by the area's pioneer settlers, including strips of narrow long lots (extensiones) that begin on a water source and extend, often for several miles, across various ecosystems, enabling owners to utilize a variety of landforms for different planting and agricultural purposes. Local residents also hold use rights to common areas for grazing, hunting and wood gathering. As noted in its enabling legislation, the Sangre de Cristo National Heritage Area is a "nationally



San Luis, Colorado

significant cradle of Hispano culture," where the language, art, architecture, religion, tradition, and folklore of Native Americans,



La Vega and the San Luis People's Ditch - Photo Courtesy of Front Range Research Associates, Inc.

early Spanish colonists, and Mexican settlers of the Southwest are alive and thriving.

Overall, the survey area represents the settlement and development of an area that once formed the borderlands of Mexico and the United States, and then became part of the American Southwest. When Mexico's northern frontier was taken over by the United States in 1848, it brought together two distinct societies that differed linguistically, politically, legally and culturally; portions of southern Colorado and northern New Mexico became a merged space that was both Mexican/Spanish in character and American in place. The massive size of Mexican land grants in the survey area, the impact of those land grants on settlement patterns, and the history and culture of the people associated with them are significant chapters in the history of the United States, and could provide excellent opportunities for the interpretation of several aspects of legal, political, economic, environmental, recreational and social themes of history.

Mexican Land Grants and Latino Settlement

Humans have lived in the San Luis Valley and Sangre de Cristo Mountains for at least 11,000 years. The earliest known inhabitants were nomadic hunters and gatherers of the Clovis Complex, who hunted now-extinct large animals such as the mammoth, as well

as camels and bison. A number of Folsom campsites, including the Stewart's Cattle Guard and Linger Folsom bison-kill site, have been found across the region. Later Paleo-Indian cultures visited the area some 8,000 years ago. A notable change in subsistence patterns, where people shifted to hunting present-day big-game species and smaller animals and gathering extensive plants, occurred from 7,500 to 1,500 years ago.

Between A.D. 1075 and A.D. 1225, people of the Upper Purgatoire Culture lived on the east side of the Sangre de Cristo Mountains, west of present-day Trinidad. Their lifestyle reflected influences from the Puebloan Southwest, as well as the Plains culture in the Oklahoma Panhandle. They lived in semi-sedentary settlements, hunting and gathering, as well as farming in floodplains. Their houses were made of stone, adobe or jacal (slim poles



Trujillo Homestead - Photo Courtesy of Front Range Research Associates, Inc.

set closely together and often covered with mud).

The Ute are the oldest continuous residents of the San Luis Valley and Sangre de Cristo Mountains, arriving as early as A.D. 1300. Originally nomadic, Ute bands traveled in small groups, living a hunting and gathering lifestyle. They called themselves the Nuche, or “The People.” The acquisition of the horse allowed the Ute to begin buffalo hunting on the eastern slope of the Rocky Mountains, and also provided easier escape from enemies as other Indian groups arrived in the valley. Beginning in about 1400, several Indian groups, including Apache, Arapaho, Cheyenne, Comanche, Kiowa, and Navajo, migrated to the San Luis Valley and other areas of the Southwest. At various times in the 1700s, Ute, Comanche and Apache occupied the area along the eastern flank of the Sangres; the Comanche continued to live in the upper Arkansas River area until the early 1800s and the Ute continued to use the upper Purgatoire River area until the early 1870s.

In 1694, when Spanish explorer Don Diego de Vargas entered what is now southern Colorado, he recorded the existing Spanish names of several of the area’s rivers, creeks and mountains, indicating that other

Spaniards had preceded him in the region.¹ Later explorers included Roque Madrid (1705), Juan Bautista de Anza (1779), Zebulon Pike (1807), and Jacob Fowler (1822). Prior to the conclusion of the Mexican-American War of 1846-48, most of the current American Southwest belonged to either Spain or – following the Mexican War of Independence, which ended in 1821 – to Mexico. However, from the 1820s into the 1840s, the Mexican government was unable to establish permanent settlements in its northern frontier territories because of resistance by the Ute and other indigenous inhabitants of the area, who retained control over most of the land along the border of present-day New Mexico and Colorado.²

In an effort to encourage settlement and economic development on this isolated northern edge of Mexico – as well as to protect its northern border from America and Texas (which was still an independent republic) – the Mexican government awarded tracts of real estate called “land grants” in its northern frontier areas, now part

¹ Thomas J. Noel, Paul F. Mahoney and Richard E. Stevens, *Historical Atlas of Colorado* (Norman: University of Oklahoma Press, 1994), Map (and caption) 8: “Spanish and French Explorers.”

² Beginning in 1836, the Republic of Texas also claimed the land in the survey area east of the Rio Grande River and south of the Arkansas River.

of the American Southwest.³ The grants, which were made to individuals, included requirements to recruit settlers and make tangible steps towards the development of the land. In the area of southern Colorado and northern New Mexico, most of these grants were exceptionally large and grossly exceeded the legal size limit according to Mexican law. In New Mexico alone, 295 grants were made by Spain and Mexico, while seven were made in present-day Colorado, five of which are in the study area.⁴ The study area includes the Luis Maria Baca No. 4 (100,000 acres), Sangre de Cristo (1 million acres), Beaubien-Miranda (Maxwell) (1.7 million), Conejos (2.5 million acres), and Vigil-St. Vrain (4 million acres) grants.⁵

In 1846, the United States declared war on Mexico; the conflict concluded in 1848 with the Treaty of Guadalupe Hidalgo, under which Mexico ceded a large area that included much of present southwestern United States in exchange for 15 million dollars. Under the terms of the agreement,

³ Though details varied, applicants for land grants typically had to agree to cultivate the land and attract settlers. Usually after four years of such development, the grants were finalized.

⁴ U.S. General Accounting Office, *Treaty of Guadalupe Hidalgo: Definition and List of Community Land Grants in New Mexico*. Report to Congressional Requestors, GAO-01-951 (Washington, D.C.: GAO, 2001), 3. The list for Colorado includes the Luis Maria Baca No. 4, which technically was granted by the US government as a result of land grant litigation.

⁵ Colorado State Archives Spanish-Mexican Land Grants website: <http://www.colorado.gov/dpa/doit/archives/mlg/mlg.html>. The later Luis Maria Baca No. 4 grant was 100,000 acres.

the United States also agreed to recognize and protect the property rights of Mexican citizens living in the ceded areas. The government launched into an extensive and complicated process to determine whether each property claim was legally valid. The procedure was fraught with difficulties; intense controversy accompanied the entire process and continues to this day.

It was not until after the Mexican-American War, with the establishment of a U.S. Army presence in the area – first through Fort Massachusetts and then Fort Garland – that permanent Latino settlements were established in southern Colorado.

American Latino Culture within the San Luis Valley and Central Sangre de Cristo Mountains

Many American Latinos within the survey area are descendants of Spanish Colonial settlers whose communities remained relatively isolated from outside contact, including the larger Mexican population. Some scholars, including geographer Richard Nostrand, use the term “Hispano” to refer to the specific culture and settlement patterns that reflect these centuries of Spanish heritage. Nostrand notes that these settlement patterns include “certain archaic Iberian cultural forms” that do not seem to exist elsewhere in the borderlands.⁶ Culturally

⁶ Richard L. Nostrand, *The Hispano Homeland* (Norman: University of Oklahoma Press, 1992), 7.



Our Lady of Guadalupe Church

distinct within the larger American Latino community, this culture is characterized by, among other things, a version of the Spanish language that preserves centuries-old words and expressions, distinctive surnames, unique folklore and music that has Spanish roots, a heavy use of dried chili pepper in cooking, and folk art that includes weaving and the creation of santos and bultos (carved and painted religious images). The distinctive imprints of these settlement patterns on the land include plazas (villages); long-lot agricultural fields (extensiones); adobe brick buildings; dome-shaped outdoor ovens (hornos); communal irrigation systems (acequias); and Roman Catholic village churches.⁷

⁷ Nostrand, *The Hispano Homeland*, 8-13; and Trujillo Homesteads National Historic Landmark nomination (draft) by Thomas H. and R. Laurie Simmons (Denver: Front Range Research Associates, Inc., September 26, 2011), 20-22.



Shrine, San Luis Valley - Photo Courtesy of Front Range Research Associates, Inc.

Within the survey area, this cultural imprint is most evident in the San Luis Valley. La Vega, which is adjacent to the town of San Luis, was established in 1851 as pasture land commonly held by all community residents and is still being utilized by descendants of the original settlers. Also here is the San Luis People’s Ditch, an 1852 acequia that is Colorado’s oldest water right. Common areas, such as La Sierra (located on the Cielo Vista Ranch), were established for grazing, hunting and wood gathering to be used by the entire community. In addition, La Sociedad de Nuestro Padre Jesus Nazareno (the Society of Our Father Jesus the Nazarene) – also known as the Penitente Brotherhood and

Los Hermanos Penitentes – has played a significant role in numerous communities in northern New Mexico and southern Colorado, and is an important representation of American Latino culture in the area. A lay religious society focused on penance and mutual aid, Los Hermanos Penitentes has a number of moradas (quarters) in the survey area where the Brotherhood continues to meet.

Nostrand writes that the “homeland” of this culture was originally centered in northern and central New Mexico but, in the mid-nineteenth century, following the conclusion of the Mexican-American War in 1848, expanded northward along the Rio Grande into Colorado, which represents its most northern extension. In Colorado, such settlements were established in the San Luis Valley and on the east side of the Sangre de Cristo Mountains in western Las Animas and Huerfano counties. Nostrand compares the migration of these settlements to “a fireworks display of shooting stars: each star that shot into space gave rise to several new stars, which in turn parented stars of their own, all headed in the same direction.” Santa Fe, Albuquerque, and Santa Cruz, New Mexico were the fountainheads, giving rise to Taos, Mora, and Abiquiú, which then gave rise to settlements in the San Luis Valley in Colorado, as well as to settlements

on the eastern side of the Sangre de Cristo Mountains.⁸

Mexican Land Grants within the Survey Area

Much of the survey area is located on Mexican land grants. The survey area and adjacent lands within the Sangre de Cristo and Northern Rio Grande National Heritage Areas include the Luis Maria Baca No. 4, Conejos, Sangre de Cristo, Beaubien-Miranda (Maxwell) and Vigil-St. Vrain land grants. The history of each of these land grants follows its own unique trajectory, and reflects varying degrees and patterns of Latino and American settlement. In some portions of the survey area, especially the southern San Luis Valley, particularly on lands associated with the Conejos and Sangre de Cristo land grants, Latino settlers brought traditional settlement patterns that had been established decades earlier and which took deep root, and the distinctive culture of those communities continues to this day. Other portions of the survey area, including the lands in the Baca No. 4, Vigil-St. Vrain and Beaubien-Miranda (Maxwell) grants, as well as portions of the Sangre de Cristo and Conejos grants, were ultimately acquired by American, Dutch and New Mexican elites, speculators and financiers. Some of these lands, as well as other parcels, later came under Federal

ownership, including the U.S. Forest Service and National Park Service.

Luis Maria Baca No. 4 Land Grant

The Luis Maria Baca No. 4 land grant can be considered both the oldest and the newest in Colorado. Petitioned for by Luis Maria Caveza de Baca, the land originally granted to Baca in 1821 was located in New Mexico, but due to conflicting claims on the same land, in the early 1860s the Baca heirs agreed to receive an equal amount of land in five parcels in three different states. The Colorado parcel – the Baca No. 4 – was then deeded to a lawyer to pay for legal fees; it was subsequently owned by two different Colorado governors and then mining investors and developers who extracted over \$50 million in gold.

Conejos Grant

Established in 1833, the Conejos grant also was one of the older land grants in Colorado. A portion of the Conejos grant – in the western San Luis Valley, near the Colorado-New Mexico border – was settled by Hispano immigrants from the lower Chama Valley, including Abiquiú and Ojo Caliente, New Mexico. Their plazas (villages) included Conejos, Mogote, Las Mesitas and Rincones. However, the U.S. government chose not to honor the claim of the grant, so the land grant was dissolved and the northern portion of the grant was settled via U.S. land laws.

⁸ Simmons and Simmons, Trujillo Homesteads National Historic Landmark nomination, 20-22; and Nostrand, 96.

Legend

-  Area of Interest
- Mexican Land Grants**
-  Beaubien - Miranda (Maxwell)
-  Conejos
-  Luis Maria Baca No. 4
-  Sangre de Cristo
-  Vigil - St. Vrain

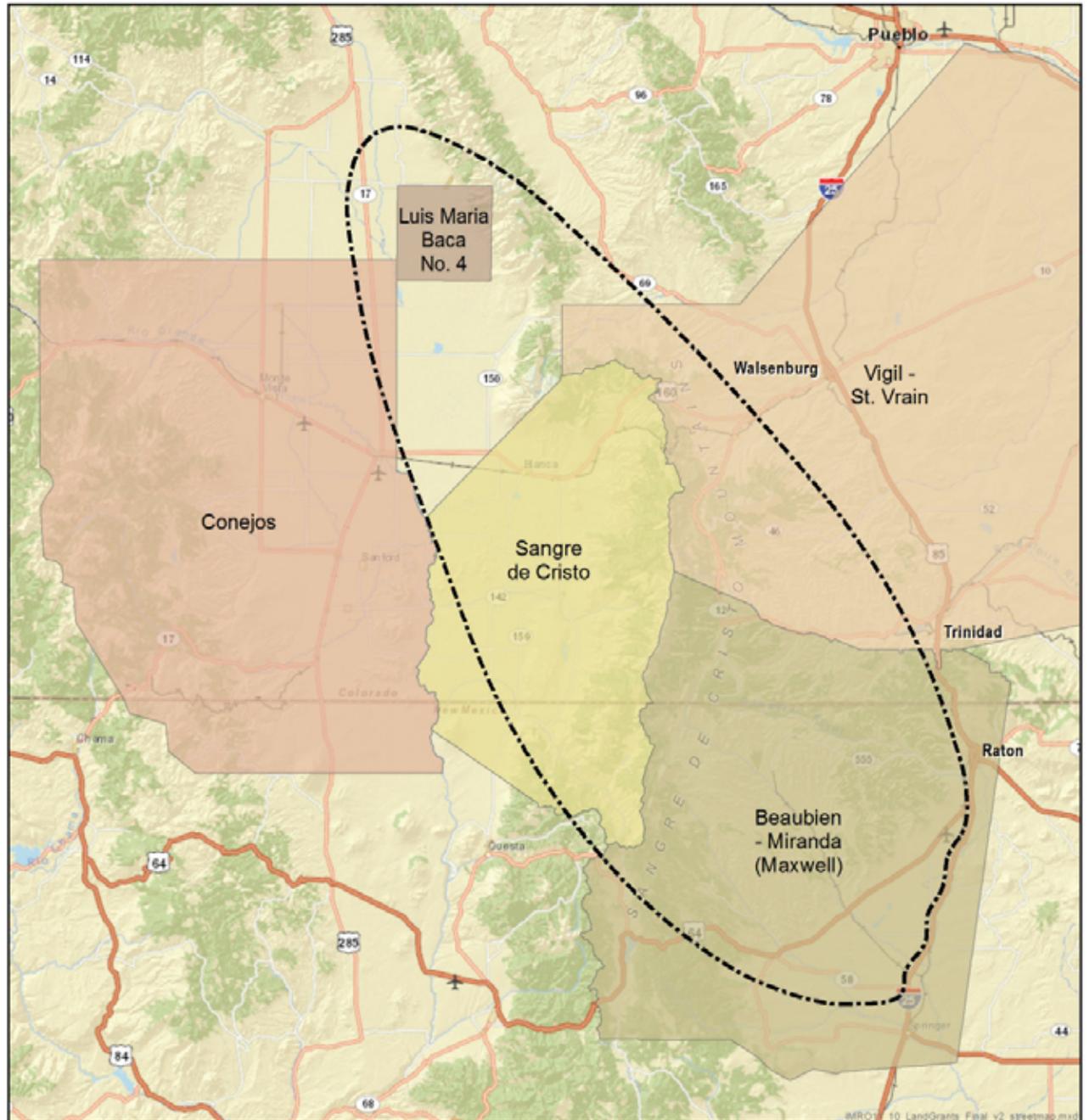


0 10 20 Miles

Mexican Land Grants

(within and adjacent to the survey area)

San Luis Valley and
Central Sangre de Cristo Mountains
Reconnaissance Survey Report



Nevertheless, the southern area of Conejos County continues to be occupied by descendants of the early Hispano settlers, and their language, religion, lifeways and values continue to prevail in this area.

Sangre de Cristo Grant

The Sangre de Cristo grant was established in 1843 by Stephen Luis Lee and Narciso Beaubien; following their deaths in the 1847 Taos Uprising, the grant was taken over by Carlos Beaubien (Narciso Beaubien's father). As in the case of the Conejos grant, Hispano settlers from the Taos, New Mexico area likewise immigrated to Carlos Beaubien's Sangre de Cristo grant after the Mexican-American War, settling in the eastern San Luis Valley in present-day Costilla County. Plazas established here included San Luis, Viejo San Acacio, San Pedro, San Pablo, San Francisco and Chama. In the 1860s the majority of the Sangre de Cristo land grant – other than the lands deeded to the Hispano settlers – was sold to investors. The grant was the focus of a landmark 1876 Supreme Court ruling that upheld its unusually large acreage.⁹ The ruling caused a furor that resulted in a complete revision of how the government processed Mexican land grant claims; it also prompted open conflicts between the newly established grant owners and settlers.

⁹ *Tameling v. United States Freehold & Emigration Co.*, 93 U.S. 644 (1876).

Eventually the Cielo Vista and Trinchera Ranches were located on this grant.

Vigil-St. Vrain Grant

In 1843, New Mexican Governor Manuel Armijo awarded the Vigil-St. Vrain grant (also known as the Las Animas grant) to Cornelio Vigil (Taos Justice of the Peace) and Ceran St. Vrain (partner of the Bent-St. Vrain fur-trading empire). With the record-setting 4 million acre grant, for a short while, Vigil and St. Vrain were two of the largest landholders in the history of the United States.¹⁰ The owners did little to attract settlers, as required by Mexican law, and those they did recruit were typically Anglos. Many of those who were Latino were employees of the Anglo settlers, or relatives of their Latino wives.¹¹ In addition, some Latino settlers moved to the western area of the grant, but this was settlement by individuals, not colonization in the manner usually implemented in Mexican grants.¹² In the 1860s, Latinos from northern New Mexico formed villages along the Purgatoire River, which included

¹⁰ "Spanish-American Land Grants: A Brief Introduction, Las Animas/Vigil & St. Vrain Grant," Colorado State Archives, <http://www.colorado.gov/dpa/doit/archives/mlg/mlg.html> (accessed September 15, 2011).

¹¹ Marianne L. Stoller, "Grants of Desperation, Lands of Speculation: Mexican period Land Grants in Colorado," in *Spanish & Mexican Land Grants in New Mexico and Colorado*, ed. John R. Van Ness and Christine Van Ness (Manhattan, KS: Sunflower University Press, 1980), 33, citing J. L. LeCompte, *Pueblo, Hardscrabble, Greenhorn* (Norman: University of Oklahoma Press, 1978), 98.

¹² Stoller, 85.

Madrid, Tijeras, Los Baros (Segundo), La Junta (Weston), and Vigil. Almost immediately after receiving the grant, Vigil and St. Vrain gave one-sixth interest each to several friends, including Charles Bent and Governor Armijo. St. Vrain continued bestowing gifts of land, and subsequent owners sold land to speculators, even after Congress reduced the grant from 4 million acres to about 96,000 acres in 1869. Land title chaos erupted; after decades of litigation, the U.S. Court of Private Land Claims confirmed the smaller acreage in 1900. In the early twentieth century, western Las Animas County and southwestern Huerfano County were developed as the southern Colorado coal field, primarily by Colorado Fuel and Iron, Co. (CF&I).

Beaubien-Miranda (Maxwell) Grant

Established in 1841, the Beaubien-Miranda (Maxwell) land grant – within which Vermejo Park Ranch is located – encompasses land in New Mexico and Colorado. Lucien Maxwell (Carlos Beaubien's son-in-law) acquired the Beaubien-Miranda grant in the 1860s. In the 1870s, Maxwell sold the grant to investors, and conflicts between the new (and subsequent) owners and the previous settlers – who were primarily farmers and miners, many of whom were Latinos – erupted and continued for decades. When the company that owned the Maxwell grant began evicting people who had been living on the grant lands, the situation turned especially violent,



Trujillo Homestead - Photo Courtesy of Front Range Research Associates, Inc.

continuing into the late 1880s, and became known as the Colfax County War. The violence ended only after the Supreme Court ruled that the title belonged to the Maxwell Land Grant Company, a Dutch group.¹³

The 1870s also marked a major shift in settlement, economy and transportation in the San Luis Valley. Homesteaders and ranchers, primarily from the Midwest, began to settle the northern San Luis Valley during this decade. This major shift in migration impacted the future development of the landscape and culture of the survey area. The settlement pattern of the Anglo settlers typically followed the square pattern found in surveyed townships, ranges and sections – very different from the long lot fields and

communal lands of the Hispano settlers. Around the same time, members of the Church of Jesus Christ of Latter-day Saints settled in towns in southern Conejos County. The Denver & Rio Grande Railroad arrived in the late 1870s, enabling the transfer of goods and materials to and from the valley, which prompted new economic activity in agriculture and mining, and created railroad towns.

Major Ranchlands within the Survey Area

The limited nature of this reconnaissance survey did not permit a full assessment of all of the major ranchlands within the survey area. However, there are three privately owned ranches that are among the largest contiguous tracts of land representing the massive size and scale of the land grants on Mexico's northern frontier. They also

represent significant chapters of Latino and Anglo settlement in the area.

Trinchera Ranch

The 171,400-acre Trinchera Ranch survives today as the largest contiguous remnant of the Sangre de Cristo land grant, which spanned over 1 million acres. In the 1860s, Carlos Beaubien – an owner of both the Sangre de Cristo and Beaubien-Miranda (Maxwell) grants – began selling some of his holdings. William Gilpin, Colorado's first territorial governor, purchased the mountain portion of the Sangre de Cristo grant. Although Beaubien died before the sale was complete, his heirs followed through on the transaction and sold 500,000 acres to Gilpin. In 1868, Gilpin and partners incorporated as the United States Freehold Land Association, which divided the property into the Trinchera

¹³ *U.S. vs. Maxwell Land Grant Company*, 121 U.S. 325 (1887).

Legend

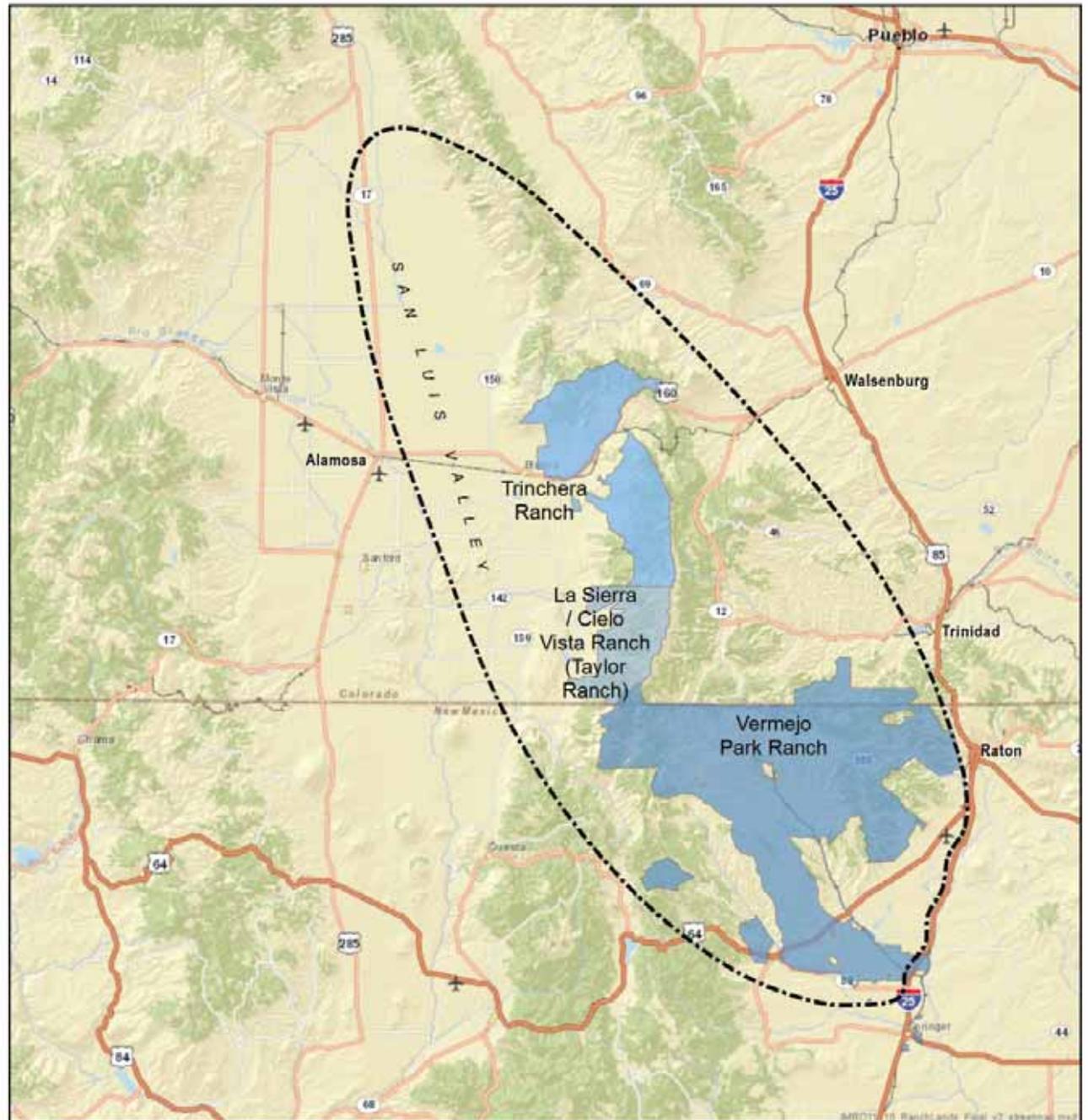
-  Area of Interest
- Major Ranch Leads**
-  La Sierra / Cielo Vista Ranch (Taylor Ranch)
-  Trinchera Ranch
-  Vermejo Park Ranch



Major Ranchlands

(within the survey area)

San Luis Valley and
Central Sangre de Cristo Mountains
Reconnaissance Survey Report



Estate at the north and the Costilla Estate (also known as La Sierra and, later, as the Taylor Ranch and the Cielo Vista Ranch) to the south. Gilpin also offered a portion of the grant to William Jackson Palmer, to incentivize him to build his Denver & Rio Grande Railroad into the San Luis Valley. In 1913, the Trinchera Estate, which came to be known as the Trinchera Ranch, was purchased by David Bryant Turner, a wealthy Denver industrialist.¹⁴

The Turner family used the Trinchera Ranch to farm, raise cattle and entertain friends. They built several buildings on the ranch to house family members and employees. Following the stock market crash of 1929, the ranch went into receivership and was purchased by lumber baron E.D. Wetmore of Warren, Pennsylvania. In 1938, Ruth Hanna McCormick Simms and her husband Albert Gallatin Simms bought the ranch. Ruth Hanna McCormick (whose first husband was Joseph Medill McCormick) was a noted leader in the women's suffrage movement, and a member of the U.S. House of Representatives from Illinois from 1929-1931. Albert Simms was a U.S. Representative

¹⁴ Ranch roots stretch back to days of million-acre grants of 1800s," *The Denver Post*, January 28, 2001; "Society People to Found a Summer Colony and Game Preserve," *The New York Times*, January 7, 1915; and *Poor's Manual of Industrials, Manufacturing, Mining and Miscellaneous Company*, Volume 7 (New York: Poor's Manual Company, 1916), 1711. *Poor's Manual* reports that D. Bryant Turner was president and treasurer of the Denver Rock Drill Manufacturing Company.

from New Mexico during that same time. The Simms family expanded the ranching operations to include sheep grazing; they also developed fish habitat. In 1950, the Simms family divided the property into two large ranches: the Blanca (on the north) and the Trinchera. They sold the Blanca portion, and retained ownership of the Trinchera portion. Media tycoon Malcolm Forbes purchased the Trinchera Ranch in 1969, then expanded his holdings in 1982 when he purchased the adjacent Blanca Ranch – renaming the whole property as the Forbes Trinchera Ranch. The Forbes family used the ranch as a conference center and hunting lodge, as well as for corporate entertaining and as an executive retreat.¹⁵ In 2004, the family donated a conservation easement on 80,000 acres of the ranch to Colorado Open Lands. In 2007, the Forbes family sold the 171,400-acre property to hedge-fund manager and noted conservationist Louis Moore Bacon.

La Sierra/Cielo Vista Ranch (Taylor Ranch)

La Sierra/Cielo Vista Ranch, which is 77,000 acres, is on the Costilla Estate portion of the historic Sangre de Cristo land grant. As noted above in the history of the Trinchera Ranch,

¹⁵ Forbes Trinchera Ranch, Deed of Conservation Easement, 2-3; "Ranch roots stretch back to days of million-acre grants of 1800s," *The Denver Post*, January 28, 2001; and "Ruth Hanna McCormick", Women in Congress website: <http://womenincongress.house.gov/member-profiles/profile.html?intID=163>

beginning in the 1860s, Carlos Beaubien began to sell off the Sangre de Cristo grant and William Gilpin purchased the mountain portion. Gilpin and his associates divided the property into the Trinchera Estate at the north and the Costilla Estate to the south. The Costilla Estate – also known as La Sierra, Taylor Ranch and, currently, Cielo Vista Ranch – straddled the Colorado-New Mexico border.

As part of the sale, Beaubien filed a document requiring Gilpin to fulfill promises made to the pobladores, the Hispano settlers on the grant. This included obligations to maintain the status quo of Mexican land grant traditions and customs, which allowed pobladores to use designated portions of the land grant in common with any future owner of the grant.¹⁶ This was particularly important for the Costilla Estate portion of the Sangre de Cristo land grant because it included La Sierra, common lands that had been provided through the Mexican land grant for the original settlers. Here, descendants of the original Hispano settlers exercised their traditional rights to access and use the land for a variety of traditional purposes.

In the 1960s, a subsequent owner of a large portion of the Costilla Estate – which

¹⁶ Maria Mondragón-Valdéz, *The Culebra River Villages of Costilla County, Colorado*, National Register Multiple Property Documentation Form (San Luis, Colorado: Valdez & Associates, 2000), 17.

then became known as the Taylor Ranch – denied access to these common lands, which triggered a protracted battle over the rights to these lands. In 1992, the Sangre de Cristo Land Grant Commission, which was appointed by Colorado Governor Roy Romer, recommended that the Taylor Ranch be acquired for public ownership and managed in a partnership between the local community and the State of Colorado. The report also recommended a management plan for the ranch, as well as conservation easements that would protect the land and ensure that the local community would have undisputed ownership over the historic use rights of local residents, including traditional wood gathering, timber management, livestock grazing, cow elk harvest, fishing, recreational uses, and educational opportunities.¹⁷ Finally, after several decades of lawsuits, a 2002 Colorado Supreme Court decision upheld the rights of the settlers’ descendants to use the privately owned land as common lands for grazing and gathering firewood and timber. The 77,000-acre Taylor Ranch is now called Cielo Vista Ranch by the current owners, and La Sierra by the descendants of the Hispano settlers.

Vermejo Park Ranch

Vermejo Park Ranch, which is nearly 600,000 acres, is located primarily in New Mexico, with its most northern portion extending into Colorado. The ranch is on lands within the Beaubien-Miranda (Maxwell) land grant, which was acquired by Lucien Maxwell in the 1860s. Maxwell lived there in a feudal manner with settlers – many of whom were Latinos – providing goods and services to him. Coal and gold were mined on the grant during Maxwell’s ownership.¹⁸ Conflicts

¹⁸ Ruins of the mining town of La Belle were extant in 1979. *Vermejo Ranch: Study of Management Options* (U.S. Department of the Interior, U.S. Department of Agricultural and State of New Mexico, July 1979), 116.

between subsequent owners and previous settlers resulted in the so-called Colfax County War. The 1887 Supreme Court ruling that title belonged to the Maxwell Land Grant Company quieted the violence.¹⁹

By the early twentieth century, Chicago businessman William H. Bartlett owned the portion of the Maxwell grant that includes Vermejo Park Ranch; he also owned a portion of the Sangre de Cristo grant that was in New Mexico.²⁰ Bartlett developed the estate as a cattle ranch, and lavishly entertained guests

¹⁹ *U.S. vs. Maxwell Land Grant Company*, 121 U.S. 325 (1887).
²⁰ Much of this paragraph taken from *Vermejo Ranch: Study of Management Options*, 103-104.



Bison Grazing on the Vermejo Park Ranch

¹⁷ Sangre de Cristo Land Grant Commission Report (1993: The Sangre de Cristo Land Grant Commission), 4-5.

from across the country. For the visitors he built numerous guest cottages, a stone lodge, and two large residences.²¹ Harrison Chandler of the Times Mirror Corporation purchased the Vermejo Park Ranch in 1926, and organized the Vermejo Club, whose members could relax in the natural seclusion of the ranch. Participants included celebrities and powerful businessmen such as Douglas Fairbanks, Mary Pickford, Cecil B. deMille, Andrew Mellon, and Harvey Firestone. In the 1940s Texas businessman W.J. Gourley purchased the land; he focused on improving hunting by reintroducing elk and bison, bringing in wild turkey, and improving fishing impoundments. He reopened the ranch as a fishing and hunting haven in the early 1950s. Upon Gourley's death, the Vermejo Park Corporation, a subsidiary of Penzoil, purchased the property in 1973 and held it for two decades. During that time, the ranch continued to be used for cattle and as a resort. In 1982, the company deeded over 96,000 acres, known today as the Valle Vidal, to the U.S. Forest Service. Currently, the Vermejo Park Ranch is owned by Ted Turner's Vermejo Park, LLC, which ceased cattle ranching and has been managing the natural resources to return them to the condition of pre-European

²¹ Both stone residences remain in excellent condition today. However, in 1991 a new rustic log lodge replaced the original structure, which was destroyed by fire. *Vermejo Ranch: Study of Management Options*, 103.

settlement. The company continues to open the property to guests.

At the time of a Federal 1979 study of the ranch as a potential new unit of the National Park System, Vermejo Park Ranch included the remains of the homes of the land grant's earliest Latino settlers. Other historic resources included two guest lodges that were constructed in 1907-1910, as well as a cabin built by silent movie star Mary Pickford. The ranch may include remnants of historic mining operations and irrigation projects, some of which may date to the Maxwell land grant era. The ranch also is likely to contain numerous prehistoric and historic archeological sites, including those associated

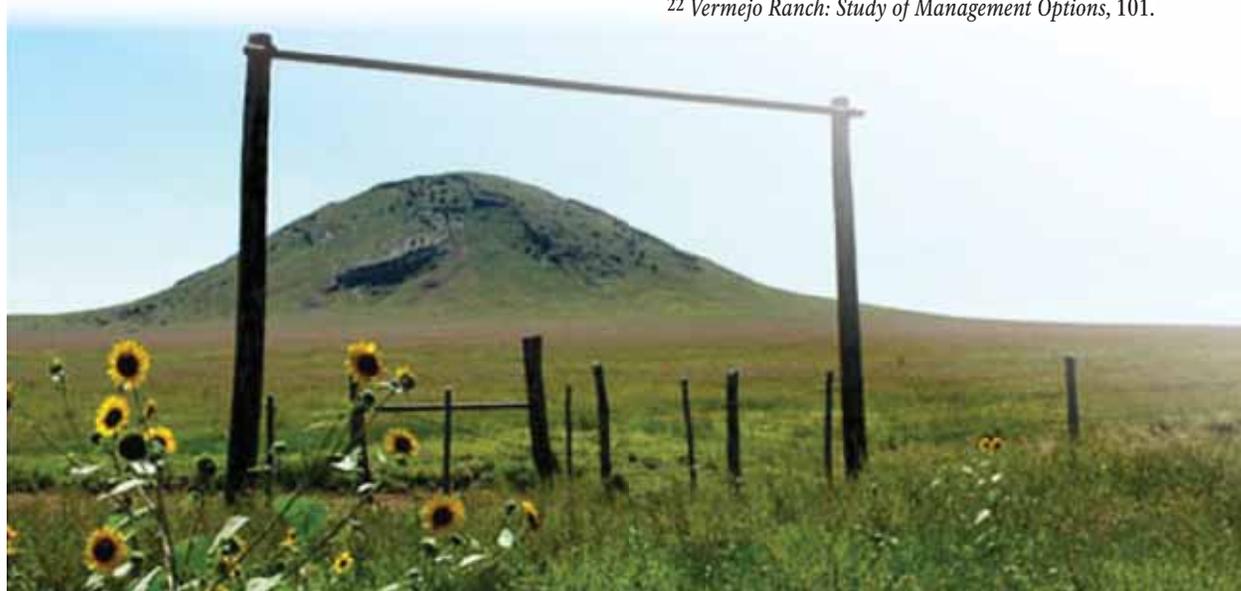
with the earliest Americans, native villages, and the contact period.²²

The southern portion of Vermejo Park Ranch is crossed by the Mountain Route of the Santa Fe National Historic Trail in the vicinity of Cimarron, New Mexico. Along the trail in New Mexico, at the edge of the ranch, is the Cimarron Historic District, which includes the site of Lucien Maxwell's headquarters and home, as well as an 1864 grist mill built for Maxwell.

Significant American Latino Heritage Resources

The survey area includes a number of resources associated with America's Latino

²² *Vermejo Ranch: Study of Management Options*, 101.



Santa Fe National Historic Trail

heritage, many of which already have been identified as nationally significant through previous Federal studies. Other sites are listed on the National Register of Historic Places, as well as the state registers of Colorado and New Mexico. The following resources within the survey area, as well as some sites on adjacent lands, are a representation of some of the cultural resources that reflect this history.

Santa Fe National Historic Trail
(trail sections within Colfax County, New Mexico)

Designated in 1987 and administered by the National Park Service, the 1,200-mile-long Santa Fe National Historic Trail, including the Mountain and Cimarron Routes, is significant in a number of historic contexts. From 1821 to 1846 it was an international trade route that fostered an exchange of goods – and cultures – among Latino, Indian and American people. Following the Mexican-American War, the trail played a critical role in the westward expansion of the United States and eventually developed into the first major transportation route between the eastern United States and the American Southwest. As the Mountain Route crosses from Colorado into New Mexico, it traverses Raton Pass National Historic Landmark and several other sites associated with the trail, many of which are listed on the National Register of Historic Places. Clifton House, for instance, was a

trading post, stage station, and popular stop on the Mountain Route, and Wootton Ranch was home to Richens Lacy Wootton, who owned and operated the Raton Pass toll road and who later sold the property to the Atchison, Topeka & Santa Fe Railway, which today follows the route of the old trail.

Old Spanish National Historic Trail
(trail sections within Alamosa and Costilla Counties, Colorado and Taos County, New Mexico)

Coming north from Santa Fe, a segment of the Old Spanish National Historic Trail passes through the San Luis Valley and Great Sand Dunes National Park and Preserve before turning west toward Utah and southern California. Designated in 2002 and managed jointly through a network of partnerships with the National Park Service and Bureau of Land Management, the trail was a commercial trade route first used in 1829 by Mexican trader Antonio Armijo, who carried blankets and serapes to trade in California for horses and mules. Over the next 20 years, Mexican and American traders continued to ply variants of the route that Armijo pioneered, frequently trading with Indians along the way. The branch through the San Luis Valley developed from Indian trails and later was used by explorers, trappers, and travelers. Between 1694 and 1825, at least five individuals or groups are known to have traversed part of the San Luis Valley: don



Old Spanish National Historic Trail

Diego de Vargas (1694), Roque Madrid (1705), Juan Bautista de Anza (1779), Zebulon Montgomery Pike (1807), and Jacob Fowler (1822). A campsite at the foot of Mosca Pass, near the Great Sand Dunes, was used by American explorer Pike. Today, the Old Spanish Trail crosses six states – Colorado, New Mexico, Utah, Nevada, Arizona, and California.

Pike's Stockade National Historic Landmark
(Conejos County, Colorado)

Pike's Stockade, near the town of Sanford, Colorado, was designated a National Historic Landmark in 1961 and represents early exploration of the trans-Mississippi West, as well as the collision of American and Spanish expansionist frontiers. Following the Louisiana Purchase of 1803, President Thomas Jefferson sent Meriwether Lewis and William Clark to explore the northern portion of the purchase. In 1806, Jefferson sent Zebulon Montgomery Pike on the second official expedition into the Louisiana Purchase, focusing on the southern portion.



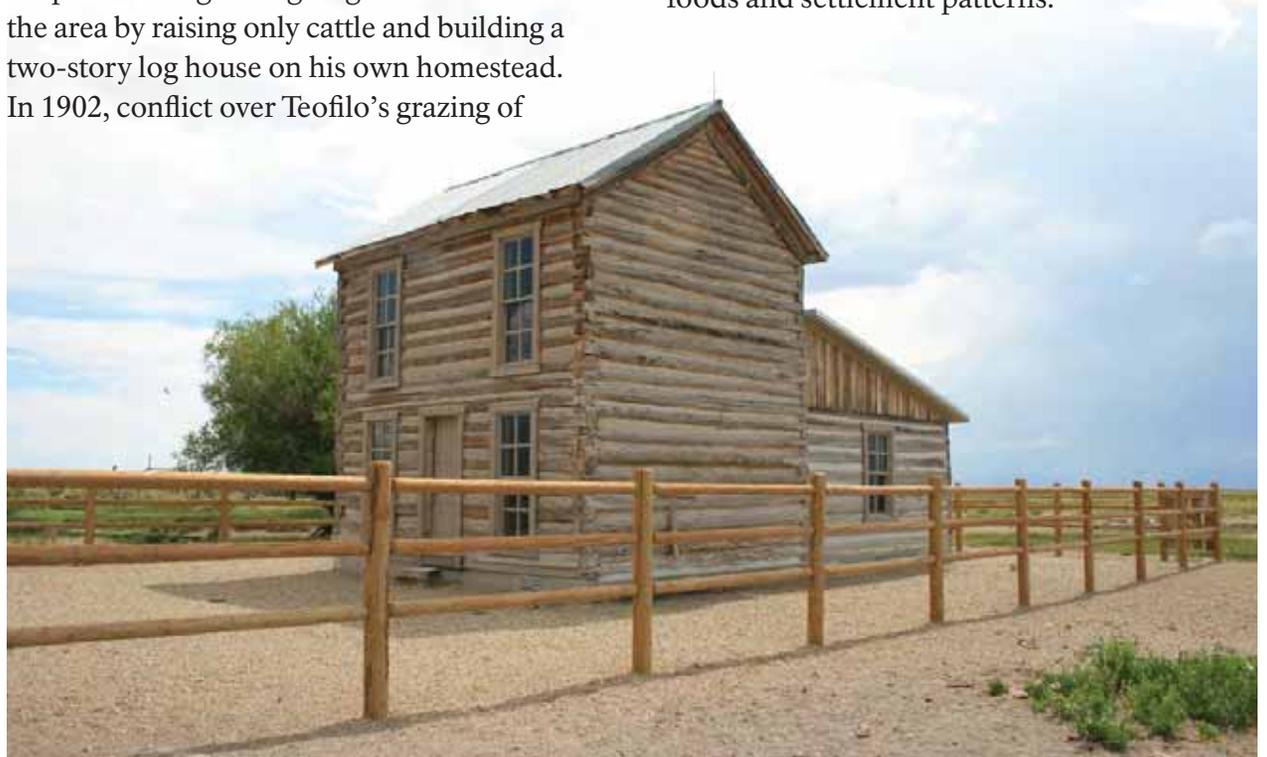
Pike's Stockade National Historic Landmark - Photo Courtesy of Fort Garland Museum & Pike's Stockade

Among Pike's goals was to find the Red River, which was then believed to be the boundary between America and Mexico. The expedition built a stockade at this site in 1807, and Pike raised the American flag over Spanish soil. Pike and his men were then taken into custody by Spanish forces. The location of Pike's Stockade was determined through descriptions of the terrain contained in Pike's journal and supplemented by accounts of settlers who attested to the former existence of surface remains. The site is on the north bank of the Conejos River, and includes a reconstruction of the fort that is based on notes in Pike's journal. The site is owned and interpreted by the State of Colorado as part of Fort Garland Museum & Pike's Stockade state historic site.

Trujillo Homesteads Potential National Historic Landmark (Alamosa County, Colorado)

In 1865, New Mexico native Teofilo Trujillo settled on an isolated site in Colorado's San Luis Valley. Over the next 40 years, Teofilo and his wife Andrellita, as well as their son Pedro and his wife Sofia, expanded their holdings to nearly 1,500 acres. Teofilo and Andrellita, who lived in an adobe home, eventually created one of the wealthiest ranch operations in the San Luis Valley, where they raised sheep and cattle. Pedro increasingly adapted to the growing Anglo dominance of the area by raising only cattle and building a two-story log house on his own homestead. In 1902, conflict over Teofilo's grazing of

sheep on the open range led to cattlemen killing a large number of his sheep and burning his home and ranch headquarters to the ground. Soon thereafter, both generations of Trujillos sold their homesteads and moved to other locations in the valley. The Trujillo Homesteads are an outstanding representation of the first wave of Latino settlement in the area. These first settlers came in a northward migration, analogous to the westward push from the East and Midwest, bringing traditional Latino agricultural methods, architecture, language, foods and settlement patterns.



Pedro Trujillo Homestead - Photo Courtesy of Front Range Research Associates, Inc.

The homesteads also reflect the conflict between cattlemen, primarily Anglos, and sheep raisers, primarily Latinos, over access and control of the open range. The homesteads are within the authorized boundary of Baca National Wildlife Reserve. In December 2011 the NPS Advisory Board recommended to the Secretary of the Interior that the properties be designated a National Historic Landmark.

La Vega and Associated Sites Potential National Historic Landmark (Costilla County, Colorado)

Beginning in the early 1850s, San Luis, which is the oldest documented, continuously occupied community in Colorado, and other nearby villages including San Pablo, San Pedro, San Acacio, San Francisco, and Chama, developed in the Culebra Creek watershed of the San Luis Valley. At the center of these



Gallegos Farm - Photo Courtesy of Front Range Research Associates, Inc.

settlements is La Vega, which was established in 1851 as pasture land commonly held by all the residents of the community, and which is still being utilized by descendants of the original settlers. Within and adjacent to La Vega is the San Luis People's Ditch,

an 1852 acequia recognized as Colorado's oldest water right; the headgate of the ditch diverts water from Culebra Creek in the southern part of La Vega. Also included are the Gallegos Farm, an extension that fronts a waterway and then extends outward for

National Historic Landmarks Program

National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, fewer than 2,500 historic places bear this national distinction. A National Historic Landmark -- which can be a building, site, structure, object, or district -- represents an outstanding aspect of American history and culture. It may be a place that is associated with a turning point in our Nation's history, the home of a nationally significant person, an exceptional building or engineering monument, or an archeological site that may yield new information about our past. Many of the most renowned historic properties in the Nation are National Historic Landmarks, including Mount Vernon, Pearl Harbor, the Apollo Mission Control Center, the Air Force Academy, the Empire State Building, and the Martin Luther King Birthplace.

The National Historic Landmarks Program, established in 1935, is administered by the National Park Service on behalf of the Secretary of the Interior. The National Historic Landmarks Program does not manage or own National Historic Landmarks. Landmarks are owned by both public and private entities; most are privately owned. The National Historic Landmarks Program works with preservation officials, property owners, and other partners interested in nominating a landmark. Completed applications are reviewed by the National Park System Advisory Board, which makes recommendations for designation to the Secretary of the Interior. If they wish, Landmark owners are provided with a bronze plaque to display at the Landmark. Plaques identify the name and Landmark status of the property and the date of designation.



Fort Garland

nearly five miles, and the Dario Gallegos home within the town of San Luis. Together, all of these resources form an outstanding representation of the expansion of Hispano settlement into a newly acquired region of the American frontier. The nomination will be reviewed by the Landmarks Committee of the National Park System Advisory Board in Spring 2012.

La Sierra (Costilla County, Colorado)

La Sierra – common lands associated with the Sangre de Cristo land grant – is an outstanding representation of traditional Hispano agricultural and settlement patterns in the survey area. La Sierra is part of the Sangre de Cristo land grant, which was established in 1842. In the 1860s, Carlos

Beaubien, who owned the grant, negotiated to sell a mountain portion of the land to William Gilpin, Colorado’s first territorial governor. Although Beaubien died before the sale was complete, his heirs followed through on the transaction and sold 500,000 acres to Gilpin. As part of the sale negotiations, Beaubien had filed a document requiring Gilpin to fulfill promises made to the pobladores, the Hispano settlers on the grant.

This included obligations to maintain the status quo of Mexican land grant traditions and customs, which allowed pobladores to use designated portions of the land grant in common with any future owner of the grant.²³ Among those designated lands was La Sierra, where descendants of the original Hispano settlers exercised traditional rights to access and use the land for a variety of purposes. In the 1960s, when a subsequent owner of La Sierra denied access to La Sierra, it triggered a protracted battle over the rights to these lands. Finally, after several decades of lawsuits, a 2002 Colorado Supreme Court decision upheld the rights of the settlers’ descendants to use the privately owned land as common lands for grazing and gathering firewood and timber. Although not listed on

the National Register of Historic Places, La Sierra is one of the most significant resources associated with Hispano culture within the survey area. La Sierra is located within Cielo Vista Ranch.

Fort Garland Museum (Costilla County, Colorado)

Established in 1858 to protect Latino and Anglo settlement in the area, Fort Garland (which is operated by the State of Colorado) has important associations with the settlement of the San Luis Valley. After the end of the Mexican-American War of 1846-48, it was the presence of the U.S. Army – which began with the establishment of Fort Massachusetts in 1852, replaced by Fort Garland six years later – that created a more secure environment where permanent settlements could be established in the San Luis Valley. Fort Garland also helped usher in the railroad era in southern Colorado. Fort Garland served as a base of military operations until it was abandoned in 1883. Company G of the Ninth Cavalry, a unit of African American soldiers (now popularly known as Buffalo Soldiers), operated out of the fort from 1876 to 1879. A state museum site, Fort Garland also interprets Pike’s Stockade, which is a National Historic Landmark.

²³ Mondragón-Valdéz, Culebra River Villages of Costilla County, 17.

Fort Massachusetts (Costilla County, Colorado)

Fort Massachusetts was the first military fort in the area. Established on June 22, 1852, on the west bank of Ute (Utah) Creek, the pine log stockade's primary function was to protect travelers and settlers in the San Luis Valley from Indian attack. When it became apparent that the swampy location was unsuitable, troops were removed to Fort Garland, a new adobe post that opened in 1858, six miles to the south. The remains of Fort Massachusetts, which are located on the Trinchera Ranch, have been the subject of recent archeological investigations.

Francisco Plaza (Huerfano County, Colorado)

Listed on the National Register of Historic Places and within the town of La Veta, Colorado, Francisco Plaza was founded by "Colonel" John M. Francisco in 1862. The plaza was constructed as two adobe buildings that formed a U-shape around a traditional open courtyard. The buildings originally had dirt floors and a dirt roof supported by vigas; later improvements included gabled roofs, wood flooring, and plastering of the walls. The site is now the Francisco Fort Museum.

Plaza de San Luis de la Culebra Historic District (Costilla County, Colorado)

Listed on the National Register of Historic Places, the town of San Luis, which was established in 1851, is the oldest continuously

inhabited town in Colorado. Originally known as Plaza de San Luis de la Culebra, the town contains an important collection of buildings including the county courthouse, the convent and Church of Most Precious Blood, the town's commercial core and numerous residences, including the home of Narciso Gallegos and Dario Gallegos. Dario Gallegos founded the first mercantile business in Colorado in 1857, which was originally known as the Gallegos Store and which later became the Salazar Store. The district also includes La Vega and the San Luis People's Ditch.

A contributing building within the Plaza de San Luis de la Culebra Historic District is the *San Luis Institute of Arts and Crafts Building*, which is now being restored by the Sangre de Cristo National Heritage Area and will be reopened as the Sangre de Cristo Heritage Center at Costilla County. The project is being undertaken in cooperation with the Costilla County Economic Development Council, with funding from the Colorado State Historical Fund. The San Luis Institute was built during the Great Depression by the Works Progress Administration (WPA) as a community center, and later served as a high school and museum/cultural center. The center's exhibits include: Cultura Constante (Constant



County Courthouse, San Luis, Colorado

Culture), a Penitente morada, displays of Colcha stitchery, Spanish Colonial santos, and the manuscript and art collection of Father Patrick Valdez. Future plans call for a research library, living history demonstrations, and partnerships with institutions of higher learning on the research, study and interpretation of the Hispano farm system, traditional arts and folklore. The center also plans to hold traditional festivals and art markets to interpret the Indo-Hispano culture of northern New Mexico and southern Colorado.²⁴

²⁴ Rick Manzanares, "A Rationale for Federal Recognition and Resources for the Sangre de Cristo Heritage Center of Costilla County," August 29, 2011.

**Sacred Heart Catholic Church
(Alamosa County, Colorado)**

Located in Alamosa, Colorado, and listed on the National Register of Historic Places, Sacred Heart was designed by architect Robert Willison and built between 1922 and 1928. The church has interior murals that were painted by local artist Josef Steinhage, who is recognized nationally for his artwork in Catholic churches. In terms of Latino heritage, the murals are noteworthy because they reflect Latino design elements and depict local members of the Latino community.



Mural on Interior of Sacred Heart Catholic Church

**Sociedad de Nuestro Padre Jesus Nazareno
(San Francisco Morada)
(Costilla County, Colorado)**

Listed on the Colorado State Register, this circa 1908 building represents an important aspect of Latino history in southern Colorado: the Penitente Brotherhood, also known as Los Hermanos Penitentes. The lay religious, fraternal organization constructed and continues to use the building as a chapel and meeting hall. Los Hermanos Penitentes played an instrumental and influential role



Sociedad de Nuestro Padre Jesus Nazareno – San Francisco Morada

in the settlement of northern New Mexico and southern Colorado. The organization held religious observations involving penance and mutual aid – and exerted a powerful and positive influence in the preservation of Spanish language, lore, customs, and faith in the American Southwest. The building, which is in San Pablo, Colorado, also reflects the limited religious and governmental support in rural areas of predominately Latino populations and the aid societies that formed as a result.

**La Sociedad Proteccion Mutua de
Trabajadores Unidos (SPMDTU) Concilio
Superior (Conejos County, Colorado)**

Located in Antonito, Colorado, and listed on the National Register of Historic Places, this building has served as the headquarters for La Sociedad Proteccion Mutua de Trabajadores Unidos since 1925. Founded

by seven residents of Antonito in 1907, La Sociedad is an excellent representative of the mutual aid society, or mutualista, movement in the Southwest. These organizations offered a form of self-help and self-defense to the Latino community – providing mutual aid and insurance, fraternal association, protection

of rights and privileges, and cultural, social, patriotic and recreational activities. Mutualistas date to the 1850s in Mexico; from there, they spread into Texas in the 1870s, and then proliferated across the southwestern United States and then into the Midwest.



La Sociedad Proteccion Mutua De Trabajadores Unidos

La Capilla De San Antonio De Padua (Conejos County, Colorado)

Listed on the Colorado State Register, this adobe chapel was built in 1928 and encompasses a wall of the original 1880 church at this site. It reflects the importance of churches as centers and symbols of southern Colorado Latino communities. It is also the only remaining public building representing the village of Lasasauses.

San Rafael Presbyterian Church (Conejos County, Colorado)

Located in Mogote and listed on the Colorado State Register, this circa 1895 church, which was expanded in 1911, is one of the oldest extant adobe churches in Conejos County. The church represents the inroads made by the Presbyterian Church into Latino southern Colorado, which was predominately Catholic, and is the only remaining Spanish-speaking Presbyterian church in Conejos County.

Historic Resources Associated with Lucien Maxwell (Colfax County, New Mexico) Maxwell-Abreu House (Rayado Ranch Headquarters)

(Cimarron vicinity) – After the death of his son Narciso in 1847, Carlos Beaubien transferred management of the massive Beaubien-Miranda (Maxwell) land grant to his son-in-law Lucien B. Maxwell. Shortly thereafter, Maxwell constructed a large frame home and several outbuildings along

American Latino Heritage Resources Listed on State and/or National Registers of Historic Places

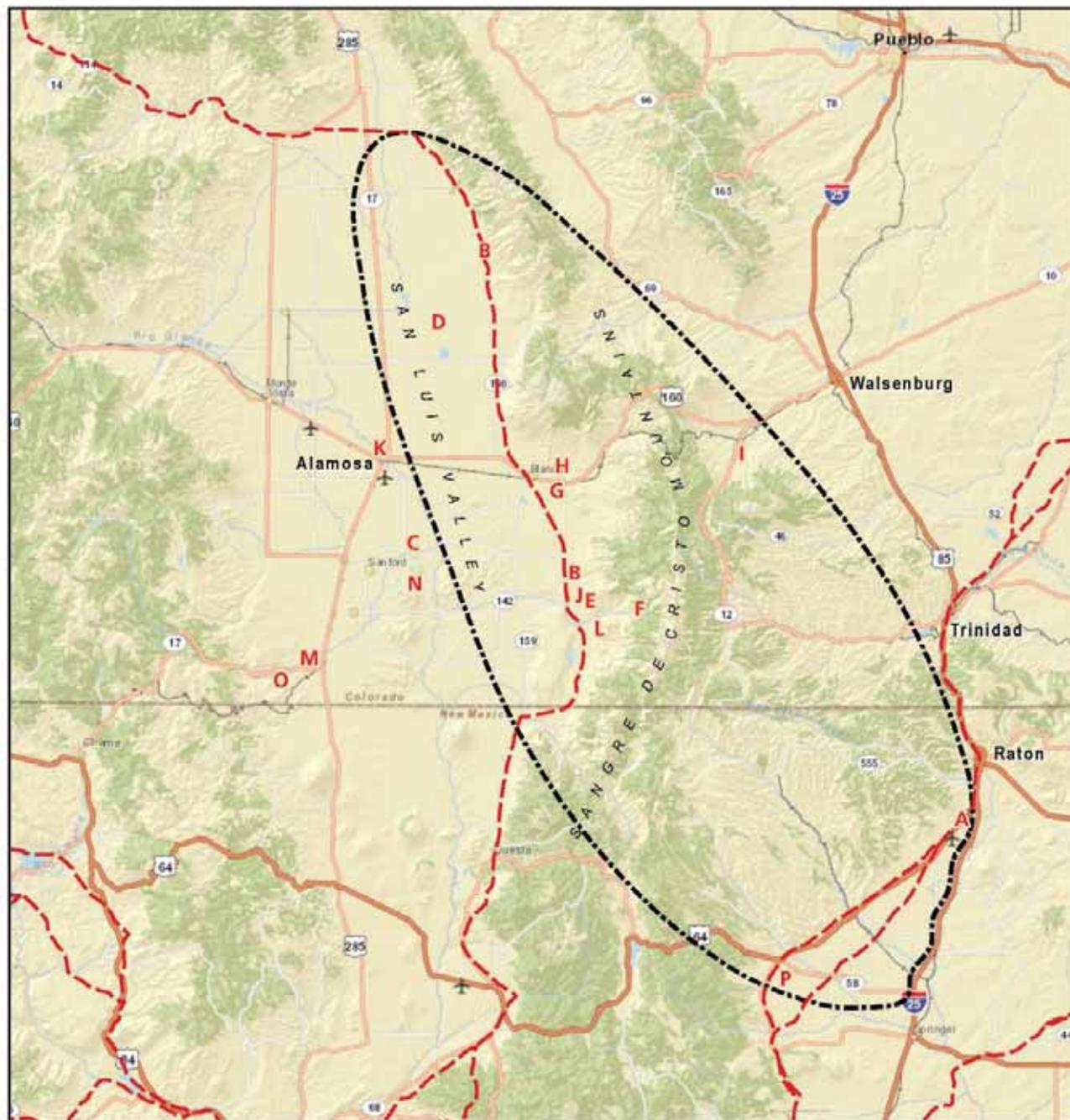
- A. Santa Fe National Historic Trail
- B. Old Spanish National Historic Trail
- C. Pike's Stockade National Historic Landmark
- D. Trujillo Homesteads Potential NHL
- E. La Vega and Associated Sites Potential NHL
- F. La Sierra
- G. Fort Garland Museum
- H. Fort Massachusetts
- I. Francisco Plaza
- J. Plaza de San Luis de la Culebra Historic District
- K. Sacred Heart Catholic Church
- L. Sociedad de Nuestro Padre Jesus Nazareno (San Francisco Morada)
- M. La Sociedad Proteccion Mutua de Trabajadores Unidos (SPMDTU) Concilio Superior
- N. La Capilla de San Antonio de Padua
- O. San Rafael Presbyterian Church
- P. Historic Resources Associated with Lucien Maxwell



American Latino Heritage Resources Listed on State and/or National Registers of Historic Places

(within and adjacent to the survey area)

San Luis Valley and Central Sangre de Cristo Mountains Reconnaissance Survey Report



Rayado Creek, located about 11 miles south of Cimarron, New Mexico. The location provided a dependable source of water, and its location along the Santa Fe Trail guaranteed a steady supply of goods and trade. Construction of Maxwell's home began in 1850, and the existing house includes elements of the original building. In the late 1850s, Maxwell moved to the town of Cimarron and the house became the possession of Jesus Abreu. The Maxwell-Abreu house is listed on the National Register of Historic Places, as part of the Maxwell-Abreu and North (Martinez) Houses property.

Cimarron Historic District

(Cimarron) – The Cimarron Historic District includes the site of the house that Lucien Maxwell built after he moved from the Rayado Creek property (Maxwell-Abreu House) in the late 1850s. The home is no longer standing, but the historic district, which is listed on the National Register of Historic Places, includes the building site as well as the graves of Maxwell's mother-in-law and daughter. Also in the historic district is the three-story Aztec Mill, which was built by Maxwell in 1864 as a grist mill. The grist mill was assured immediate success when Maxwell was awarded a government contract to provide flour to the nearby Jicarilla Apache Indian Reservation. The district is located



Aztec Mill, Cimarron Historic District

along the Santa Fe National Historic Trail in New Mexico, at the edge of Vermejo Park Ranch.

Other Historic Resources

Other historic churches in the survey area include the *Mission of San Acacio* (1857-1868) in Viejo San Acacio, Colorado; *San Isidro Church* (1894) in Los Fuertes,

Colorado, and *Saints Peter and Paul* (San Pedro y San Pablo) Catholic Church (1942) in San Pablo, Colorado. Saints Peter and Paul Church was built in 1942 to replace an earlier church.²⁵ These churches are part of a Sacred Circle Mission Churches Tour in Costilla County, which includes six other churches in the area.²⁶ Also representing the area's religious heritage is the Stations of the Cross Shrine in Costilla County. The stations, which are depicted in a series of bronze sculptures by San Luis artist Huberto Maestas, are located along a three-quarter mile trail that climbs a mesa above the town of San Luis.

Another historic site is the *Montoya Ranch*, also known as *Fort Talpa*, in Farisita, Huerfano County, Colorado, which was part of the Vigil-St. Vrain land grant. The State Review Board of the Colorado Historical Society recently recommended that the Montoya Ranch be approved for listing on the National Register of Historic Places. The site, which is in the upper Huerfano valley, includes a fortified adobe building – Fort Talpa – that was reportedly built by Latino settlers for defensive purposes against attack from Native Americans. In 1887, Victor

²⁵ Memorandum from Thomas H. Simmons and R. Laurie Simmons to Christine Whitacre, National Park Service, RE: San Luis NHL Reconnaissance Survey Results and District Recommendations, October 14, 2010, 3-4.

²⁶ The Sacred Circle Tour brochure at <http://www.sanluispreservation.com/2007/10/sacred-circle-2.html>

Montoya obtained a patent for the land and raised sheep on the property until 1910.²⁷

The Sangre de Cristo National Heritage Area also includes several *Centennial Farms* associated with the area's Latino history. In Costilla County, Colorado, these include the *Gallegos Ranch*, *Rio Culebra Ranch*, *A. Prax Ortega Farm*, and the *Los Antencios Farm*. The Gallegos Ranch (also known as the Gallegos Farm) is part of the proposed La Vega and Associated Sites National Historic Landmark. In Conejos County, Colorado, the *Maestas-Valdez Farm* near Capulin, the *Salazar Farm and Ranch* near Manassa, and the *Gonzales Farm* near La Jara also are Centennial Farms. In order to be designated as a Centennial Farm, a property must have remained in the same family ownership for 100 years and be a working farm.²⁸

The survey area undoubtedly includes additional landscape and building resources that reflect the area's Latino heritage, and further research is likely to result in more resources being nominated to the National Register of Historic Places.

²⁷ Vicky Bunsen Doucette and Dana EchoHawk, Montoya Ranch National Register of Historic Places Registration Form (review board draft) (Colorado: Manitou Springs, presented to the State Review Board, Colorado Historical Society, 2011).

²⁸ Simmons and Simmons, Trujillo Homesteads National Historic Landmark nomination, 49.

The Culebra River Villages of Costilla County, Colorado Multiple Property Submission form, which identifies settlement patterns and property types associated with Latino heritage, provides a framework for such efforts.²⁹

²⁹ Mondragón-Valdéz, The Culebra River Villages of Costilla County, Colorado, *passim*.



Hiker at Summit of Mt. Herard

Natural Resources Overview

Introduction

The Sangre de Cristo Mountains are geologically young, rugged and steep. The mountains start in the highlands of central Colorado at Poncha Pass and trend southerly into north central New Mexico. The range is often noted as the longest straightest and tallest range in North America. Here, ancient glaciers have made their mark, carving deep valleys and creating a geological showcase of the Southern Rockies. The Rio Grande Rift created the range by displacing terrain over millions of years. The ruggedness of the terrain and steep slopes has served to keep the area remote and limit the number of major roadway crossings. Only US highways 285 and 160 cross this range in Colorado. The rugged landscape also has served to restrict land use changes such as subdivisions.

The Sangre de Cristo range occupies the southern end of the Rocky Mountains and demarcates the boundary of the Great Plains and the high semi deserts of northern New Mexico. The San Luis Valley, the largest alpine valley in North America, rests along the mountain range's western flank. The mountains and adjacent valleys represent a large and uniquely intact natural landscape. Research has shown that the area maintains

an impressive variety of ecosystems along an elevational gradient. Elevations range from 5,900 feet to 14,345 feet, with ecosystems ranging from near desert and prairie to high alpine. More than 90% of the study area remains in natural vegetation, providing essential wildlife habitat and dispersal corridors, as well as allowing the operation of natural processes at landscape scales. To date, this sparsely populated area has experienced few major impacts, and the overall ecosystem health of the area is good.

The area supports numerous high-quality occurrences of rare plants, animals, and native plant communities that exist within a largely undisturbed natural setting. The range offers extremely important habitat and migration routes for a wide variety of wildlife species. In times of climate change, this ecosystem may provide one of the last open critical migration routes from the high deserts of New Mexico to the high mountain valleys in central Colorado.

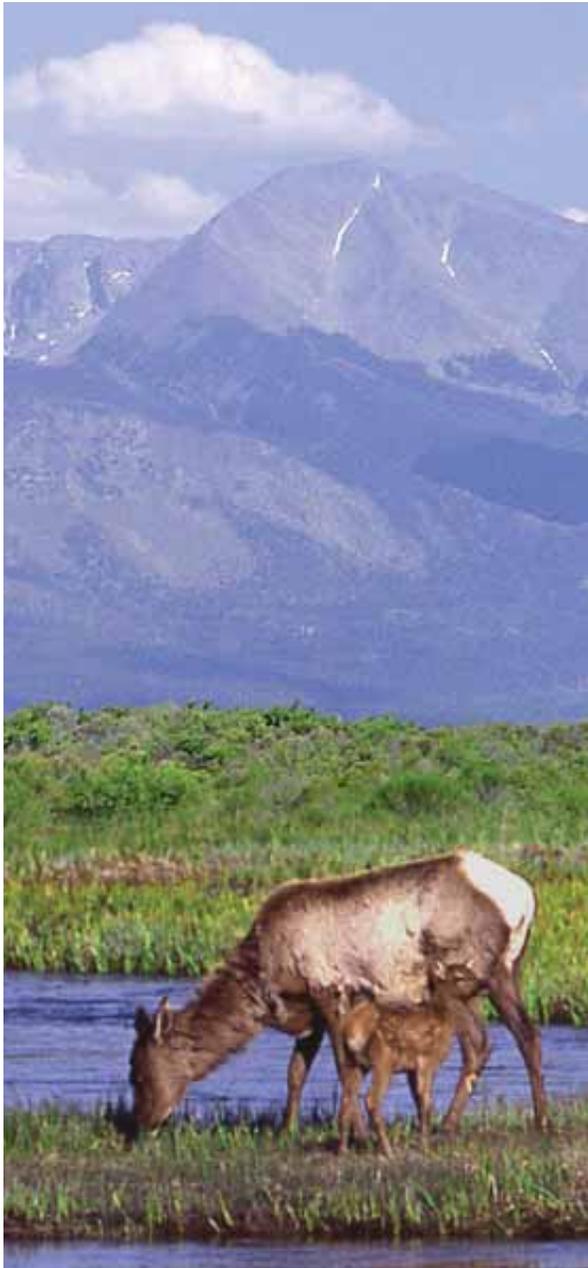
Geology

The survey area is bisected by the complexly deformed Precambrian and Paleozoic strata forming the core of the Sangre de Cristo Range (Bolyard 1960). Here the Sangre de Cristo Fault separates the rugged mountain

block from the broad, flat valley floor of the San Luis Valley to the west, which is primarily covered with Quaternary alluvium and aeolian deposits. South of Blanca Peak, expanses of upper Tertiary sedimentary rocks occur at the mountain front. To the east, the broad erosional surface of the Park Plateau and adjacent foothills is formed in lower Tertiary sedimentary rocks that give way to Cretaceous shaley substrates to the east and southeast. Volcanic intrusives of primarily Tertiary age are present in the Spanish Peaks, and northwards in the vicinity of Sheep Mountain and Mount Maestas. The Latir Volcanic Field borders the Sangres to the southwest.

Topology

Elevations in the area range from 5,900 feet (1,798 m) along Dry Arroyo east of Cimarron, to 14,345 ft. (4,372 m) at the summit of Blanca Peak. In the northern portion of the area the Sangre de Cristo Mountains form a steep eastern rampart above the alluvial fans, sand dunes and sand sheet, and drainages of the San Luis Valley. South of the prominent massif of Blanca Peak, the Sangre de Cristo range begins to trend more directly south, along the boundary between Costilla and Las Animas counties. To the west, Culebra



Cow Elk and Calf at Indian Springs, Great Sand Dunes National Park and Preserve

and Costilla creeks drain toward the San Luis hills on the floor of the valley, while to the east the dramatic summits of the Spanish Peaks overlook the adjacent foothills. Further south, the southern Sangre de Cristos are called the Culebra Range, and form the western boundary of the Park Plateau, which dominates the southern end of the survey area and includes the headwaters of the Purgatoire and Vermejo rivers

Hydrology

The survey area is primarily drained by tributaries of the Arkansas River, with the exception of streams of the closed basin in the northern portion of the San Luis Valley. To the west of the Sangres, streams flow into the Rio Grande River system, while the eastern flank of the mountains includes the Huerfano, Purgatoire, Canadian, and Cimarron River drainages.

Climate

The survey area has a continental climate characterized by dry air, sunny days, clear nights, variable precipitation, moderate evaporation, and large diurnal temperature changes. Annual precipitation is highly correlated with elevation, and is greatest at the highest elevations of the Sangre de Cristo range and the Spanish Peaks, decreasing with lower elevations to both the east and west. Mountainous areas receive most of

their precipitation as winter and spring snowfall, while precipitation patterns at lower elevations are dominated by summer and monsoonal moisture events. La Veta Pass averages 21.6 in. of precipitation annually, with an average annual snowfall of 12.5 ft. The floor of the San Luis Valley is the driest part of the area, with annual precipitation for the period of record averaging 8.56 at Blanca, Colorado (WRCC 2011). Areas at intermediate elevations, such as Vermejo Park, receive annual precipitation of 12-16 in., and much less snowfall than that of higher areas. Temperatures follow a similar elevational pattern, with generally cooler temperatures with increasing elevation. Lower and intermediate elevations typically experience summer temperatures with lows in the 40's to highs in the 70s and 80s, with an extreme high of 101 F recorded at Cimarron in 1939. Winters bring highs in the upper 30s and lower 40s, and lows in the single digits, although temperatures as low as -35 F have been recorded at Cimarron in 1905 (WRCC 2011).

Ecoregions

In the center of southern Colorado and northern New Mexico, the Rio Grande Rift passes through the San Luis Valley. Here, the southeastern “corner” of the Southern Rocky Mountain ecoregion meets the adjacent boundary between the Central and Southern Shortgrass Prairie ecoregions (as defined by TNC 2001, modified from Bailey 1995). This area represents a transition from the grasslands of the Great Plains through foothill and montane forested habitats of the Southern Rockies. The Southern Rocky Mountain ecoregion includes the north-south trending mountain ranges with their intervening valleys and parks from southern Wyoming to northern New Mexico, and, in Colorado, more westerly mountain ranges and high plateaus. The major ecological zones are alpine, subalpine, upper montane, lower montane and foothill (Neely et al. 2001). The survey area is primarily part of the Southern Rocky Mountain ecoregion, but also include a small portion of the Southern Shortgrass Prairie ecoregion.

Ecoregions

San Luis Valley and
Central Sangre de Cristo Mountains
Reconnaissance Survey Report

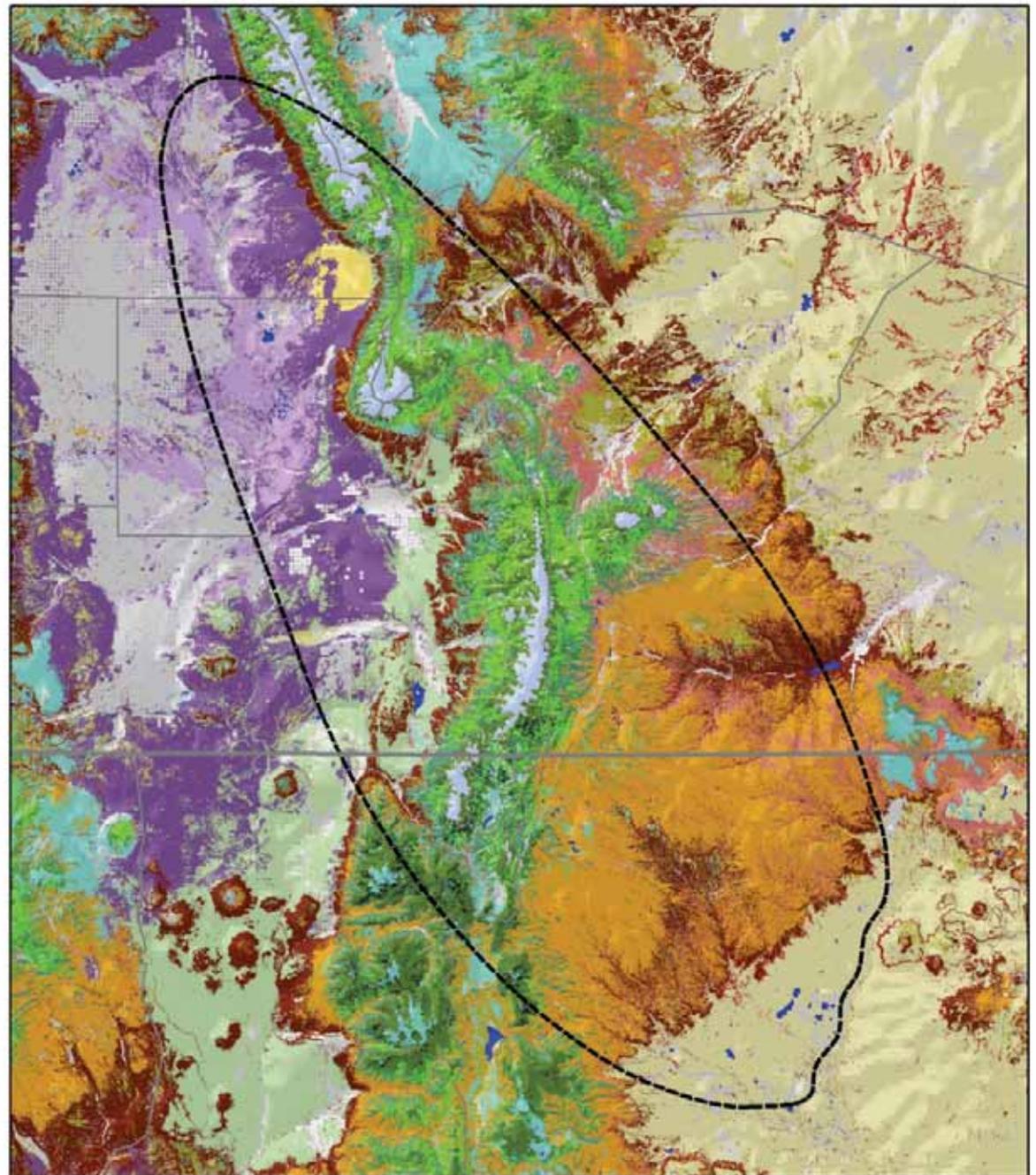


Vegetation type

- Active and Stabilized Dune
- Gambel Oak-Mixed Montane Shrubland
- Sagebrush Shrubland & Steppe
- Semi-Desert Shrub Steppe
- Greasewood Flat
- Semi-Desert Grassland
- Foothill and Piedmont Grassland
- Shortgrass Prairie
- Aspen Forest and Woodland
- Mixed Conifer Forest and Woodland
- Ponderosa Pine Woodland
- Spruce-Fir Forest and Woodland
- Juniper Woodland and Savanna
- Pinyon-Juniper Woodland
- Alpine habitats
- Montane-Subalpine Grassland
- Open Water
- Agriculture, other



Area of Interest 0 5 10 20 Miles



Major Vegetation Types

San Luis Valley and
Central Sangre de Cristo Mountains
Reconnaissance Survey Report

Vegetation

The survey area includes nearly the entire range of ecosystem types that characterize the Southern Rocky Mountain ecoregion, as well as a selection of types from the adjacent Southern Shortgrass Prairie ecoregion. The northwestern portion on the floor of the San Luis Valley is dominated by the shrublands and sparsely vegetated types of the Intermountain Basins. The area is bisected by ridge of the Sangre de Cristo Mountains, which supports narrow bands of shrubland, woodland, and forest types with increasing elevation, and including alpine and barren rock habitats at the highest elevations. The southeastern end of the area is dominated by an extensive matrix of montane woodland types, overlooking the grassy mesas and valleys above the Cimarron River to the south.

Wildlife

The survey area contains a variety of wildlife species that are more fully discussed under each ecosystem type listed in the elements of biodiversity section that follows.

Assessment of Significant Natural Features

Methodology

Information about the natural features of the survey area was compiled from a variety of sources, including the Southern Rocky Mountain Ecoregional Assessment (Neely et al. 2001), Colorado Natural Heritage Program BIOTICS database (CNHP 2011),

NatureServe Explorer (NatureServe 2011), and other sources as cited herein. The identity and extent of ecosystem types was evaluated by using an extract of the Landfire existing vegetation type (2008 refresh) dataset for the Southern Rocky Mountain ecoregion. Rare species of interest were initially identified by comparison with species lists for the six sites in Neely et al. (2001) that substantially

Table 1. Explanation of Natural Heritage Rankings

Rank	Description
G1	Critically Imperiled —At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2	Imperiled —At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
G3	Vulnerable —At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
G4	Apparently Secure —Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5	Secure —Common; widespread and abundant.
GNR	Unranked —Conservation status not yet assessed.
GU	Unrankable —Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
G#G#	Range Rank —A numeric range rank (e.g., G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).
?	Inexact Numeric Rank —Denotes inexact numeric rank
Q	Questionable taxonomy that may reduce conservation priority —Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank.
T#	Infraspecific Taxon (trinomial) —The status of infraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above

overlap the survey area. Site names are: Culebra Range, GRSA/San Luis Lks, La Veta Pass Link, Sangre de Cristo Mtns, SLV Greasewood, and Vermejo Park/Upper Purgatoire. Species names from this source were checked against currently available information from state natural heritage programs, the NatureServe database, and a recent floristic inventory of the area (Legler 2010), and corrections made accordingly. Plant associations documented from the Colorado portion of the area (CNHP 2011) are also reported; New Mexico Natural Heritage does not track plant associations.

Elements of Biodiversity Tracked and Ranked by State Natural Heritage Programs

Plants, animals and ecological communities are tracked by state Natural Heritage Programs for a variety of reasons, and these data are continually being revised to reflect current knowledge. Some species may be locally common but restricted to a very small geographic area. Other species may be more widely distributed, but uncommon within their range. Additional species are tracked because they are at the edge of their range in a particular state, although they may be quite common elsewhere. Additionally, plants, animals, and natural communities may be considered rare because not enough is known about their distribution. Some

Table 2. Major Ecosystem Types In The Survey Area

Ecosystem Name	Approximate Acreage
<i>Rocky Mountain Ponderosa Pine Woodland</i>	684,000
<i>Inter-Mountain Basins Semi-Desert Shrub Steppe</i>	304,000
<i>Southern Rocky Mountain Pinyon-Juniper Woodland</i>	303,000
<i>Rocky Mountain Montane Mixed Conifer Forest and Woodland</i>	242,000
<i>Rocky Mountain Gambel Oak-Mixed Montane Shrubland</i>	214,000
<i>Western Great Plains Shortgrass Prairie</i>	199,000
<i>Inter-Mountain Basins Greasewood Flat</i>	172,000
<i>Inter-Mountain Basins Big Sagebrush Shrubland</i>	162,000
<i>Rocky Mountain Subalpine Spruce-Fir Forest and Woodland</i>	154,000
<i>Rocky Mountain Aspen Forest and Woodland</i>	120,000
<i>Southern Rocky Mountain Montane-Subalpine Grassland</i>	93,000

states track all plant communities, both rare and common, while other states do not track these elements.

Recognizing that rare and imperiled species are more likely to become extinct than common species, the Natural Heritage Methodology ranks species according to their rarity or degree of imperilment. The ranking system is scientifically based upon the number of known locations of the species as well as its biology and known threats. Natural heritage ranks are applied to a species or natural community element as an estimate of its overall conservation status. For species these ranks provide an estimate of extinction risk, while for ecological communities and

systems they provide an estimate of the risk of elimination. Global ranks and rank modifiers (shown below, and used in this document) reflect the status of the element throughout its entire range. State ranks (not used herein) are used to indicate the status of an element within a particular state.

Elements of Biodiversity: Ecosystems

The survey area supports sizeable examples of over two dozen ecological system types. The most important types, represented by at least 90,000 acres, are shown in Table 2. and described below.



Rocky Mountain Juniper - NPS Photo, Patrick Myers



Rubber Rabbitbrush - NPS Photo, Patrick Myers



Indian Ricegrass

Rocky Mountain Ponderosa Pine Woodland

This is the most common ecosystem type in the survey area and, together with adjacent mixed conifer forest stands, forms extensive tracts of wooded habitat. The ponderosa pine ecological system is widespread throughout the western United States in warm, dry, exposed sites at certain elevations. In the Southern Rocky Mountain ecoregion these matrix-forming woodlands occur at the lower treeline transition between grassland or shrubland and the more mesic coniferous forests above. These woodlands are especially prevalent along the mountain front, and on the southern flank of the San Juan Mountains. Elevations in the survey area are primarily between about 6,500 and 9,000 feet.

Fire is the most significant ecological process in maintaining this system; frequent, low-intensity ground fires are typical. Healthy ponderosa pine forests often consist of open and park-like stands of mature trees, with an understory of predominantly fire-tolerant grasses and forbs. Older trees drop their lower branches as they age, which protects them from ground fires, usually only younger trees are killed. In stands where the natural fire regime still occurs, shrubs, understory trees and downed logs are uncommon. A century of human development and fire suppression has resulted in a higher density of ponderosa pine trees in many areas. When

fires are not allowed to burn, young trees continue to grow, and places that were once open savannas and woodlands become dense forests. The increased density of trees allows fires to reach the forest canopy, and these rapidly spreading fires can burn very large areas.

Ponderosa forests and woodlands provide habitat for a number of mammal species such as mule deer, mountain lion, porcupine, and Abert's squirrel. Characteristic bird species include the pine siskin, mountain chickadee, pygmy nuthatch, band-tailed pigeon, and chipping sparrow. The most notable species of concern in Colorado's ponderosa pine ecological system is the federally threatened Pawnee montane skipper butterfly. This species occurs only in ponderosa pine systems with an understory of blue grama grass (the skipper's host plant). The Mexican Spotted Owl is at the northern end of its range in these woodlands in south central Colorado.

Inter-Mountain Basins Semi-Desert Shrub Steppe

The term steppe generally refers to a treeless, grassy plain. In the survey area, these semi-arid shrubby grasslands are found between 7,500 and 8,000 feet in elevation, on windswept mesas, valley floors, gentle slopes, or shoulders of ridges. Stands of this ecosystem type in the San Luis Valley

are part of the largest such occurrence in Colorado. These shrub-steppes are grass dominated areas with an open shrub layer. Typical grass species include blue grama, needle-and-thread, galleta, saltgrass, Indian rice grass, and alkali sacaton. Historically, the shrub layer was dominated by winterfat, but this species has decreased under pressure from domestic livestock grazing in many areas, and been replaced by rabbitbrush species and other woody shrubs. The general aspect of occurrences may be either open shrubland with patchy grasses or patchy open herbaceous layer. Pinyon-juniper woodlands and sagebrush shrublands commonly are adjacent to this system at the upper elevations.

These shrub-steppes provide habitat for many shrubland birds and small mammals. Typical species include the sage thrasher, vesper sparrow, Gunnison's prairie dog, Ord's kangaroo rat, and northern grasshopper mouse. In the San Luis Valley, rare local subspecies of the silky pocket mouse and northern pocket gopher, as well as the rare plant species Weber's cryptantha and James's cryptantha, are found in these habitats.

Southern Rocky Mountain Pinyon-Juniper Woodland

The Southern Rocky Mountain Pinyon-Juniper ecological system is similar to the pinyon-juniper system that characterizes



Mountain Lion in Stand of Quaking Aspen

the canyons and plateaus of much of the Colorado Plateau to the west, but with a more restricted distribution in south central Colorado and northern New Mexico. In the survey area, these are open woodlands of warm, dry sites on mountain slopes, mesas, plateaus, and ridges. Pinyon pine and/or one-seed juniper dominate the tree layer, and Rocky Mountain juniper may be present at higher elevations. Elevations range from

about 6,000 to 9,000 feet. Understory layers are variable and may be dominated by shrubs, grasses, sparse vegetation, or bare ground.

Pinyon-juniper woodlands are influenced by climate, grazing, fires, tree harvest, and insect-pathogen outbreaks. Since the late 1800s, distribution and density of pinyon and juniper and the accompanying native understory have been significantly altered by changing fire frequency, grazing patterns, and climate cycles. In many places, these two tree species, especially juniper, have encroached on adjacent shrublands and grasslands, changing the habitats available to wildlife, as well as the forage available to domestic cattle. In this system, fire acts to open



Mountain Bluebird

stands, increase diversity and productivity in understory species, and create a mosaic of stands of different sizes and ages across the landscape while maintaining the boundary between woodlands and adjacent shrubs or grasslands.

These woodlands are used by many common mammal species, including several bat species, desert and Nuttall's cottontails, Mexican woodrats, rock squirrels, pinyon and deer mice, gray foxes, mule deer, and mountain lions. Bird species include the pinyon jay, western scrub jay, and turkey, as well as the less common black-throated gray warbler. A number of reptiles are characteristic, including the prairie lizard. The common hog-nosed skunk reaches the northern edge of its distribution in this system in southern Colorado.

Rocky Mountain Montane Mixed Conifer Forest and Woodland

Mixed conifer woodlands are common and widespread in the survey area, where, together with ponderosa pine woodlands they form the extensive matrix woodland community of the area. These are mixed-conifer forests occurring on all aspects at elevations ranging from 7,200 to 10,500 feet. Douglas-fir and white fir are the most common dominant trees, but as many as seven different conifer species may be present. Natural fire processes in this system

are probably highly variable in both return interval and severity. Douglas-fir stands are characteristic of drier sites, often with ponderosa pine. More mesic stands are found in cool ravines and on north-facing slopes, and are likely to be dominated by white fir with blue spruce or quaking aspen stands.

Fire in these cool, moist stands is infrequent, and the understory may be quite diverse.

A number of common and rarer bird species may be found in these forests, including the white-crowned sparrow, mountain bluebird, Clark's nutcracker, Williamson's sapsucker, and red-naped sapsucker.



Mount Blanca - Photo Courtesy of 14ers.com



Gambel Oak in Fall Color

Rocky Mountain Gambel Oak-Mixed Montane Shrubland

These are montane shrublands generally occurring at elevations from approximately 7,000 to 9,000 feet, in the survey area where they are often situated above pinyon-juniper woodlands. Gambel oak is typically dominant, but very often mixed with other montane shrubs such as serviceberry, mountain mahogany, antelope bitterbrush, big sagebrush, chokecherry, and snowberry. This ecological system intergrades with the foothills shrubland system and shares many of the same site characteristics. In the Southern Rocky Mountain ecoregion, oak and mixed mountain shrublands are most common on

the western slope of the continental divide, where they form extensive bands on the lower mountain slopes, plateaus, and dry foothills. In the survey area these shrublands are characteristic of the eastern mountain front in the vicinity of the Spanish Peaks and the drainages of the Purgatoire and Vermejo Rivers. These shrublands may form dense thickets, or occur as open shrublands with an herbaceous understory. Although this is a shrub-dominated system, some trees may be present. Fire typically plays an important role in this system, causing shrub die-back in some areas, promoting stump sprouting of the shrubs in other areas, and controlling the invasion of trees into the shrubland system.

As with foothills shrublands, there are few common or rare species exclusively associated with oak-mixed mountain shrublands. A variety of small mammals, including squirrels and woodrats, and birds such as rufous-sided towhee, green-tailed towhee, and Virginia's warbler use these habitats. Larger mammals such as mule deer, black bear, and mountain lion may take advantage of the cover and food sources offered by thick shrublands.

Western Great Plains Shortgrass Prairie

In the survey area, these grasslands are found primarily on the mesas and valleys below the Park Plateau. These grasslands, characterized by blue grama, buffalo grass, and other short to mid-height species, once covered



Trujillo Homestead - Photo Courtesy of Front Range Research Associates, Inc.

most of Colorado and New Mexico east of the mountain front, at elevations below 6,000 feet. Today, nearly 50% of our historic shortgrass prairie has been converted to agriculture or other uses. In the early 1800s the shortgrass prairie was home to massive herds of free-ranging bison and pronghorn, as well as huge prairie dog colonies, deer and elk, and top predators including gray wolves and grizzly bears. Today, the most conspicuous animals on the prairie are domestic cattle. Pronghorn and prairie dogs still inhabit these prairies in reduced numbers, and the former top predators have been replaced by coyotes. Large-scale ecological processes such as climate, fire,

and grazing by large animals exert strong influences in this ecosystem. Consequently, the short grasses that dominate this ecosystem are have evolved to be extremely tolerant of drought and grazing.

A number of animal species of concern are associated with the shortgrass prairie. Grassland bird species may constitute one of the fastest declining vertebrate populations in North America. The federally endangered black-footed ferret was lost throughout its shortgrass prairie range prior to re-introduction of experimental populations in recent years. Species of conservation concern that still inhabit native prairie habitats include: burrowing owl, ferruginous hawk, mountain plover, McCown's longspur, chestnut-collared longspur, and long-billed curlew, as well as northern pocket gopher, ornate box turtle, massasagua rattlesnake, and Texas horned lizard. The rarest plants in the shortgrass prairie are associated with isolated shale barren outcrops.

Inter-Mountain Basins Greasewood Flat –Part of the Largest Such Occurrence in Colorado

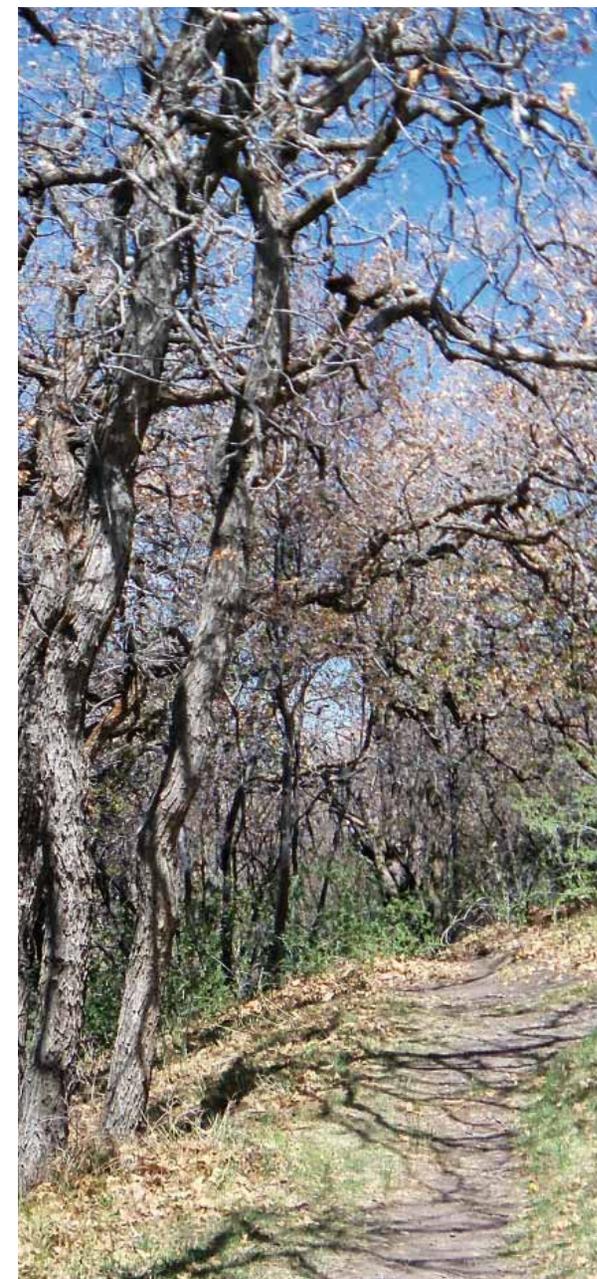
The expansive greasewood flats in the San Luis Valley are part of the largest occurrence of this ecosystem in Colorado. These shrublands are typically found near drainages on stream terraces and flats, on alluvial fans, along streams or arroyos, or as rings around

playas. Large occurrences are also found in the lower elevations of Colorado's western valleys. Elevations in the survey area range from about 7,500 to 7,700 feet. Greasewood flats usually have saline soils, a shallow water table and flood intermittently, but remain dry for most of the growing season. These open to moderately dense shrublands are dominated by black greasewood, often with additional shrubs and graminoids that tolerate saline soils.

Greasewood stands are used by some shrubland birds, such as the sage thrasher, and small mammals including the white-tailed antelope squirrel. In the San Luis Valley, these shrublands are home to rare local subspecies of the silky pocket mouse and thirteen lined ground squirrel. Here also the rare slender spiderflower occurs in alkaline playa wetlands that are imbedded in greasewood flats.

Inter-Mountain Basins Big Sagebrush Shrubland

Big sagebrush shrublands occur throughout much of the western United States. Although they can be found on the east slope of the continental divide, the largest occurrences are on the western slope, where high montane parks often have extensive stands of sagebrush shrublands. Big sagebrush shrublands are characterized by dense stands of taller sagebrush species with a significant herbaceous understory, and in the survey area



Trail through Gambel Oak in Early Spring, Saguache County, Colorado

are found at elevations from 7,900 to 8,600 feet along the western flank of the Sangres. These taller shrubs distinguish the sagebrush shrubland ecological system from the montane sagebrush steppe shrublands, which are dominated by shorter sagebrush species. Big sagebrush shrublands are typically found in broad basins between mountain ranges, on plains and foothills.

These shrublands provide food and shelter for many small mammal and bird species. Species of concern that are found exclusively (or almost exclusively) in sagebrush habitats include the Greater Sage Grouse, Brewer's Sparrow and Sage Sparrow, as well as a number of rare plant species.

Rocky Mountain Subalpine Spruce-Fir Forest and Woodland

These high elevation forests form the matrix of the sub-alpine zone at elevations of 9,500 to 11,500 feet in the survey area. They are characterized by dense stands of Engelmann spruce and subalpine fir. This is one of the few area forest types that is not fire-adapted - a typical fire return frequency is around 400 years. Areas with spruce-fir forest typically receive a lot of precipitation in the form of snowfall and frequent summer showers, but droughts can occur. During drought periods the stressed trees become susceptible to spruce-bud worm outbreaks, which can kill entire hillsides of trees in one summer. In the

early 20th century, much of the old-growth spruce fir was cut for timber.

Species characteristic of these heavily wood habitats include pine marten, lynx, red squirrel, snowshoe hare, boreal owls, elk, grey jay, and Clark's nutcracker. Although much of this system is now made up of younger trees, it is still possible to find very old widely-spaced trees with yellow bark and snags and downed trees that create perfect habitat for cavity-nesting birds and pine martens. Few rare species are found in these habitats. Boreal toads were once a common species in small wetlands within high altitude coniferous forests in the Southern Rockies. Today very few healthy populations exist; most have apparently succumbed to chytrid fungus infestation. Lynx and boreal owls spend most of their time in or near large stands of spruce-fir forests.

Rocky Mountain Aspen Forest and Woodland

In the Southern Rocky Mountain ecoregion, aspen forests are quite common on the western slope of the continental divide, with generally smaller stands represented on the eastern slope. In the survey area, these are upland forests and woodlands dominated by quaking aspen, or forests of mixed aspen and conifer, ranging in elevation from about 8,500 to 10,500 feet. They usually occur as a mosaic of many plant associations and may

be surrounded by a diverse array of other systems, including grasslands, wetlands, coniferous forests, etc. Aspen forests are one of our most species-rich ecosystems. Most of the plant and animal species that inhabit aspen forests are relatively abundant and not of significant conservation concern. Rarer species of this system include: purple martin, northern goshawk, olive-sided flycatcher, flammulated owl, Cassin's finch, and dwarf shrew.

Southern Rocky Mountain Montane-Subalpine Grassland

Montane-subalpine grasslands in the Southern Rocky Mountain ecoregion are found at elevations of 7,200-10,000 feet, intermixed with stands of spruce-fir, lodgepole, ponderosa, and aspen forests, or as the matrix community in the large intermountain basin of South Park, Colorado. In the survey area, these grasslands are generally confined to a fairly narrow elevational band between 8,600 and 9,600 feet on both flanks of the Sangres. Lower elevation montane grasslands are more xeric, while upper montane or subalpine grasslands are more mesic. Typical species include fescue, muhly, oatgrass, and others. Grasses of the foothills and piedmont may be included in lower elevation occurrences. Trees and shrubs are generally sparse or absent, but occasional individuals from the surrounding communities may occur.

Table 3. Plant Associations Documented From The Survey Area

Group	Scientific Name	Common Name	Rank
Terrestrial Communities			
Great Plains Sand Grassland			
	<i>Achnatherum hymenoides</i> - <i>Psoralidium lanceolatum</i> Herbaceous Vegetation	Indian Ricegrass - Lemon Scurfpea Mixedgrass Prairie	G3Q
	<i>Redfieldia flexuosa</i> - (<i>Psoralidium lanceolatum</i>) Herbaceous Vegetation	Blowout Grass - (Lemon Scurfpea) Herbaceous Vegetation	G1?
Colorado Plateau Pinyon - Juniper Woodland			
	<i>Pinus edulis</i> - <i>Juniperus</i> spp. / <i>Quercus gambelii</i> Woodland	Two-needle Pinyon - Juniper species / Gambel Oak Woodland	G5
Intermountain Semi-Desert Grassland			
	<i>Hesperostipa comata</i> - <i>Achnatherum hymenoides</i> Herbaceous Vegetation	Needle-and-Thread - Indian Ricegrass Mixedgrass Prairie	G2?
Rocky Mountain Douglas-fir - White Fir - Blue Spruce Mesic Forest			
	<i>Abies concolor</i> - <i>Picea pungens</i> - <i>Populus angustifolia</i> / <i>Acer glabrum</i> Forest	White Fir - Blue Spruce - Narrowleaf Cottonwood / Rocky Mountain Maple Forest	G2
Rocky Mountain Subalpine & Montane Aspen Forest & Woodland			
	<i>Populus tremuloides</i> / <i>Acer glabrum</i> Forest	Quaking Aspen / Rocky Mountain Maple Forest	G1G2
	<i>Populus tremuloides</i> / <i>Juniperus communis</i> Forest	Quaking Aspen / Common Juniper Forest	G4
	<i>Populus tremuloides</i> / Tall Forbs Forest	Quaking Aspen / Tall Forbs Forest	G5
Rocky Mountain Subalpine-Montane Limber Pine - Bristlecone Pine Woodland			
	<i>Pinus aristata</i> / <i>Festuca arizonica</i> Woodland	Bristlecone Pine / Arizona Fescue Woodland	G4
	<i>Pinus aristata</i> / <i>Festuca thurberi</i> Woodland	Bristlecone Pine / Thurber's Fescue Woodland	G5
	<i>Pinus aristata</i> / <i>Vaccinium myrtillus</i> Woodland	Bristlecone Pine / Whortleberry Woodland	GU
Southern Rocky Mountain Cercocarpus-Mixed [Dry] Foothill Shrubland			
	<i>Cercocarpus montanus</i> / <i>Muhlenbergia montana</i> Shrubland	Mountain-mahogany / Mountain Muhly Shrubland	GU
Southern Rocky Mountain Gambel Oak-Mixed [Mesic] Montane Shrubland			
	<i>Quercus gambelii</i> - <i>Cercocarpus montanus</i> / (<i>Carex geyeri</i>) Shrubland	Gambel Oak - Alderleaf Mountain-mahogany / (Geyer's Sedge) Shrubland	G3
Southern Rocky Mountain Montane-Subalpine Grassland			
	<i>Muhlenbergia montana</i> Herbaceous Vegetation	Mountain Muhly Herbaceous Vegetation	G3G4
	<i>Danthonia parryi</i> Herbaceous Vegetation	Parry's Oatgrass Herbaceous Vegetation	G3
	<i>Festuca arizonica</i> - <i>Muhlenbergia montana</i> Herbaceous Vegetation	Arizona Fescue - Mountain Muhly Herbaceous Vegetation	G3
Southern Rocky Mountain Pinyon - Juniper Woodland			
	<i>Pinus edulis</i> - <i>Juniperus monosperma</i> / <i>Quercus X pauciloba</i> Woodland	Two-needle Pinyon - One-seed Juniper / Wavyleaf Oak Woodland	G5
	<i>Pinus edulis</i> / <i>Achnatherum scribneri</i> Woodland	Two-needle Pinyon / Scribner's Needlegrass Woodland	G3
Southern Rocky Mountain Ponderosa Pine Savanna			
	<i>Pinus ponderosa</i> / <i>Cercocarpus montanus</i> / <i>Andropogon gerardii</i> Wooded Herbaceous Vegetation	Ponderosa Pine / Alderleaf Mountain-mahogany / Big Bluestem Wooded Herbaceous Vegetation	G2
Southern Rocky Mountain White Fir - Douglas-fir Dry Forest			
	<i>Pseudotsuga menziesii</i> / <i>Quercus gambelii</i> Forest	Douglas-fir / Gambel Oak Forest	G5

Group	Scientific Name	Common Name	Rank
Riparian and Wetland Communities			
Arid West Emergent Marsh			
	<i>Schoenoplectus acutus</i> - <i>Typha latifolia</i> - (<i>Schoenoplectus tabernaemontani</i>) Sandhills Herbaceous Vegetation	Sandhills Bulrush Marsh	G4
	<i>Schoenoplectus pungens</i> Herbaceous Vegetation	Bulrush Wet Meadow	G3G4
Great Plains Depressional Saline & Brackish Wetland			
	<i>Salicornia rubra</i> Herbaceous Vegetation	Red Saltwort Herbaceous Vegetation	G2G3
Intermountain Basins Alkaline-Saline Herb Wet Flat			
	<i>Sporobolus airoides</i> Southern Plains Herbaceous Vegetation	Alkali Sacaton Southern Plains Grassland	G3Q
	<i>Distichlis spicata</i> Herbaceous Vegetation	Saltgrass Saline Prairie	G5
Intermountain Basins Alkaline-Saline Shrub Wetland			
	<i>Sarcobatus vermiculatus</i> / <i>Distichlis spicata</i> Shrubland	Greasewood / Inland Saltgrass Shrubland	G4
Rocky Mountain & Great Basin Lowland & Foothill Riparian & Seep Shrubland			
	<i>Salix exigua</i> - <i>Salix ligulifolia</i> Shrubland	Coyote Willow - Strapleaf Willow Shrubland	G2G3
	<i>Salix exigua</i> / Barren Shrubland	Coyote Willow / Barren Shrubland	G5
	<i>Salix exigua</i> / Mesic Graminoids Shrubland	Coyote Willow / Mesic Graminoids Shrubland	G5
Rocky Mountain & Great Basin Montane Alder & Birch Riparian Shrubland			
	<i>Alnus incana</i> - <i>Salix (monticola, lucida, ligulifolia)</i> Shrubland	Gray Alder - (Park Willow, Shining Willow, Strapleaf Willow) Shrubland	G3
	<i>Alnus incana</i> / Mesic Forbs Shrubland	Gray Alder / Mesic Forbs Shrubland	G3
Rocky Mountain & Great Basin Montane Riparian & Seep Shrubland			
	<i>Salix brachycarpa</i> / <i>Carex aquatilis</i> Shrubland	Short-fruit Willow / Aquatic Sedge Shrubland	G2G3
	<i>Salix ligulifolia</i> Shrubland	Strapleaf Willow Shrubland	G2G3
Rocky Mountain and Great Basin Riparian Forest			
	<i>Populus angustifolia</i> - <i>Juniperus scopulorum</i> Woodland	Narrowleaf Cottonwood - Rocky Mountain Juniper Woodland	G2G3
	<i>Populus angustifolia</i> / <i>Alnus incana</i> Woodland	Narrowleaf Cottonwood / Gray Alder Woodland	G3
	<i>Populus angustifolia</i> / <i>Betula occidentalis</i> Woodland	Narrowleaf Cottonwood / Water Birch Woodland	G3
	<i>Populus angustifolia</i> / <i>Rhus trilobata</i> Woodland	Narrowleaf Cottonwood / Skunkbush Sumac Woodland	G3
	<i>Populus angustifolia</i> / <i>Salix (monticola, drummondiana, lucida)</i> Woodland	Narrowleaf Cottonwood / (Park Willow, Drummond's Willow, Shining Willow) Woodland	G3
	<i>Populus angustifolia</i> / <i>Salix drummondiana</i> - <i>Acer glabrum</i> Woodland	Narrowleaf Cottonwood / Drummond's Willow - Rocky Mountain Maple Woodland	G2?
	<i>Populus angustifolia</i> Sand Dune Forest	Narrowleaf Cottonwood Sand Dune Forest	G1
	<i>Populus tremuloides</i> / <i>Alnus incana</i> Forest	Quaking Aspen / Gray Alder Forest	G3
	<i>Populus tremuloides</i> / <i>Betula occidentalis</i> Forest	Quaking Aspen / Water Birch Forest	G3
	<i>Populus tremuloides</i> / <i>Cornus sericea</i> Forest	Quaking Aspen / Red-osier Dogwood Forest	G4
	<i>Populus tremuloides</i> / <i>Salix drummondiana</i> Forest	Quaking Aspen / Drummond's Willow Forest	G3G4
	<i>Pseudotsuga menziesii</i> / <i>Betula occidentalis</i> Woodland	Douglas-fir / Water Birch Woodland	G3?

Common species characteristic of these grasslands include the vesper sparrow, mountain bluebird, Brewer’s blackbird, and white-tailed jack rabbit. Rarer species are the Gunnison’s prairie dog and a variety of skipper butterflies. Impacts from human activity other than domestic livestock grazing are low for most of these grasslands, although a significant portion of historic occurrences have been lost through habitat conversion.

Elements of Biodiversity: Plant Communities

A number of relatively uncommon riparian plant communities have been documented in the survey area, especially in the area in and around the Great Sand Dunes. The sand dunes and their associated grasslands also support high quality examples of several uncommon grassland communities.

Plant communities that have been documented from the survey area are shown in Table 3. Communities shown in bold type are represented in the area by “A-ranked” high quality occurrences. Due to the continually evolving nature of plant community classification, and the fact that this area has not been completely surveyed, and there are likely to be many other types present as well.

Table 3. Plant Associations Documented From The Survey Area (cont.)

Riparian and Wetland Communities (cont.)			
Group	Scientific Name	Common Name	Rank
Vancouverian & Rocky Mountain Montane Wet Meadow			
	<i>Carex nebrascensis</i> Herbaceous Vegetation	Nebraska Sedge Wet Meadow	G4
	<i>Carex simulata</i> Herbaceous Vegetation	Analogue Sedge Herbaceous Vegetation	G4
	<i>Carex vesicaria</i> Herbaceous Vegetation	Inflated Sedge Herbaceous Vegetation	G4Q
	<i>Catabrosa aquatica</i> - <i>Mimulus</i> ssp. Spring Wetland	Spring Wetland	GU
	<i>Cardamine cordifolia</i> - <i>Mertensia ciliata</i> - <i>Senecio triangularis</i> Herbaceous Vegetation	Large Mountain Bittercress - Mountain Bluebells - Arrowleaf Ragwort Herbaceous Vegetation	G4
Western North American Maritime Lowland Wet Meadow & Herbaceous Seep			
	<i>Eleocharis palustris</i> Herbaceous Vegetation	Marsh Spikerush Wet Meadow	G5
Western North American Ruderal Wet Shrubland, Meadow & Marsh			
	<i>Phragmites australis</i> Western North America Temperate Semi-natural Herbaceous Vegetation	Western Reed Marsh	G5
Western North American Temperate Interior Freshwater Marsh			
	<i>Hippuris vulgaris</i> Herbaceous Vegetation	Common Mare's-tail Herbaceous Vegetation	G5
	<i>Schoenoplectus maritimus</i> Herbaceous Vegetation	Alkali Bulrush Marsh	G4

Table 4. Rare Plants Documented From The Survey Area

Common Name	Scientific Name	Rank	Comment
Blue Giant-hyssop	<i>Agastache foeniculum</i>	G4G5	
Bodin's Milkvetch	<i>Astragalus bodinii</i>	G4	
Wittmann's Milkvetch	<i>Astragalus wittmannii</i>	G3	NM endemic
Alpine Coral-drops	<i>Besseyia alpina</i>	G4	
Reflected Moonwort	<i>Botrychium echo</i>	G3	
Western Moonwort	<i>Botrychium hesperium</i>	G4	
Lanceleaf Grapefern	<i>Botrychium lanceolatum</i> ssp. <i>lanceolatum</i>	G5T4	
Narrowleaf Grapefern	<i>Botrychium lineare</i> ("furcatum")	G1G2	
Common Moonwort	<i>Botrychium lunaria</i>	G5/S3	
Mingan Moonwort	<i>Botrychium minganense</i>	G4/S2	
Pale Moonwort	<i>Botrychium pallidum</i>	G3	
Slender Sedge	<i>Carex lasiocarpa</i>	G5	
Small-winged Sedge	<i>Carex stenoptila</i>	G2	
Marsh-meadow Indian-paintbrush	<i>Castilleja lineata</i>	G4?	
Downy Indian-paintbrush	<i>Castilleja puberula</i>	G2G3	CO endemic
Many-stemmed Spider-flower	<i>Cleome multicaulis</i>	G2G3	
Birdbill Dayflower	<i>Commelina dianthifolia</i>	G5	
Dwarf Alpine Hawk's-beard	<i>Crepis nana</i>	G5	
James' Cat's-eye	<i>Cryptantha cinerea</i> var. <i>pustulosa</i>	G5TNR	
American Yellow Lady's-slipper	<i>Cypripedium parviflorum</i>	G5	
Colorado Larkspur	<i>Delphinium alpestre</i>	G2	CO-NM endemic

Table 4. Rare Plants Documented From The Survey Area (cont.)

Common Name	Scientific Name	Rank	Comment
Dwarf Alpine Hawk's-beard	<i>Crepis nana</i>	G5	
James' Cat's-eye	<i>Cryptantha cinerea</i> var. <i>pustulosa</i>	G5TNR	
American Yellow Lady's-slipper	<i>Cypripedium parviflorum</i>	G5	
Colorado Larkspur	<i>Delphinium alpestre</i>	G2	CO-NM endemic
White Arctic Whitlow-grass	<i>Draba fladnizensis</i>	G4	
Gray's Peak Whitlow-grass	<i>Draba grayana</i>	G2	CO endemic
Porsild's Whitlow-grass	<i>Draba porsildii</i>	G3G4	
Mountain Whitlow-grass	<i>Draba rectifruca</i>	G3?	
Smith's Whitlow-grass	<i>Draba smithii</i>	G2	CO endemic
Colorado Divide Whitlow-grass	<i>Draba streptobrachia</i>	G3	
Philadelphia Fleabane	<i>Erigeron philadelphicus</i>	G5	
Cimarron Buckwheat	<i>Eriogonum aliquidum</i>	G3	NM endemic
Slender Cotton-grass	<i>Eriophorum gracile</i>	G5	
Rough Fescue	<i>Festuca hallii</i>	G4	
Alpine Spicy Wintergreen	<i>Gaultheria humifusa</i>	G5	
Dwarf Rattlesnake-plantain	<i>Goodyera repens</i>	G5	
Horrid Herrickia	<i>Herrickia horrida</i>	G2?	CO-NM endemic
Eastern Yellow Star-grass	<i>Hypoxis hirsuta</i>	G5	
Alpine Bluebells	<i>Mertensia alpina</i>	G4?	
Rock Sandwort	<i>Minuartia stricta</i>	G5	
Livemore Fiddleleaf	<i>Nama dichotomum</i>	G4	
Fringed Grass-of-Parnassus	<i>Parnassia fimbriata</i>	G5	
Rocky Mountain Phacelia	<i>Phacelia denticulata</i>	G3?	
Eastwood's Podistera	<i>Podistera eastwoodiae</i>	G3	
Colorado Watercress	<i>Rorippa coloradensis</i>	GH	CO endemic
Weber's Saw-wort	<i>Saussurea weberi</i>	G2G3	
Nodding Saxifrage	<i>Saxifraga cernua</i>	G5	
Tundra Saxifrage	<i>Saxifraga cespitosa</i> ssp. <i>monticola</i>	G5T5	
Rocky Mountain Spikemoss	<i>Selaginella weatherbiana</i>	G3G4	
-	<i>Senecio cliffordii</i>	GNR	
King's Champion	<i>Silene kingii</i>	G2G4Q	
Stiff Blue-eyed-grass	<i>Sisyrinchium demissum</i>	G5	
Hooded Ladies'-tresses	<i>Spiranthes romanzoffiana</i>	G5	
Altai Chickweed	<i>Stellaria irrigua</i>	G4?	
Prairie Violet	<i>Viola pedatifida</i>	G5	
New Mexico Cliff Fern	<i>Woodsia neomexicana</i>	G4?	



Smith's Draba - NPS Photo, Phyllis Pineda Bovin

Elements of Biodiversity: Rare Plants

More than fifty species of rare plants are found in the area. Table 4 is a list of vascular plant species tracked by Natural Heritage Programs in Colorado and New Mexico that have been documented from the survey area (CNHP 2011, Legler 2010). A number of regional endemics (plants whose global distribution is confined to a small area) are included.

Elements of Biodiversity: Rare Animals

The San Luis Valley is home to many endemic species of small mammals, and the sand dunes are a hotspot for endemic insects. The survey area also provides significant habitat for rare fish species such as the Rio Grande Chub, Rio Grande Sucker, and Rio Grande Cutthroat Trout, as well as for other species of management concern.

Elements of Biodiversity: Natural Landscapes and Connectivity

Diverse, intact natural landscapes are an important component of the biological diversity of an area. Fragmentation of landscapes, loss of connections and migratory corridors, and loss of plant communities all result in a loss of biological diversity for a region. More than 90% of the survey area remains in natural vegetation, providing

wildlife habitat and dispersal corridors, as well as allowing the operation of natural processes at landscape scales. To date, this sparsely populated area has experienced few major impacts, and the overall ecosystem health of the area is good.

**Elements of Biodiversity:
Wildlife Habitat**

In addition to habitat for rare species, the area provides important habitat for many common and wide-ranging wildlife species such as elk, mule deer, big-horn sheep, pronghorn, black

bear, mountain lion, and more (CDOW 2010). Common species associated with particular ecosystem types are discussed above. At least a dozen important wildlife linkages or movement areas have been identified within the area (SREP 2005).

Table 5. Tracked Animal Species Documented From The Survey Area

Group	Common Name	Scientific Name	Rank	Comment	Group	Common Name	Scientific Name	Rank	Comment	
Vertebrates					Invertebrates					
Birds	Sage Sparrow	<i>Amphispiza belli</i>	G5		Insects	Great Sand Dunes Anthicid Beetle	<i>Amblyderus weneri</i>	G1?	Endemic	
	Short-eared Owl	<i>Asio flammeus</i>	G5			Colorado Tiger Beetle	<i>Cicindela theatina</i>	G1	Endemic	
	Ferruginous Hawk	<i>Buteo regalis</i>	G4			Giant Sand Treader Cricket	<i>Daihinibaenetes giganteus</i>	GNR	Endemic	
	Western Snowy Plover	<i>Charadrius alexandrinus nivosus</i>	G4T3			Gold-edged Gem	<i>Schinia avemensis</i>	G1G3		
	Black Swift	<i>Cypseloides niger</i>	G4			Northwestern Fritillary	<i>Speyeria hesperis ratonensis</i>	G1		
	Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	G5T1T2			Capulin Mountain Arctic	<i>Oeneis alberta capulinensis</i>	G2		
	Bald Eagle	<i>Haliaeetus leucocephalus</i>	G5			Rhena Skipper	<i>Polites origenes rhena</i>	G3		
	Black-necked Stilt	<i>Himantopus mexicanus</i>	G5			Mollusks	Umbilicate Sprite	<i>Promenetus umbilicatellus</i>	G4	
	Brown-capped Rosy Finch	<i>Leucosticte australis</i>	G4							
	Long-billed Curlew	<i>Numenius americanus</i>	G5							
	Lazuli Bunting	<i>Passerina amoena</i>	G5							
	American White Pelican	<i>Pelecanus erythrorhynchos</i>	G3							
	White-faced Ibis	<i>Plegadis chihi</i>	G5							
	Purple Martin	<i>Progne subis</i>	G5							
	Forster's Tern	<i>Sterna forsteri</i>	G5							
	Virginia's Warbler	<i>Vermivora virginiae</i>	G5							
	Fish	Rio Grande Sucker	<i>Catostomus plebeius</i>	G3G4						
		Rio Grande Chub	<i>Gila pandora</i>	G3						
Mammals	Rio Grande Cutthroat Trout	<i>Oncorhynchus clarkii virginalis</i>	G4T3							
	Pale Lump-nosed Bat	<i>Corynorhinus townsendii pallescens</i>	G4T4							
	Wolverine	<i>Gulo gulo</i>	G4	historical						
	Gunnison's Prairie Dog	<i>Cynomys gunnisoni</i>	G5							
	Canadian Lynx	<i>Lynx canadensis</i>	G5							
	Plains Pocket Mouse Subsp	<i>Perognathus flavescens relictus</i>	G5T2	Endemic						
	Pine Marten	<i>Martes americana</i>	G5							
	Silky Pocket Mouse Subsp	<i>Perognathus flavus sanluisi</i>	G5T3	Endemic						
	A Ground Squirrel	<i>Spermophilus tridecemlineatus blanca</i>	G5T3	Endemic						
	Botta's Pocket Gopher subsp. cultellus	<i>Thomomys bottae cultellus</i>	G3	Endemic						
	Northern Pocket Gopher Subsp	<i>Thomomys talpoides agrestis</i>	G5T3	Endemic						
	New Mexican Jumping Mouse	<i>Zapus hudsonius luteus</i>	G2							
Reptiles	Variable Skink	<i>Eumeces multivirgatus epipleurotus</i>	G5T5							



Rio Grande Sucker - Photo Courtesy of Colorado Division of Wildlife



Colorado Tiger Beetle



Bald Eagle - NPS Photo, Patrick Myers



Pine Martin

Geologic Features

Rio Grande Rift and Sangre de Cristo Uplift

The northwestern portion of the survey area includes features of the Rio Grande Rift, a large north-south trending Cenozoic continental rift extending northwards from New Mexico through Colorado (Miggins et al. 2002). This separation in the earth's crust dates back nearly 26 million years and was accompanied by block-faulting and volcanic eruptions. The Sangre de Cristo Range contains numerous small intrusions of igneous rocks dating from the time of rifting or slightly before (Lindsey 2010). The San Luis Valley is part of the downfaulted block that forms the Rio Grande Rift. Adjacent to the valley, and bounded by the Sangre de Cristo fault, the Sangre de Cristo Range represents the upfaulted block or horst that

borders the rift valley. During rift formation, the San Luis and Wet Mountain Valleys dropped down as the crust arched upward, stretched, and collapsed, leaving the Sangre de Cristo Range as a remnant of this uplift (Lindsey 2010). Geophysical surveys indicate the original downfaulted block of the San Luis Valley is now topped by more than 3 miles of sediment fill.

Volcanic Features

Spanish Peaks

At some distance from the eastern flanks of the Sangre de Cristos, the Spanish Peaks were formed as two large igneous intrusions surrounded by an extensive system of radial dikes. The east and west Spanish Peaks, with elevations of 12,683 ft. and 13,626 ft., respectively, are familiar landmarks on the mountain front in southern Colorado.

These volcanic intrusions pushed up through overlying Cretaceous and Tertiary sedimentary strata, and as the magma rose it filled a series of radiating fractures in the overlying rock (Chronic 1980, Foutz 1994). The softer overlying shales have subsequently eroded away, leaving the volcanic dikes that now stand as nearly vertical walls up to 100 feet (30 m) high and 100 feet (30 m) wide and extending for a maximum distance of 14 miles (23 km). One of the most prominent of these dikes is the spectacular "Big Wall" extending north from the Spanish Peaks, and easily visible from Highway 160.

Latir Volcanic Field

The Latir volcanic field and associated Questa caldera, which adjoin the survey area in the vicinity of Latir Peak, constitutes the largest mid-Tertiary volcanic system in



Mounts Lindsay, Blanca, and Little Bear - Photo Courtesy of 14ers.com

northern New Mexico This area is believed to represent the surface manifestation of a large shallow magma body that was active during early development of the Rio Grande rift zone (Lipman et al. 1986).

Great Sand Dunes Geological System

At Great Sand Dunes National Park and Preserve the tallest dunefield in North America spreads across 30 square miles, forming the heart of the Great Sand Dunes geological system. The dune system originated when sand from dry lakebeds in the valley was blown by prevailing southwest winds toward a low curve in the Sangre de Cristo Mountains. Here the wind funnels toward three mountain passes, and the sand accumulates in this natural pocket. The winds generally blow from the valley floor toward the mountains, but during storms the winds blow back toward the valley, and these opposing wind directions cause the dunes to grow vertically. Runoff from creeks draining the mountain watershed above the dunes captures and returns sand that has blown from the valley floor, carrying it around the edge of the dunefield and depositing it where it can again be picked up by the wind and carried into the main dunefield. This recycling action of water and wind contributes to the great height of this dunefield. The active dunefield is stabilized by opposing wind directions (southwesterly and northeasterly), creeks that recycle sand back into it, and a



View from Marble Mountain in Great Sand Dunes National Park and Preserve - NPS Photo, Patrick Myers

7% moisture content below the dry surface. The dunefield is composed of reversing dunes, transverse dunes, star dunes, and a few barchan dunes. It is estimated to contain over 5 billion cubic meters of sand (NPS 2011).

In addition to the active dune field, the Great Sand Dunes geological system includes the sand sheet surrounding the main dune field in the valley, and the sabkha, where sand is seasonally saturated by rising ground water. Almost 90% of the sand deposit is found in the sand sheet, while only about 10% is found in the main dunefield. The sand sheet is the primary source of sand for the Great Sand Dunes. Small parabolic dunes form here, then migrate into the main dunefield. Nebkha or coppice dunes form around clumps of vegetation (NPS 2011).

Marble Mountain

The eastern flank of the Sangre de Cristo Range in Colorado has exposures of the Minturn Formation that represent sequences of sedimentary rocks recording the rise and fall of sea level along a coastline dominated by river deltas during Pennsylvanian time (Lindsey 2010). Here are preserved sites where numerous remains of invertebrate marine animals, such as crinoids, brachiopods, and coral, as well as algae collected on the shallow seafloor and formed mounds called “bioherms” hundreds of feet thick. Marble Mountain on the east side



Medano Creek in Great Sand Dunes National Park and Preserve - Photo Courtesy Renée Rondeau

of the range is the best exposure of these formations (Lindsey 2010).

Sheep Mountain and Mount Maestas

These summits of volcanic origin north of the Spanish Peaks are unusual in that they exhibit rock glaciers in a non-alpine setting.

Hydrologic Features

San Luis Valley Aquifers

The arid San Luis Valley is a deep rift basin filled with sediments and layers of volcanic rock eroded from the surrounding mountain and carried into the valley by rivers and streams. Over time, the pore spaces between the grains of sediments, fractures, and other

openings in the volcanic rocks beneath the valley floor have filled with water, creating a complex, interconnected aquifer system. These aquifers are continually recharged by ground water percolating from surface streams, leakage through canals, and recharge from the mountains (CWCB 1998).

The groundwater system consists of a shallow unconfined aquifer that is present across the entire basin, and a deeper, confined aquifer that is present everywhere

except along the basin margins (Bexfield and Anderholm 2010). The unconfined aquifer is the top water-saturated layer of sand and gravel, down to a depth of about 100 feet across most of the valley. Below this layer in the central part of the valley there are a series of clay layers that largely separate, without completely disconnecting, the unconfined aquifer from deeper water-bearing layers of sand, gravel, and fractured volcanic rocks (CWCB 1998). There are many naturally flowing wells in the confined aquifer due to artesian pressure. The aquifer system allows

what would otherwise be a dry valley to have abundant water resources and support an agriculture-based community.

Medano Creek and Sand Creek Surge Flow

Medano Creek and Sand Creek in the vicinity of Great Sand Dunes National Park are unusual because they exhibit surge flow - a stream flowing in rhythmic waves on sand. In spring and early summer, the three elements needed to produce the phenomenon (a relatively steep gradient to give the stream a high velocity; a smooth, mobile creek bed with little resistance; and sufficient water to create surges) combine to produce these waves at Great Sand Dunes. As water flows across sand, sand dams or antidunes form on the creek bed, collecting water. As water pressure increases the dams periodically give way, releasing a wave about every 20 seconds. In wet years, waves can surge up to a foot high (Valdez 1996).

San Luis Lakes and Other Wetlands

The playa lakes of the northern San Luis Valley are a unique landscape in the Southern Rocky Mountain ecoregion. The Closed Basin of the northern San Luis Valley contains many shallow depressions that support a variety of wetland types. The basins fill from snowmelt runoff in late spring and most are dry by late summer. Heavy monsoon precipitation can cause some basins to refill in



Wetlands in the Sand Sheet at Great Sand Dunes National Park and Preserve - Photo Courtesy Renée Rondeau

late summer, but summer rains are generally of secondary importance. The soils in the lake basins are alkali clays with low rates of water infiltration allowing rapid evaporation at the water surface and accumulation of salts. They support a flora adapted to seasonal soil saturation and saline conditions. The lakes vary greatly in depth, salinity, and period of inundation (Rondeau et al. 1998).

Playas are typically temporary features, however, San Luis Lake is an exception, as its water level is maintained for recreational purposes by input from the Closed Basin Canal. The playa lake ecosystems of the San Luis Valley floor depend upon a complex

interaction of surface and groundwater sources which undergo characteristic seasonal and inter-annual fluctuations. Water uses which perturb the timing or magnitude of surface flows, or affect the valley bottom water table, are likely to affect these wetlands detrimentally. Changes in the water depth or duration of inundation in the basins can have profound effects on soil salinities and wetland vegetation (Cooper and Severn 1992). Wetland dependent fauna, such as

waterbirds, amphibians, or vertebrates may be affected by even brief changes in wetland hydrology.

Scenic and Recreational Values

The Sangre de Cristo Range is home to ten of Colorado's "Fourteeners" (mountain peaks over 14,000 ft. in elevation, CGS 2011), as well as many other summits that attract climbers and hikers. Throughout the area, dramatic mountain ranges, dune fields, wildlife viewing, and other outstanding scenic values are a source of attraction for visitors. Hunting, fishing, hiking, camping, and other recreational activities are plentiful on both public and private lands.

National Natural Landmarks

Spanish Peaks National Natural Landmark

In recognition of its outstanding geological resources, Spanish Peaks was designated a National Natural Landmark (NNL) by the Secretary of the Interior in 1976. Located in San Isabel National Forest, Spanish Peaks contain some of the best known examples of exposed igneous dikes, which are formed when molten material is forced into a fracture or fault before becoming solidified.

Potential National Natural Landmarks

Several sites were identified in the 1970s and 1980s as being representative of particular natural features within the Southern Rocky Mountains and Great Plains natural regions, and thus determined to potentially warrant further evaluation to determine significance as defined by the National Natural Landmarks Program. These potential Landmarks are:

Blanca Peak within the Sangre de Cristo Range

Blanca Peak, the third tallest peak in Colorado, includes semidesert shrubland through alpine tundra ecoregions, fault-block ranges, and glacial features such as cirques and aretes.

Indian Springs

Located within Great Sand Dunes National Park and Preserve, Indian Springs is a relatively large spring surrounded by an active dune field. The spring provides useful habitat for birds and supports a great diversity of plants and animals.

Maxwell National Wildlife Refuge

This site, situated on the western edge of the short-grass plains association, contains numerous playa lakes and supports a variety of wildlife species, including feeding and nesting grounds for migratory waterfowl.

Current Condition and Potential Future Impacts to Natural Values

Overall, ecosystems in the survey area are essentially intact, with many natural processes able to function without hindrance. Higher elevation ecosystems such as alpine and spruce-fir forest, and the dune and sandsheet systems in the vicinity of Great Sand Dunes

National Natural Landmarks Program

Established in 1962, the National Natural Landmarks (NNL) Program recognizes and encourages the conservation of sites that contain outstanding biological and geological resources, regardless of landownership type. It is the only natural areas program of national scope that recognizes the best examples of biological and geological features in both public and private ownership. NNLs are owned by a variety of land stewards, and participation in the program is voluntary.

National Natural Landmarks are selected for their outstanding condition, illustrative value, rarity, diversity, and value to science and education. Sites are designated by the Secretary of the Interior, with landowner concurrence and, to-date, nearly 600 landmarks have received the NNL designation within the United States, American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.

The National Park Service administers the program, reports on the condition of the NNLs, acts as an advocate for the protection of designated sites, and raises public awareness of our Nation's natural heritage. Ongoing partnerships with public and private landmark owners allow participants to share information, solve problems cooperatively, and conserve outstanding sites that illustrate the rich and diverse tapestry of the country's natural landscape.



Panorama from the Summit of Blanca Peak - Photo Courtesy of 14ers.com

National Park and Preserve are generally in good to excellent condition. However, many areas on both public and private land lack special protection, and some areas have been degraded or altered by road building, domestic livestock grazing, exurban development, and fire suppression. Invasive species, especially cheatgrass, have altered fire dynamics in pinyon-juniper woodlands. Ongoing impacts to this landscape include renewable and non-renewable energy production (wind, solar, geothermal, oil and gas, and biofuels) and the continuing expansion of exurban communities.

The Colorado Natural Heritage Program has delineated over 40 potential conservation areas in the survey area, including one site of Outstanding Biodiversity Significance, and thirteen sites of Very High Biodiversity Significance.



Sandhill Cranes Spend Spring and Fall in the San Luis Valley - NPS Photo, Patrick Myers

Previous NPS Studies and Ongoing NPS Efforts

Previous NPS Studies

Previous NPS studies have resulted in the designation of several nationally significant sites within the survey area. The survey area includes Great Sand Dunes National Park and Preserve, Old Spanish National Historic Trail, Santa Fe National Historic Trail, Pike's Stockade National Historic Landmark, Spanish Peaks National Natural Landmark, Sangre de Cristo National Heritage Area, and Northern Rio Grande National Heritage Area.

Other sites within the survey area also have been identified and evaluated for national significance. These studies include:

Study of Management Options Vermejo Park Ranch (1979)

Vermejo Park Ranch – which is nearly 600,000 acres in size – has been the subject of two Federal studies that have determined its national significance and suitability as a National Park Service unit. In 1938, the Times Mirror Corporation offered the ranch to the National Park Service, which investigated the property but took no action regarding acquisition. Later, the Gourley Estate also offered the property for sale to the Federal government, and the Senate authorized its addition to contiguous Carson National

Forest. The House rejected the proposal, citing “higher priorities elsewhere.” In January 1979, in an apparent response to another offer of sale, a task force – composed of representatives of U.S. Fish and Wildlife Service, NPS, Heritage Conservation and Recreation Service, U.S. Forest Service, and the State of New Mexico – determined that the natural and cultural resources at Vermejo Park Ranch were nationally significant and concluded that “public ownership is necessary for adequate protection of the natural and cultural resources at Vermejo Park.” Later that same year, the *Vermejo Ranch: Study of Management Options* – prepared by the U.S. Department of Interior, U.S. Department of Agriculture and the State of New Mexico – followed up on the task force recommendations and provided a description and analysis of the natural, cultural and recreational resources of Vermejo Park Ranch, as well as a range of management options. The Management Options study determined that the ranch was a suitable addition to the National Park System, noting that it had nationally significant natural resources, that its cultural resources had the integrity and potential to contribute to our understanding of several nationally significant themes, and that the ranch met the criteria for national recreation

area status.³⁰ The 1979 Management Options study noted that the ranch was significant under several national themes, including environmental conservation, recreation, American ways of life, the cattlemen's empire, the mining frontier, western trails, law, and Native American history.³¹ Vermejo Park Ranch also offers an excellent opportunity to interpret the history of Mexican land grants.

Alternative Concepts for Commemorating Spanish Colonization (1991)

In 1991, the NPS completed a Special Resource Study that focused on New Mexico sites for the purpose of commemorating Spanish colonization. The study sites ranged from archeological ruins of pueblos, mission churches, and Spanish civil settlements to contemporary Latino communities and Indian pueblos. Some of the key findings concluded that American culture derives from both English and Spanish colonial heritage. The Spanish colonization created a colonial culture in the American Southwest just as English colonization created an English

³⁰ National Park Service memorandum to Regional Director, Southwest Region, from Manager, Denver Service Center, Subject: Task Directive for Review and Approval, Vermejo Ranch, New Mexico, November 9, 1978, “Background,” 1; “Vermejo Park, A Study Conducted by the U.S. Department of the Interior in Cooperation with the U.S. Forest Service and the State of New Mexico, January 26, 1979, 3; and *Vermejo Ranch: Study of Management Options*, 113-116.

colonial culture in the eastern United States. Spanish colonization developed a Latino culture that characterizes the American Southwest and is the principal source of this distinctive Southwestern culture. The report also found that considerably more study is needed to complete the survey and documentation of Spanish colonial sites.

Ongoing NPS Efforts

The Intermountain Regional Office of the NPS is currently involved in several projects and initiatives in the San Luis Valley and central Sangre de Cristo Mountains, assisting residents, nonprofit organizations and local governments in the identification of resources and the development of conservation goals and strategies.

National Heritage Area Program

The NPS Intermountain Region National Heritage Area (NHA) Program provides technical and financial support to two National Heritage Areas within the San Luis Valley and Sangre de Cristo Mountains in southern Colorado and northern New Mexico:

Sangre de Cristo National Heritage Area

In 2009, the more than 3,000-square-mile Sangre de Cristo National Heritage Area, comprising the Colorado counties of Conejos, Costilla, and Alamosa, was designated by Congress to preserve and protect the environmental, geographical and cultural landscape of this unique area where Latino, Anglo, and Native American cultures converged. The mission of the Heritage Area is to “promote, preserve, protect and interpret its profound historical, religious, environmental, geographic, geologic, cultural, and linguistic resources,” which reflect over 11,000 years of documented human habitation.³² The Sangre de Cristo National Heritage Area contains more than 40 properties listed in the National Register of Historic Places and Colorado State Register, many of which reflect the area’s Latino heritage.

The Board of Directors includes commissioners from each of the three counties within the NHA: Alamosa, Conejos and Costilla. The NHA received about \$150,000 in NPS funding in FY2011, which was matched 1:1 with NHA funding. The bulk of the funding will be allocated toward preparation of their management plan, while a small amount will be used for a few early action projects (website development and heritage center planning).

Northern Rio Grande National Heritage Area

New Mexico’s Northern Rio Grande NHA is located directly south of the Sangre de Cristo NHA. Congress authorized the Northern Rio Grande NHA in 2006 to conserve and interpret the mosaic of cultures and history, including that of the eight Native American pueblos in the area and the descendants of the Spanish ancestors who settled here in the late 16th century.

The Board of Directors includes representatives for the eight pueblos as well as representatives from the three counties of Santa Fe, Rio Arriba, and Taos. The NHA received about \$150,000 in NPS funding in FY2011, which was matched 1:1 with NHA funding. The bulk of the funding will be allocated toward preparation of their management plan, while a small amount will be used for a few early action projects.

Rivers, Trails and Conservation Assistance Program

The NPS Intermountain Region’s Rivers, Trails, and Conservation Assistance (RTCA) Program is involved in three projects in the San Luis Valley:

³¹ *Vermejo Ranch: Study of Management Options*, 113-116.

³² Sangre de Cristo National Heritage Area website: <http://sdcnha.org/js/about-sangre-de-cristo-national-heritage-area.html>

Costilla County Heritage Tour

The RTCA program, in collaboration with Costilla County and the Costilla County Economic Development Council, has developed a 2-hour guided heritage tour of eight historic sites within the town of San Luis. RTCA staff facilitated the development of the interpretive themes, helped the county identify significant cultural sites in San Luis and recruited and trained community members to lead the tour.

Costilla County Trails, Recreation and Open Space Plan

RTCA is working with Costilla County, local organizations, land trusts, landowners, and the Sangre de Cristo NHA to identify community resources, needs, and priorities regarding the development of a trails, recreation, and open space plan. In April 2010, the working group hosted two public open houses to roll out an action plan and gather input. In October 2011, the county completed a trail restoration project within 1.5 miles of greenbelt area with financial assistance from Get Outdoors Colorado. Also in October 2011, RTCA assisted the county with planning a community event called “Get Outdoors Costilla County!” to highlight trails, recreation, and open space resources and projects that were identified at the 2010 open houses; Costilla County was also able to collect additional feedback to help prioritize projects for implementation.

RTCA is continuing to develop strategies for implementation of open space, trails, and recreation projects and finalize a master plan with the county and partner assistance.

Technical Support for the Sangre de Cristo NHA Management Plan

RTCA has facilitated nine community scoping meetings within the valley to collect input about NHA heritage resources and conservation strategies. The information will be used for the legislatively mandated NHA comprehensive plan, which is expected to be completed in 2012. The plan will contain an inventory of historic, natural, scenic and recreational resources within the NHA, as well as strategies, programs, and projects to conserve and protect these resources.

National Historic Landmarks Program

The NPS Intermountain Region’s National Historic Landmarks (NHL) Program is currently working with valley residents, organizations and local governments to nominate three new NHLs in the area:

La Vega and Associated Sites

See description under “Significant American Latino Heritage Resources”.

Trujillo Homesteads

See description under “Significant American Latino Heritage Resources”.

Cumbres & Toltec Scenic Railroad

The 64-mile segment of the former Denver & Rio Grande Railroad that extends between Antonito (CO) and Chama (NM) is an outstanding example of the 1000-mile “narrow gauge” network that once crossed much of Colorado, northern New Mexico and parts of Utah. It is also the best surviving example of early 20th century railroading at its peak of national influence. The nomination is being prepared by the Friends of the Cumbres & Toltec with assistance from the NPS.

National Historic Trails Program Old Spanish National Historic Trail

The NPS Intermountain Region’s Long Distance Trails Office and BLM jointly administer the Old Spanish Trail, the historic trade route between Mexican settlements near Santa Fe and southern California. A section of this trail traverses the east and west edges of the San Luis Valley. See description under “Significant American Latino Heritage Resources.” As part of the comprehensive management plan process for the trail, which is currently being conducted by NPS and BLM, the NPS is investigating high potential sites and segments in the San Luis Valley.

Santa Fe National Historic Trail

The NPS Intermountain Region's Long Distance Trails Office administers the Santa Fe National Historic Trail, the 1,200 mile historic trade route between western Missouri and Santa Fe, New Mexico. See description under "Significant American Latino Heritage Resources."

NPS Spanish Colonial Research Center

As a way of recognizing our Spanish colonial past in the area of the present-day United States, and in commemoration of the Columbus Quincentennial in 1992, the NPS established the Spanish Colonial Research Center in 1986 as a partnership with the University of New Mexico. The Spanish

Colonial Research Center's primary purpose is to develop a computerized database from Spanish colonial documents to serve the research needs of the NPS Spanish Colonial Heritage sites as well as other federal, state and local organizations. The Spanish Colonial Research Center cooperates with research entities in Spain, Portugal and Mexico.



Trujillo Homestead - Photo Courtesy of Front Range Research Associates, inc.

Recommendations for Conservation and Interpretation

This section presents five recommendations for the conservation and interpretation of the nationally significant cultural and natural heritage resources that are within the San Luis Valley and central Sangre de Cristo Mountains. These recommendations could be initiated by the Federal government, by state or local governments, by private citizens, or by any combination of the above, and this variety of possibilities is reflected in the range of recommendations presented. The fact that portions of this area have recent designations as National Heritage Areas adds a special emphasis and recognition of the many options available for the area to further enhance its legacy of conservation and education.

We have chosen to discuss the recommendations separately to provide greater clarity in comparing the various possibilities. In actual implementation, however, while each recommendation could stand alone, interpretation and resource protection objectives might be better served by combining two or more strategies.

1. Recommend that Congress authorize a special resource study of American Latino sites within the San Luis Valley and central Sangre de Cristo Mountains, which would allow for a more complete evaluation of alternatives to protect these resources.

The San Luis Valley, shadowed beneath the picturesque peaks of the Sangre de Cristo Mountain Range, represents the northernmost expansion of the Spanish Colonial and Mexican frontier into North America. Here, at the edge of the southern Rocky Mountains, the legacy of this Latino settlement is still clearly evident. This reconnaissance survey has identified a distinctive and exceptional concentration of historic resources associated with Hispano settlement, including Colorado's oldest documented town, only communal pasture, first water right, and oldest church. Many of these historic resources, including the Trujillo Homesteads and La Vega and Associated Sites, are currently being studied as new National Historic Landmarks. Pike's Stockade already has been designated as a National Historic Landmark. Segments of the Old Spanish National Historic Trail and the Santa Fe National Historic Trail pass through the survey area. This rich legacy, however,

includes more than historic sites, trails and structures. Centuries-old traditions including folklore, farming practices, religion, and art can still be found in the survey area, including a region of Colorado where a version of 17th century Spanish is still spoken by about 35 percent of the population.

These findings led the survey team to conclude that the resources and traditions existing within the San Luis Valley and central Sangre de Cristo Mountains meet NPS criteria for national significance and possess exceptional value in illustrating and interpreting the theme of American Latino heritage. Moreover, this survey concludes that the Latino resources and lifeways within the survey area depict a distinctive and important chapter of American history that has the potential to fill a gap in the NPS Thematic Framework. Preservation of these important resources has the potential to ensure that the stories and places associated with American Latino heritage will be shared and protected for future generations.

Although the survey area includes portions of two National Heritage Areas, preservation and interpretation of the American Latino resources and traditions could be enhanced

by stronger affiliation with the NPS. **The survey team, therefore, recommends that a Special Resource Study (SRS) of the San Luis Valley and central Sangre de Cristo Mountains be authorized by Congress.**

If authorized by Congress, the SRS could examine many potential alternatives for resource protection and visitor experience. Potential management options could include designation of a new national historical park, establishment of a commemorative center, partnerships between NPS and existing landholders, and more.

The primary purpose of a SRS is to determine whether the resources being evaluated meet the criteria for inclusion as a unit or units of the National Park System. By law (16 U.S. C. 1a-5, see Appendix A.) and National Park Service policy, potential new units of the NPS must:

- 1) Possess nationally significant resources,
- 2) Be a suitable addition to the system,
- 3) Be a feasible addition to the system, and
- 4) Require direct NPS management or administration instead of alternative protection by others.

This reconnaissance survey has determined that the survey area possesses nationally significant resources. A SRS would reaffirm the national significance

finding and evaluate the remaining three criteria.

An area may be considered suitable for potential addition to the National Park System if it represents a natural or cultural resource type that is not already adequately represented in the system, or is not comparably represented and protected for public enjoyment by other Federal agencies; tribal, state, or local governments; or the private sector.

To be feasible as a new unit of the National Park System, an area must be (1) of sufficient size and appropriate configuration to ensure sustainable resource protection and visitor enjoyment (taking into account current and potential impacts from sources beyond proposed park boundaries), and (2) capable of efficient administration by the Service at a reasonable cost.

There are many excellent examples of the successful management of important natural and cultural resources by other public agencies, private conservation organizations, and individuals. Unless direct NPS management of a studied area is identified as the clearly superior alternative, the Service will recommend that one or more of these other entities assume a lead management role, and that the area not receive National Park System status.

2. Recommend that Congress authorize an update to the Vermejo Park Ranch Special Resource Study.

A Special Resource Study of the Vermejo Park Ranch was completed in 1979, and concluded that the ranch possessed nationally significant cultural and natural resources that merited inclusion within the National Park System. Thirty-two years have elapsed since the Special Resource Study and several significant changes to the ranch have occurred during the interim. The ranch is now owned by American philanthropist Robert Edward “Ted” Turner III. Turner has reintroduced bison to the ranch and no longer raises cattle. Coal mining, which was occurring during the 1970s, has been discontinued and reclamation of mined lands is proceeding. According to a site manager, some lands within the ranch are now leased for coal bed methane extraction. Undoubtedly, other changes to the ranch have also transpired.

The 1979 study needs to be updated with current and accurate information, including an estimate of costs for the NPS to administer the ranch, which is purported to be the largest contiguous ranch in the United States. This study update should be authorized by Congress, so that the full range of alternatives can be evaluated and meaningful civic engagement can take place.

3. Create a corridor of conservation easements on public and private lands.

The NPS, as well as other state and federal agencies and nonprofit organizations, could encourage the establishment or expansion of conservation easements on a number of large-scale ranchlands, such as the Trinchera Ranch, La Sierra/Cielo Vista Ranch, Vermejo Park Ranch, and other privately held ranchlands in the San Luis Valley and central Sangre de Cristo Mountains. The legacy of the Mexican land grants has allowed the area to remain largely unfragmented by subdivisions and other changes in land ownership. The mountain range itself is steep and rugged and does not allow easy access and road building. A corridor of easements would provide a benefit to the public, in allowing for species and ecosystem migration. This would be a valuable outcome of the conservation ethic of private owners.

One of the natural resource attributes is that this area remains largely unchanged and is a place where wildlife can migrate between the high prairies of eastern New Mexico and the high mountain valleys of central Colorado. Maintaining such an open corridor is important for species survival and overall ecosystem health. There are few other places in the southwestern United States where such an open and unchanged landscape exists. Preservation of the landscape is key

to this and one tool would be the use of conservation easements by various large and small landowners in this area.

4. Identify and develop state heritage tour routes.

Working in partnership with the National Heritage Areas, and with the states of Colorado and New Mexico, the NPS could identify and develop a series of tours that would allow visitors to retrace the historic routes traveled by the early Latinos in southern Colorado and northern New Mexico and to visit closely related sites. Different tours would be planned around individual parts of the Latino story, and the tour routes would be designed so that people could embark on a tour at any major entrance to the San Luis Valley and central Sangre de Cristo Mountains. Visitors would receive orientation for the tours at the various state welcome and information centers and at other tourism centers. Web-based tour information, brochures or booklets could be developed for each tour to explain how resources along the way relate to the Latino story. This information would offer visitors options that would allow them to spend one day or several days on each tour.

5. Provide NPS technical assistance to state and local heritage sites.

Existing NPS programs, such as the Rivers, Trails and Conservation Assistance (RTCA) Program, could be deployed to help strengthen state and local efforts to research, preserve, and interpret a wide range of American Latino heritage resources found within the San Luis valley and central Sangre de Cristo Mountains. Federal financial and technical assistance could enable the National Heritage Areas to work with state and local governments to complete an inventory of these resources, and assist local communities and private organizations in preservation and public enjoyment of a variety of sites. The National Heritage Areas, working with state and local governments, could develop and implement a comprehensive interpretation program for all participating sites.

One of the signature projects of the Sangre de Cristo National Heritage Area is the restoration and reopening of the Sangre de Cristo Heritage Center at Costilla County (formerly the San Luis Museum and Cultural Center), located in the town of San Luis. This project is being undertaken in cooperation with the Costilla County Economic Development Council. Restoration of the building, which was built during the Great Depression by the Works Progress Administration (WPA), is being funded in

part through a Colorado State Historical Fund grant. The center's exhibits include: Culture Constante (Constant Culture), a Penitente morada, displays of Colcha stitchery, and Spanish Colonial santos, as well as a manuscript and art collection. Future plans call for a research library, living history demonstrations (Spanish Colonial period), and partnerships with institutions of higher learning on the research, study and interpretation of the Hispano farm system, traditional arts and folklore. The center also plans to hold traditional festivals and art markets to interpret the Indo-Hispano culture of northern New Mexico and southern Colorado.³³

In cooperation with the National Heritage Areas, NPS staff could conduct interpretive programs at various historic sites, such as Fort Garland and the Sangre de Cristo Heritage Center. The staff could also develop educational programs associated with Latino settlement, culture, traditions and initiative

youth programs, such as the Colorado Youth Summit. NPS staff also could implement the Teacher-Ranger-Teacher program. The NPS already has a major presence in the San Luis Valley at Great Sand Dunes National Park and Preserve. The staff at that park could provide the overall management and training necessary to sustain such a program.

As in the other recommendations calling for site interpretation, visitors would receive an overview of American Latino heritage resources and have the opportunity to visit a variety of sites representing various aspects of this story. The added emphasis on preservation would help ensure the integrity of resources and minimize the potential for misrepresentation. The preservation of a wide assemblage of resources would give visitors a broader understanding of American Latinos' contribution to America's heritage than could be conveyed by preserving just the biggest or most impressive sites.



Great Sand Dunes National Park and Preserve

³³ Rick Manzanares, "A Rationale for Federal Recognition and Resources for the Sangre de Cristo Heritage Center of Costilla County," August 29, 2011.

Appendix A. The National Park System New Areas Study Act (1998)

The National Park System New Areas Studies Act of 1998 (P.L. 105-391) placed specific limits on the process of conducting new area studies. These changes have been incorporated in law under 16 U.S.C. 1a-5 as follows:

1. General Authority

The Secretary of the Interior is directed to investigate, study, and continually monitor the welfare of areas whose resources exhibit qualities of national significance and which may have potential for inclusion in the National Park System. Accompanying the annual listing of areas shall be a synopsis, for each report previously submitted, of the current and changed condition of the resource integrity of the area and other relevant factors, compiled as a result of continual periodic monitoring and embracing the period since the previous such submission or initial report submission one year earlier. The Secretary is also directed to transmit annually to the Speaker of the House of Representatives and to the President of the Senate, at the beginning of each fiscal year, a complete and current list of all areas included on the Registry of Natural Landmarks and

those areas of national significance listed on the National Register of Historic Places which areas exhibit known or anticipated damage or threats to the integrity of their resources, along with notations as to the nature and severity of such damage or threats. Each report and annual listing shall be printed as a House document: provided, that should adequate supplies of previously printed identical reports remain available, newly submitted identical reports shall be omitted from printing upon the receipt by the Speaker of the United States House of Representatives of a joint letter from the chairman of the Committee on Natural Resources of the United States House of Representatives and the chairman of the Committee on Energy and Natural Resources of the United States Senate indicating such to be the case.

2. Studies of Areas for Potential Addition

A) At the beginning of each calendar year, along with the annual budget submission, the Secretary shall submit to the Committee on Resources of the House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate a list of areas recommended for study for potential inclusion in the National Park System.

- B) In developing the list to be submitted under this subsection, the Secretary shall consider—
1. Those areas that have the greatest potential to meet the established criteria of national significance, suitability, and feasibility;
 2. Themes, sites, and resources not already adequately represented in the National Park System; and
 3. Public petition and Congressional resolutions.
- C) No study of the potential of an area for inclusion in the National Park System may be initiated after November 13, 1998, except as provided by specific authorization of an Act of Congress.
- D) Nothing in this Act shall limit the authority of the National Park Service to conduct preliminary resource assessments, gather data on potential study areas, provide technical and planning assistance, prepare or process nominations for administrative designations, update previous studies, or complete reconnaissance surveys of individual areas requiring a total expenditure of less than \$25,000.

E) Nothing in this section shall be construed to apply to or to affect or alter the study of any river segment for potential addition to the national wild and scenic rivers system or to apply to or to affect or alter the study of any trail for potential addition to the national trails system.

3. Report

A) The Secretary shall complete the study for each area for potential inclusion in the National Park System within 3 complete fiscal years following the date on which funds are first made available for such purposes. Each study under this section shall be prepared with appropriate opportunity for public involvement, including at least one public meeting in the vicinity of the area under study, and after reasonable efforts to notify potentially affected landowners and State and local governments.

B) In conducting the study, the Secretary shall consider whether the area under study—

1. Possesses nationally significant natural or cultural resources and represents one of the most important examples of a particular resource type in the country; and

2. Is a suitable and feasible addition to the system.

C) Each study—

1. Shall consider the following factors with regard to the area being studied—

- a. The rarity and integrity of the resources;
- b. The threats to those resources;
- c. Similar resources are already protected in the National Park System or in other public or private ownership;
- d. The public use potential;
- e. The interpretive and educational potential;
- f. Costs associated with acquisition, development and operation;
- g. The socioeconomic impacts of any designation;
- h. The level of local and general public support; and
- i. Whether the area is of appropriate configuration to ensure long-term resource protection and visitor use;

2. Shall consider whether direct National Park Service management or alternative protection by other

public agencies or the private sector is appropriate for the area;

3. Shall identify what alternative or combination of alternatives would in the professional judgment of the Director of the National Park Service be most effective and efficient in protecting significant resources and providing for public enjoyment; and
4. May include any other information which the Secretary deems to be relevant.

D) Each study shall be completed in compliance with the National Environmental Policy Act of 1969 [42 U.S.C. 4321 et seq.].

E) The letter transmitting each completed study to Congress shall contain a recommendation regarding the Secretary's preferred management option for the area.

4. New Area Study Office

The Secretary shall designate a single office to be assigned to prepare all new area studies and to implement other functions of this section.

5. List of Areas

At the beginning of each calendar year, along with the annual budget submission, the Secretary shall submit to the Committee on

Resources of the House of Representatives and to the Committee on Energy and Natural Resources of the Senate a list of areas which have been previously studied which contain primarily historical resources, and a list of areas which have been previously studied which contain primarily natural resources, in numerical order of priority for addition to the National Park System. In developing the lists, the Secretary should consider threats to resource values, cost escalation factors, and other factors listed in subsection (c) of this section. The Secretary should only include on the lists areas for which the supporting data is current and accurate.

6. Authorization of Appropriations

For the purposes of carrying out the studies for potential new Park System units and for monitoring the welfare of those resources, there are authorized to be appropriated annually not to exceed \$1,000,000. For the purposes of monitoring the welfare and integrity of the national landmarks, there are authorized to be appropriated annually not to exceed \$1,500,000. For carrying out subsections (b) through (d) of this section there are authorized to be appropriated \$2,000,000 for each fiscal year.

Appendix B. Nationally Significant Themes: History and Prehistory

The National Park Service Thematic Framework for History and Prehistory (1996) is used to guide the National Park Service in evaluating the significance of resources including for designation as National Historic Landmarks and for potential new additions to the National Park System. The framework also is used to identify nationally significant themes for National Park Service planning efforts, including special resource studies. The framework organizes history under eight general themes:

1. Peopling Places
2. Creating Social Institutions and Movements
3. Expressing Cultural Values
4. Shaping the Political Landscape
5. Developing the American Economy
6. Expanding Science and Technology
7. Transforming the Environment
8. Changing Role of the United States in the World Community

Within the Thematic Framework, cultural resources in the San Luis Valley and central Sangre de Cristo Mountains area, including the Sangre de Cristo National Heritage Area, represent the following major themes:

Peopling Places: Ethnic Homelands: Navajo

The Navajo view Blanca Peak (Tsisnaasjini) as the Sacred Mountain of the East, one of four marking the boundaries of their traditional homeland.

Peopling Places: Mexican Land Grants, Latino Settlement and non-Latino Settlement

Late in the Mexican era (1821-1848), that government bestowed several large land grants within the study area: Luis Maria Baca No. 4, Conejos, Sangre de Cristo, Beaubien-Miranda (Maxwell), and Vigil-St. Vrain. One intent was for Mexicans to settle these areas that, for the most part, were populated by American Indians. That process was interrupted by the transfer of the area to the United States after the War with Mexico, and the influx of non-Latinos. Together, the grants exemplify the interplay between the distinct Latino settlement patterns and culture, overlaid with the settlement patterns and culture of non-Latinos, with accompanying violence including the Colfax War. Several resources in the study area reflect this theme, including the Sangre de Cristo National Heritage Area, the Trujillo Homesteads potential National Historic Landmark, La Vega and Associated Sites potential National Historic Landmark, Vermejo Park Ranch, Trinchera Ranch, and La Sierra/Cielo Vista Ranch.

Developing the American Economy: The Cattle Industry

The cattle industry adapted its operations to meet the demands of the harsh mountain climate of the West. Vermejo Park Ranch was one of the most valuable cattle grazing areas in New Mexico well into the 20th century.

Developing the American Economy: The Mining Industry

Colorado Fuel & Iron developed important coal mines in the Colorado portion of the Maxwell grant and also the Vigil-St. Vrain grant. Coal mining and placer gold mining also took place on the Maxwell grant. Resources reflecting this history also may still be extant on the Vermejo Park Ranch.

Developing the American Economy: The Railroad Industry

The Denver & Rio Grande Railroad San Juan Extension, which runs through the study area, greatly expanded settlement and access to natural resources throughout much of Colorado, northern New Mexico and parts of Utah. A 64-mile segment of the railroad now called the Cumbres & Toltec Scenic Railroad is a potential National Historic Landmark.

Transforming the Environment: Protecting and Preserving the Environment

Numerous owners of the Vermejo Park Ranch and the Trinchera Ranch have emphasized preservation of the landscape

and wildlife. Vermejo Park Ranch's current owner Ted Turner's mission is to return the landscape to its condition before European settlement, including reintroducing or breeding wolves, black-footed ferrets and Aplomado falcons. On the Trinchera Ranch, in 2004, the Forbes family donated the largest conservation easement in Colorado history to protect a rich diversity of ecotypes.

Transforming the Environment: Recreation

Vermejo Park Ranch has provided leisure activities for celebrity members of the exclusive Vermejo Club and hunting and fishing activities for the elite guests of owners Bartlett, Gourley, and Pennzoil.

Changing Role of the United States in the World Community: Expansionism and Land Law

Spanish and Mexican land laws impacted American law when the U.S. interpreted ownership claims in the land grants. One especially notable example is the decades-long legislative battle to regain the ability to hunt, graze cattle and collect firewood on the privately owned La Sierra/Cielo Vista Ranch; the Colorado Supreme Court ruled in favor of the descendants of the Hispano settlers.

Appendix C. National Register of Historic Places and State Register Properties

The survey area and Sangre de Cristo National Heritage Area represent several themes in national and Colorado history, including westward expansion, the railroad era, cattle ranching, community settlement, and architecture. Reflecting the multi-layered history of this area are the following properties, which are listed on the National Register of Historic Places and State Registers.³⁴

Colorado: Alamosa County

Alamosa County Courthouse (Alamosa) – The U-shaped courthouse is one of the county's best examples of Mission-style architecture. Construction of the building began in 1936 and it is one of the largest of several Works Progress Administration projects built in the county.

Alamosa Masonic Hall (Alamosa) – Listed on the Colorado State Register, this building represents a period of construction associated with the arrival of the railroad and the resulting ability to import prefabricated architectural elements. Built in 1887, it was one of the first major buildings to

³⁴ Descriptions of the Colorado resources are from the website of History Colorado, Colorado Office of Archaeology and Historic Preservation, <http://www.historycolorado.org/archaeologists/listed-properties>

be constructed on what would become Alamosa's main street.

American National Bank Building

(Alamosa) – Constructed in 1909 during a period of rapid growth in the San Luis Valley, the bank building reflects the optimism associated with an important phase of downtown Alamosa's commercial development. The brick building is a good example of an Arcaded Block, a popular commercial building type during the early decades of the 20th century. The building functioned as a bank until 1951.

Alamosa Post Office (Alamosa)– Constructed in 1935 by the Public Works Administration, the post office is an excellent example of the Mixed Style, exhibiting elements of Art Deco, Classical Revival, and the locally prevalent Mission Revival.

Bain's Department Store (Alamosa) – Listed on the Colorado State Register, this Depression-era building opened as the largest department store in the San Luis Valley, offering groceries and clothes as well as household and farm goods. Owner Victor Bain made extensive use of recycled materials to minimize construction costs.

Denver and Rio Grande Railroad Depot (Alamosa) – Built in 1908, this depot replaced an 1878 depot destroyed by fire. The west section was added in 1930. The depot

operated as an important transfer point for passengers, mail, and freight traveling between Denver, Creede, Santa Fe and Durango. Agricultural development in the valley made it essential for coordinating crop shipments. Passenger and freight use decreased in the 1950s, leading to the station's closure. The property is associated with the "Railroads in Colorado, 1858-1948" Multiple Property Submission.

Denver & Rio Grande Railroad Locomotive No. 169 (Alamosa) – Built in 1883, this narrow gauge, coal-fired, 10-wheeler steam locomotive is one of the fastest narrow gauge engines built. It operated for more than 50 years. In 1939, it was pulled out of storage and represented the D&RGW Railroad at the 1939 World's Fair in New York City. In 1941, the railroad gave it as a gift to the city of Alamosa, where it now rests in Cole Park.

First Baptist Church (Alamosa) – An asymmetrical composition consisting of a variety of forms, texture and materials, the church epitomizes the Queen Anne style. The building, the construction of which began in 1907, also is the only ornamental concrete block public building in Alamosa and is associated with the "Ornamental Concrete Block in Colorado, 1900 to 1940" Multiple Property Submission.

Howard Store (Hooper) – This well-preserved 1891 storefront with its false front is a textbook example of a small, 19th century commercial building. The building is one of the town's oldest and longest operating general merchandise establishments.

Husung Hardware (Alamosa) – Constructed in 1936 with a terra cotta facade and stylized ornamentation, the two-story brick building is considered one of the best small-town expressions of Art Deco architecture in Colorado.

Medano Ranch Headquarters (Mosca) – The Medano Ranch is one of the oldest continuously operated properties in the San Luis Valley, and its buildings and structures reflect the evolution of ranching as a large-scale enterprise during the late 19th and 20th centuries. Architecturally, the buildings are classic examples of the variety of materials and construction techniques found on ranches of great longevity.

Mt. Pleasant School (Alamosa) – Built in 1911, the building epitomizes the rural schoolhouse and served as the last one-room school in the Alamosa vicinity. It not only was a center of education, but also a focus of community life, hosting a variety of activities. This property is associated with "Rural School Buildings in Colorado" Multiple Property Submission.

Sacred Heart Catholic Church (Alamosa) – See description under “Significant American Latino Heritage Resources”.

St. Thomas Episcopal Church (Alamosa) – The building, which consists of a 1926 parish hall and a 1930 sanctuary addition, is an example of the Mission Revival style. It is one of the few religious properties designed by the prolific Denver architectural firm of William E. and Arthur A. Fisher.

Superintendent’s Residence, Great Sand Dunes National Park and Preserve (Mosca)– Constructed in the Territorial Adobe style, this building was the largest project undertaken by the WPA during its late 1930s work at Great Sand Dunes. It represents the Rustic Movement, championed by the National Park Service’s first director, Stephen T. Mather, who advocated the use of native materials and vernacular building traditions wherever possible.

Trujillo Homesteads (Hooper) – See description under “Significant American Latino Heritage Resources”.

Zapata Ranch Headquarters (Mosca) – Zapata Ranch is one of first and largest cattle ranches in the area; it also served as a stage coach stop and post office. Some of its buildings date to the 1870s, and all of the historic ranch buildings are of log construction.

Colorado: Conejos County

Costilla Crossing Bridge (Antonito) – Completed in 1892, this pin/rigid connected, eight-panel Thatcher-through-Truss bridge is significant for its unusual structural style, patented in 1884 by Edwin Thatcher, then chief engineer of the Keystone Bridge Company. It is the oldest vehicular truss in southern Colorado. The property is associated with the “Highway Bridges in Colorado” Multiple Property Submission.

Denver & Rio Grande Railroad San Juan Extension (Cumbres & Toltec Scenic Railroad) (Antonito) – The Denver & Rio Grande Railroad San Juan Extension (Cumbres & Toltec Scenic Railroad) is a 64-mile railroad that extends from Antonito, Colorado to Chama, New Mexico. The 36” gauge railroad, which was built by William Jackson Palmer, is nationally significant as an outstanding surviving example of the 1,000-mile “narrow-gauge” network that, between 1875 and 1900, made possible settlement and access to natural resources throughout much of Colorado, northern New Mexico and parts of Utah. The Denver & Rio Grande Railroad San Juan Extension also is significant as the country’s most complete and representative surviving example of early twentieth century

railroading at its peak of national influence (roughly 1870 to 1930), when the network exceeded 254,000 route miles, was the country’s largest single non-agricultural employer, and provided 85 percent of all intercity transportation. The property is listed on the National Register of Historic Places. The National Historic Landmarks Committee of the National Park Service Advisory Board will review its nomination as a National Historic Landmark nomination in spring 2012.

Denver & Rio Grande Railroad Antonito Depot (Antonito) – Listed on the Colorado State Register, this 1880 depot served for over 60 years as the junction point for the branch line to Santa Fe, New Mexico, and the D&RG’s San Juan Extension from Alamosa to Durango and Silverton. The depot was the westernmost station on the Denver & Rio Grande’s San Juan Extension.

Denver & Rio Grande Western Railroad Engine No. 463 (Antonito) – Built in 1903 by the Baldwin Locomotive Works of Philadelphia, Engine No. 463 is one of only two remaining locomotives of the K-27 series originally built for and operated by the Denver & Rio Grande Western Railroad. The K-27 series was a departure from the design

most prevalent on Colorado's narrow gauge lines, resulting in a locomotive with one and one-half times more power.

Florence & Cripple Creek Railroad Combination Car No. 60 (part of the Cumbres & Toltec Scenic Railroad) – Listed on the Colorado State Register, this railroad car was built in 1897 for the Florence & Cripple Creek Railroad, the first railroad to reach the gold mines of the Victor and Cripple mining districts. One of only two surviving F&CC passenger coaches in the United States, it is the only surviving example of a combination passenger-baggage car from the railroad.

La Capilla De San Antonio De Padua (Lasauces) – See description under “Significant American Latino Heritage Resources”.

La Jara Depot (La Jara) – Located on part of the San Juan Extension of the Denver and Rio Grande Railroad between Alamosa and Silverton, this 1911 depot served as a shipping point for area ranchers and farmers. In 1970, the town acquired the building and transformed it into the town hall. The property is associated with the “Railroads in Colorado, 1858-1948”, Multiple Property Submission.

Palace Hotel (Antonito) – This hotel was built in 1890 at Antonito, an important trade center at the junction of the Rio Grande Railroad's line to Chama, Durango, and the San Juan Mountains, and its branch to Santa Fe.

Pike's Stockade (Sanford) – See description under “Significant American Latino Heritage Resources”.

San Rafael Presbyterian Church (Mogote) – See description under “Significant American Latino Heritage Resources”.

La Sociedad Proteccion Mutua de Trabajadores Unidos (SPMDTU) Concilio Superior (Antonito) – See description under “Significant American Latino Heritage Resources”.

Warshauer Mansion (Antonito) – This large 1912 brick and stucco home, with a red tile roof, was built for Fred B. Warshauer, a German immigrant who rose to county prominence in the sheep business. Denver architect George F. Harvey drew the plans according to Warshauer's specifications. Unusual for the period, the house boasts a central vacuum cleaning system and a fire control system.

Colorado: Costilla County

Barlow & Sanderson Stagecoach (Fort Garland) – Listed on the Colorado State Register, this Barlow and Sanderson stagecoach provided basic transportation throughout the San Luis Valley of Colorado and New Mexico in the late 19th century. The stagecoach is a rare example of an Abbot-Downing mud wagon type built around 1871.

Fort Garland (Fort Garland) – See description under “Significant American Latino Heritage Resources”.

Plaza de San Luis de la Culebra Historic District (San Luis) – See description under “Significant American Latino Heritage Resources”. Listed under “Culebra River Villages of Costilla County” Multiple Property Submission.

Rito Seco Creek Culvert (San Luis) – This steel multi-plate arch culvert consists of two 18-foot spans, faced with local volcanic fieldstone. Constructed in 1936, the culvert remains intact as a good example of one of the smaller bridges built by the Works Progress Administration. Listed under “Highway Bridges in Colorado” Multiple Property Submission.

A.A. Salazar House (San Luis) – Constructed in 1906, the house is an example of an ornamental concrete block residence. Its Queen Anne detailing is an unusual expression for concrete block construction and for Costilla County. Listed under “Ornamental Concrete Block Building in Colorado, 1900 to 1940” Multiple Property Submission.

San Acacio San Luis Southern Railway Depot (San Acacio) – Listed on the Colorado State Register, this depot was built in 1910 by the San Luis Southern Railway, a 32-mile standard gauge railroad that served the towns and farms planned by the Costilla Estates Development Company. The two-story depot also served as railway headquarters until 1950, and is all that is left in San Acacio to represent the railroad and the company that created the town.

San Luis Bridge (San Luis) – Completed over Culebra Creek on the western edge of San Luis in 1911, this segmental, reinforced concrete open spandrel arch is one of the earliest unaltered bridges of this type in Colorado. Listed under “Highway Bridges in Colorado” Multiple Property Submission.

San Luis Valley Southern Railroad Trestle (Blanca) – The Costilla Estates Development Company, a business organized to sell lands

within the Sangre de Cristo Land Grant, built the 32-mile San Luis Valley Southern (SLVS) Railway. This trestle, an excellent example of timber stringer standard gauge railroad bridge construction, was built in 1910 and carried freight and passenger service until 1939. It is the only remaining SLVS trestle, and is associated with the “Railroads in Colorado” Multiple Property Submission.

Sociedad de Nuestro Padre Jesus Nazareno (San Francisco Morada, San Pablo Vicinity) – See description under “Significant American Latino Heritage Resources”.

Colorado: Huerfano County (sites within survey area)

Francisco Plaza (LaVeta) – See description under “Significant American Latino Heritage Resources”.

La Veta Masonic Hall (La Veta) – Listed on the Colorado State Register, the Masonic Hall, which was completed in 1889, is one of the earliest extant examples of the stone construction that would become a prominent component of La Veta’s architectural heritage. It is one of the better preserved of the few two-story stone buildings in town, and it is the oldest two-part block commercial building.

La Veta Pass Narrow Gauge Railroad Depot (La Veta) – This simple L-shaped stuccoed stone depot dates to 1877. The Denver & Rio

Grande Railroad built it atop the 9,400-foot-high La Veta Pass to serve passenger trains bound to and from the San Luis Valley to the west. The building functioned until 1899 when the original narrow gauge line gave way to a standard gauge replacement seven miles to the south. Associated with “Railroads in Colorado, 1858-1948” Multiple Property Submission.

Lamme Hospital (La Veta) – In 1909, the construction of the 2½-story sandstone hospital building took place, and it was continuously used as such up to 1944. After 1944 the building was used as a private residence up to 1980, when it was then converted to a bed and breakfast inn.

Veta Pass-Uptop Historic District (La Veta Pass, Old La Veta Pass, Uptop) – This mountain village first became famous in 1877 as the location of the highest railroad pass and highest depot in America. In 1877, with the arrival of the Denver & Rio Grande Railroad into this area of Colorado, it was the first place that a steam locomotive crossed the Rockies. The community has continually reinvented itself as modes of transportation

reshaped access through the Sangre de Cristo Mountains, first as a railroad stop, then as a community that supported a sawmill and the processing of timber, and finally as a destination for tourists.

Colorado: Las Animas County
(sites within survey area)

Bridge over Burron Cañon (Madrid) – Completed in 1936, the bridge consists of three skewed semicircular arches with multiplates, and features rusticated stone facing and grapevined mortar joints, trademarks of Works Progress Administration (WPA) workmanship in southeastern Colorado. The bridge is associated with the “Highway Bridges in Colorado” Multiple Property Submission.

Cokedale Historic District (Cokedale) – Cokedale is associated with the coal mining and coke industry that served as the predominant basis of the southern Colorado economy around 1900. While most coal camps were dismantled as mines ceased operation in the Las Animas-Huerfano district after World War I, Cokedale continued to thrive as a company town until 1946. Constructed in 1906-1907, it was long heralded as a model camp, with housing, educational and recreational facilities

provided for its inhabitants by their employer, the American Smelting and Refining Company. The property is associated with the “Mining Industry in Colorado” Multiple Property Submission.

New Mexico: Colfax County
(sites within survey area)

Catskill Charcoal Ovens (Vermejo Park Ranch) – The Catskill Charcoal Ovens, which are among the few remnants associated with the lumbering and sawmill town of Catskill, are now abandoned. The ovens are listed on the National Register of Historic Places, as well as the New Mexico State Register.

Cimarron Historic District (Cimarron) – See description under “Significant American Latino Heritage Resources”.

Maxwell-Abreu and North (Martinez) Houses (Cimarron vicinity) – See description under “Significant American Latino Heritage Resources”.



County Road T Approaching Crestone, Saguache County, Colorado

References

- Bailey, R.G. 1995. *Description of the Ecoregions of the United States*. 2nd Ed. Misc. Publ. No. 1391. Washington, D.C.; USDA Forest Service.
- Bexfield, L.M. and S.K. Anderholm. 2010. "Section 10.-Conceptual Understanding and Groundwater Quality of the Basin-Fill Aquifer in the San Luis Valley, Colorado and New Mexico" in Thiros, S.A., Bexfield, L.M., Anning, D.W., and Huntington, J.M., eds., Conceptual understanding and groundwater quality of selected basin-fill aquifers in the Southwestern United States: U.S. Geological Professional Paper 1781. 288 p. Available: <http://water.usgs.gov/nawqa/studies/praq/swpa/>
- Bolyard, D.W. 1960. "Permo-Pennsylvanian Stratigraphy in the Sangre De Cristo Mountains, Colorado." Pages 117-120 in *Guide to the Geology of Colorado*, R.J. Weimer and J.D. Haun eds., Geological Society of America, Rocky Mountain Association of Geologists, Denver, Colorado.
- Bradfute, Richard W. "The Las Animas Land Grant, 1843-1900." *Colorado Magazine* 47, (winter 1970): 26-43.
- Chronic, H. 1980. *Roadside Geology of Colorado*. Mountain Press Publishing Company, Missoula, Montana.
- Colorado Division of Wildlife [CDOW]. 2010. Species ranges and use areas shapefiles. Vector digital data. Colorado Division of Wildlife, Fort Collins, Colorado.
- Colorado Geological Survey [CGS]. 2011. *Official list of Colorado Fourteeners*. Colorado Geological Survey, Colorado Department of Natural Resources, Denver, Colorado.
- Colorado Natural Heritage Program [CNHP]. 2011. *Biodiversity Tracking and Conservation System (BIOTICS)*. Colorado State University, Fort Collins, Colorado.
- Colorado. Sangre de Cristo Land Grant Commission. "Sangre de Cristo Land Grant Commission Report." [Denver?]:1993.
- Colorado. State Archives. "Spanish-Mexican Land Grants: A Brief Introduction." Colorado State Archives. www.colorado.gov/dpa/doit/archives/mlg/mlg.html (accessed September 15, 2011).
- Colorado Water Conservation Board [CWCB]. 1998. "Rio Grande Decision Support System Feasibility Study." Prepared for CWCB by Riverside Technology inc, HRS, Boyle.
- Cooper, D.J. and C. Severn. 1992. "Wetlands of the San Luis Valley, Colorado: an Ecological Study and Analysis of the Hydrologic Regime, Soil Chemistry, Vegetation and the Potential Effects of a Water Table Drawdown." Unpublished report prepared for the State of Colorado Division of Wildlife, U.S. Fish and Wildlife Service, and Rio Grande Water Conservation District.
- Costilla County. Economic Development Council. "The Sacred Circle Tour." Brochure. San Luis Preservation. <http://www.sanluispreservation.com/2007/10/sacred-circle-2.html> (accessed October 2011).
- Doucette, Vicky Bunsen and Dana EchoHawk. "Montoya Ranch National Register of Historic Places Registration Form." [Colorado State] Review board draft. Colorado: Manitou Springs, 2011.
- Foutz, D.R. 1994. "Geology of Colorado Illustrated." Your Geologist, Dell R. Foutz, Grand Junction, Colorado.

History Colorado. Office of Archaeology and Historic Preservation. "National and State Register." <http://www.historycolorado.org/archaeologists/listed-properties> (accessed September 2011).

LeCompte Janet L. *Pueblo, Hardscrabble, Greenhorn*. Norman: University of Oklahoma Press, 1978.

Legler, B.S. 2010. "A Floristic Inventory of Vermejo Park Ranch, New Mexico and Colorado." Masters Thesis, University of Wyoming.

Lindsey, D.A. 2010. "The geologic story of Colorado's Sangre de Cristo Range." *U.S. Geological Survey Circular 1349*, 14 p.

Manzanares, Rick. "A Rationale for Federal Recognition and Resources for the Sangre de Cristo Heritage Center of Costilla County." August 29, 2011.

Miggins, D.P., R.A. Thompson, C.L. Pillmore, L.W. Snee, and C.R. Stern. 2002. "Extension and uplift of the northern Rio Grande Rift: Evidence from ⁴⁰Ar/³⁹Ar geochronology from the Sangre de Cristo Mountains, south-central Colorado and northern New Mexico." Pp 47-64 in Menzies, M.A., Klemperer, S.L., Ebinger, C.J., and Baker, J., eds., *Volcanic Rifted Margins*. Geological Society of America Special Paper 362, Boulder, Colorado.

Mondragón-Valdéz, Maria. "The Culebra River Villages of Costilla County, Colorado, National Register Multiple Property Documentation Form." San Luis, Colorado: Valdez & Associates, 2000.

National Park Service. Denver Service Center. Manager. Memorandum to Regional Director, Southwest Region. "Task Directive for Review and Approval, Vermejo Ranch, New Mexico." November 9, 1978.

National Park Service [NPS]. 2011. "Great Sand Dunes National Park and Preserve: Nature & Science." Website: <http://www.nps.gov/grsa/naturescience/>

NatureServe. 2011. "NatureServe Explorer: An online encyclopedia of life, version 7.1." NatureServe, Arlington, Virginia. Available online at: <http://www.natureserve.org/explorer>

Neely, B., P. Comer, C. Moritz, M. Lammert, R. Rondeau, C. Pague, G. Bell, H. Copeland, J. Humke, S. Spackman, T. Schulz, D. Theobald, and L. Valutis. 2001. "Southern Rocky Mountains: an ecoregional assessment and conservational blueprint." The Nature Conservancy, Boulder, Colorado.

Noel, Thomas J., Paul F. Mahoney and Richard E. Stevens. *Historical Atlas of Colorado*. Norman: University of Oklahoma Press, 1994.

Nostrand, Richard L. *The Hispano Homeland*. Norman: University of Oklahoma Press, 1992.

Rondeau, R.J., D. Saar, M.B. Wunder, P.M. Pineda, and G.M. Kittel. 1998. "Saguache County, Closed Basin Biological Inventory Volume 1: A Natural Heritage Assessment Final Report." Colorado Natural Heritage Program, Colorado State University, Fort Collins, Colorado.

Salas, D. E., J. Stevens, K. Schulz, M. Artmann, B. Friesen, S. Blauer, E.W. Schweiger, and A. Valdez. 2010. "Vegetation classification and mapping project report: Great Sand Dunes National Park and Preserve." Natural Resource Report NPS/ROMN/NRR—2010/179. National Park Service, Fort Collins, Colorado.

Sangre de Cristo National Heritage Area. "Sangre de Cristo National Heritage Area." <http://sdcnha.org/js/about-sangre-de-cristo-national-heritage-area.html> (accessed September 2011).

Simmons, Thomas H. and R. Laurie Simmons, Front Range Research Associates, Inc. to Christine Whitacre, National Park Service. Memorandum. "San Luis NHL- Reconnaissance Survey Results and District Recommendations." October 14, 2010.

Simmons, Thomas H. and R. Laurie Simmons. "Trujillo Homesteads National Historic Landmark Nomination." Draft. Denver: Front Range Research Associates, Inc., September 26, 2011.

Southern Rockies Ecosystem Project [SREP]. "Linking Colorado's Landscapes: A Statewide Assessment of Wildlife Linkages, Phase 1 Report. Southern Rockies Ecosystem Project, Denver, Colorado." Available: http://rockymountainwild.org/_site/wp-content/uploads/LCL-Phase-1-Report.pdf

Stoller, Marianne L. "Grants of Desperation, Lands of Speculation: Mexican Period Land Grants in Colorado." In *Spanish & Mexican Land Grants in New Mexico and Colorado*, edited by John R. Van Ness and Christine Van Ness, 22-39. Manhattan, KS: Sunflower University Press, 1980.

Tameling v. United States Freehold & Emigration Co. 93 U.S. 644 (1876).

The Nature Conservancy [TNC]. 2001. Ecoregions of the United States of America. Vector digital data. The Nature Conservancy - Conservation Science Division. Western Conservation Science Center, Boulder, Colorado.

U.S. Department of the Interior, U.S. Department of Agriculture, and State of New Mexico. *Vermejo Ranch, New Mexico/ Colorado: Study of Management Options*. NPS: 1979.

U.S. General Accounting Office. *Treaty of Guadalupe Hidalgo: Definition and List of Community Land Grants in New Mexico*. Report to Congressional Requestors, GAO-01-951. Washington, D.C.: GAO, 2001.

U.S. House of Representatives. Office of the Clerk. Office of History and Preservation. "Ruth Hanna McCormick." Women in Congress. <http://womenincongress.house.gov/member-profiles/profile.html?intID=163> (accessed October 2011).

U.S. vs. Maxwell Land Grant Company. 121 U.S. 325 (1887).

Valdez, A.D. 1996. "The role of streams in the development of the Great Sand Dunes and their connection with the hydrologic cycle." Great Sand Dunes National Monument, Mosca, Colorado. Available: <http://www.nps.gov/grsa/naturescience/upload/Trp2029.pdf>

Western Regional Climate Center [WRCC]. 2011. "Period of Record General Climate Summaries-Temperature, for Cimarron, La Veta Pass, and Vermejo Park stations." [website.] Available at: <http://www.wrcc.dri.edu/summary/Climsmco.html>



Riders Pause before Descending from Music Pass in Great Sand Dunes National Park and Preserve

Preparers

Reconnaissance Survey Team

National Park Service Intermountain Region

Art Hutchinson, Program Manager, Planning

Greg Kendrick, Assistant Regional Director,
Partnerships and External Relations

Christine Whitacre, Program Manager,
Heritage Partnerships Program

Lysa Wegman-French, Historian, Heritage
Partnerships Program

Shirl Kasper, Historian, Heritage Partnerships
Program

Michele D’Arcy, Landscape Architect,
Planning

Colorado Natural Heritage Program

Karin Decker, Ecologist, Principal
Investigator

Renee Rondeau, Ecologist and Conservation
Planning Team Leader

Michelle Fink, Landscape Ecologist / GIS
specialist

Publication Services

National Park Service Intermountain Region

Darcee Killpac, GIS Specialist

Sage Wall, Geospatial Analyst

Lori Kinser, Visual Information Specialist

National Park Service Washington Service Office

Roger Johnson, Chief Cartographer, Land
Resource Division

Consultants

National Park Service Intermountain Region

John Wessels, Regional Director

Rick Frost, Associate Regional Director,
Communications and External Relationships

Alan Ragins, Program Manager, Rivers,
Trails and Conservation Assistance Program
(RTCA)

Joy Lujan, Community Planner, RTCA

Glenna Vigil, Program Manager, Lands

Heather Germaine, National Natural
Landmarks Coordinator

National Park Service Washington Service Office Park Planning and Special Studies

Patrick Gregerson, Program Manager

Tokey Boswell, Program Analyst

Carol Cook, Program Analyst



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

United States Department of the Interior / National Park Service

NPS 140/111990