

SANGRE DE CRISTO NATIONAL HERITAGE AREA

MANAGEMENT PLAN



NOVEMBER, 2012



SANGRE DE CRISTO

NATIONAL HERITAGE AREA

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Cover photographs, from top left: Steam engine on the Cumbres & Toltec Scenic Railroad, a National Historic Landmark, photo by Cheryl Fountain; hiker in the wilderness of Great Sand Dunes National Park and Preserve, with the Sangre de Cristo Mountains as backdrop, photo by Scott Hansen, courtesy National Park Service; "Dios es Amor" (God is Love) gate and San Rafael Presbyterian Church, photo by Ann Marie Velasquez; Fort Garland commandant's quarters, photo by Peter C. Benton, Heritage Strategies, LLC; the People's Ditch, first acequia in Colorado (1851), photo by Peter C. Benton; Rio Grande style of Spanish Colonial weaving by National Heritage weaver Eppie Archuleta, credited with saving the tradition and the type of loom used, photo by Kathleen Figgen; grassland sunflowers, photo by Patrick Myers; santos carvings (bultos, sacred carvings in the round), photo by Kathleen Figgen; sheep grazing in San Luis shrublands ecoregion in northern Conejos County below the foothills of the Rio Grande National Forest, photo by Peter C. Benton. The two photos by Ms. Figgen are courtesy of the Southern Colorado Council on the Arts Folklorist Collection, Adams State University, Nielsen Library.

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CHAPTER 1 › A VISION FOR THE HERITAGE AREA



The Sangre de Cristo Mountain Range rises dramatically above the intricately woven tapestry of farm fields, settlements, creeks, wetlands, and a diversity of plant and animal communities. This complex landscape is one of the most unique and well-preserved cultural landscapes in the nation.

INTRODUCTION

The Sangre de Cristo National Heritage Area was established on March 30, 2009 in Public Law 111-11 for the purposes of providing an “integrated and cooperative approach for the protection, enhancement, and interpretation of the natural, cultural, historic, scenic, and recreational resources of the Heritage Area.” Stunningly beautiful natural resources and a rich mixture of Hispano and Anglo settlements converge here to make this one of the most unique and well-preserved cultural landscapes in the nation.

As stated in the feasibility study that led to its recognition by Congress, the Sangre de Cristo National Heritage Area represents a “profound historical, religious, cultural, ethnic and bio[logical] diversity that historically served as a staging ground for a new nation that was being redefined. Hispano, Anglo and Native American cultures interacted in this area, witnessing the convergence of the old with the new” (Shapins, 2).

The Sangre de Cristo National Heritage Area tells the stories of the peoples, culture, and environment of the lower San Luis Valley and its adjacent mountains. Through

its stories, the National Heritage Area builds public awareness of the valley’s significant legacies, supports the local economy through heritage tourism, and strengthens communities by facilitating local initiatives.

The heritage area encompasses more than 3,000 square miles of the upper headwaters of the Rio Grande in Colorado’s San Luis Valley, a prominent feature of the southern Rocky Mountains. The San Luis Valley is bordered by the Sangre de Cristo Mountain Range on the east and the San Juan Mountain Range on the west. In English, “Sangre de Cristo” translates as “Blood of Christ,” a 17th century name owing to the mountains’ red glow from the setting sun on rare, spectacular occasions. Taller and more dramatic, the Sangre de Cristos most distinctly characterize this landscape, the reason the name was chosen for the National Heritage Area. No matter where one finds oneself within the heritage area, a beautiful mountain view either east or west is likely to be part of the scene.

The Sangre de Cristo National Heritage Area includes Alamosa, Conejos, and Costilla Counties at the southern end of the San Luis Valley. The Alamosa, Baca, and Monte Vista National Wildlife Refuges and the Great Sand Dunes





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A Vision for the Heritage Area

The Feasibility Study's Statement of Importance

Note: the following is drawn from Sangre de Cristo National Heritage Area Feasibility Study (2005, by Shapins Associates), the report that led to the National Heritage Area's designation in 2009 by Congress. The National Heritage Area is significant for its unique ecology, Native American occupation, early Hispano settlement, American westward migration, and the evolution of the San Luis Valley's agricultural economy.

The Sangre de Cristo National Heritage Area represents a profound historical, religious, cultural, ethnic, and bio[logical] diversity, and historically served as a staging ground for a new nation that was being redefined. Hispano, Anglo, and Native American cultures interacted in this area, witnessing the convergence of the old with the new. Mt. Blanca, located just southeast of the Great Sand Dunes National Park and Preserve, marks the eastern boundary of the Navajos' worldly domain as told in their folklore. It is one of the four sacred mountains of the Navajo Creation Story in the Navajo religion. The geographic isolation of the area has essentially preserved cultural identities of... [Hispano and other non-indigenous] groups. At times this is evident in the seventeenth century Spanish still spoken within the heritage area.

The dynamics of its history and the diversity of its land and peoples make this area an integral and important part of the overall national story. Buffalo hunting and the indigenous nomadic life gave way to Penitente moradas, Mexican Land Grants and later to the military, railroads, mining, foreign labor and a new way of looking at the land. Explorer Zebulon Pike, who was captured by Spanish soldiers in 1807 in this area, was the first American to provide a detailed description of this part of our nation. Pike's rebuilt stockade remains a symbol of the expansionist nature of our nation during that crucial time of exploration.

Human settlement of the Sangre de Cristo National Heritage Area is directly associated with its geological [and natural] resources. The region's wealth of valuable resources, scenic splendors, and culturally based historical assets has origins founded in the Valley's geological history. The layered water systems of this area first brought in game that consequently attracted many tribes of Native peoples, who traveled long distances, attempting to create stores for the winter. As time went on Hispano settlers were enticed by the water to raise crops and sheep, followed by Anglo farmers raising cattle and wheat, and today potatoes, alfalfa and lettuce.

The Sangre de Cristo National Heritage Area represents the crossroads of cultures, where Spanish, Anglo, and Native Americans converged...as America moved westward. The spirit of independence and self-reliance, an important national value, remain as legacy to those first courageous settlers who fought many odds to make this their home (Shapins 2005, 2).

National Park and Preserve are within the heritage area. The Conejos County portion of the vast San Juan National Forest and some BLM lands are also included, as are a host of smaller sites protected by the state of Colorado. County seats are Alamosa (population 15,445, Alamosa County), Conejos (pop. 156, Conejos County), and San Luis (pop. 647, Costilla County). Antonito, just two miles from Conejos, is the heritage area's second-largest town (pop. 2267) and is the heritage area's southern entry point. Fort Garland (pop. 840) near the base of Mount Blanca, the prominent massif of the Sangre de Cristos, is the third-largest town and the heritage area's eastern entrance in Costilla County.

The richly layered stories of the people who lived here, their traditions and arts, their historic contribution to the expansion of the United States, and the evolution of this remarkable landscape and culture are hardly evident to

the visitor, much less well understood by many residents. Owing to scarcity of funds for rehabilitation and capital improvements, moreover, many structures are in need of historic preservation. The heritage area has an opportunity to enhance interpretation through community involvement, spur preservation of authentic historic and cultural sites, and stimulate community development in response to tourism. Through the heritage area's efforts, Americans and international visitors will discover that this remarkable place with its extensive access to natural resources has an equally important cultural heritage to share. As important, its residents will gain tools and processes to help perpetuate their traditions and resources through the 21st century and beyond.

The coordinated heritage development program laid out in this plan has these two broad aims:



Sangre de Cristo National Heritage Area

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A Vision for the Heritage Area

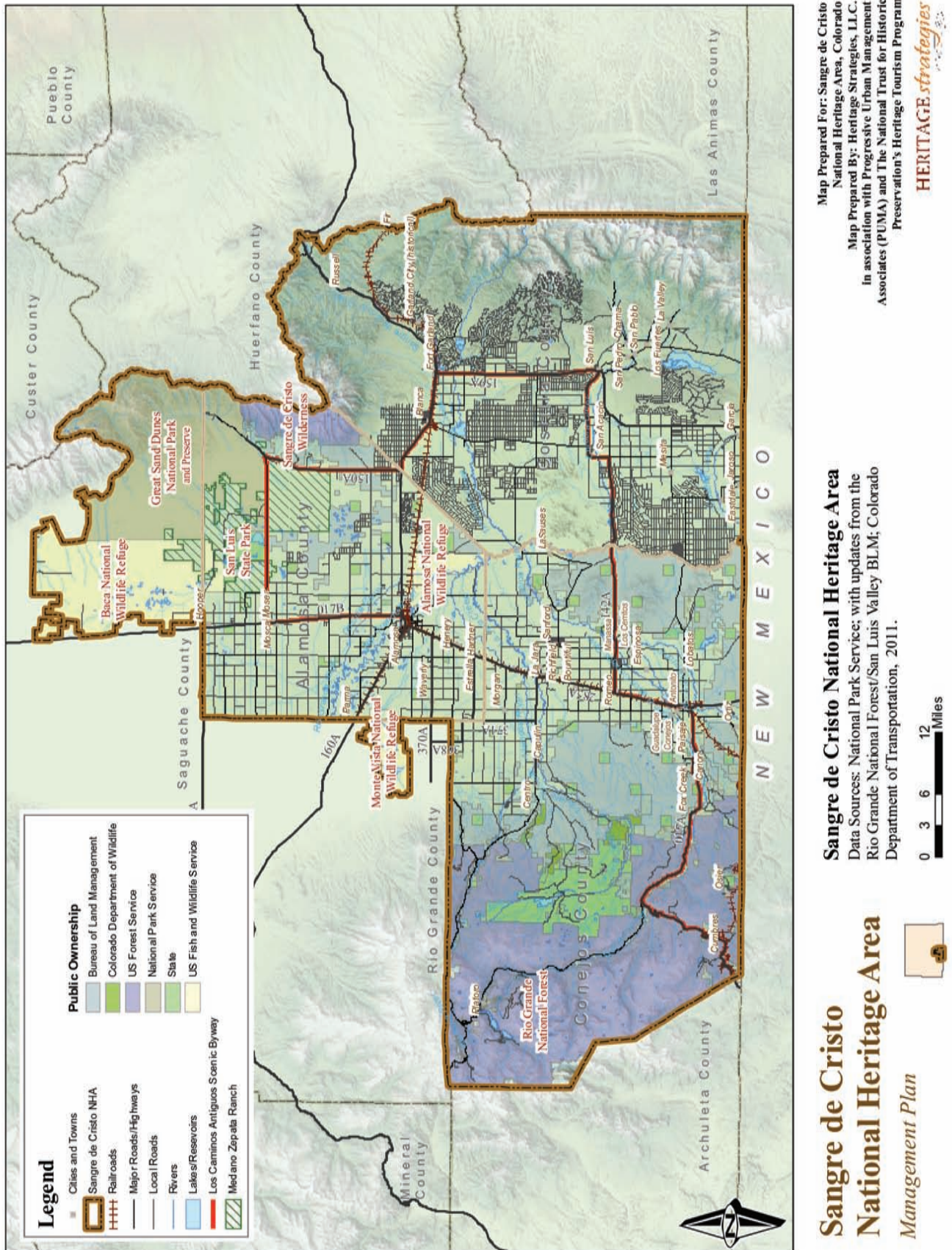


Figure 1-1: Context map showing boundaries of the Sangre de Cristo National Heritage Area.



Sangre de Cristo National Heritage Area

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A Vision for the Heritage Area



Large bales of alfalfa hay are common sights throughout the San Luis Valley, a major agricultural region in Colorado.

- To tell the unique story of this National Heritage Area and its people while connecting the local story to the broader story of the settlement of the Southwest and emphasizing the relevance of the region's legacy to today's culture and society; and
- To help preserve the physical and cultural landscapes of the southern San Luis Valley and its many traditions, revitalizing its communities and thereby positively affecting the region's economic sustainability.

A BRIEF DESCRIPTION OF THE SANGRE DE CRISTO NATIONAL HERITAGE AREA

Snow-capped mountain peaks, the Rio Grande and its tributaries, forested hills and ancient volcanic mesas, enormous sand dunes, and thousands of acres of wetlands are but a few of the natural sights to behold in the Sangre de Cristo National Heritage Area. Perhaps the most unusual sights are the flocks of sandhill cranes that pass through in the spring and fall, and the sand dunes, the nation's highest. The latter are tucked into an angle of the Sangre de Cristos and sustained by a cycle of water and wind that has no equal anywhere on the planet, the focal point of one of the quietest national parks in the lower 48 states. The permanent preservation of many of the valley's landscapes and ecosystems is one of the most important success stories in Colorado, if not the nation. Such an accomplishment is the result of hard work of many agencies and nonprofit organizations and the goodwill of many private landowners, with more preservation efforts expected in the years to come.

Two historic sites associated with the cultural heritage of the San Luis Valley are widely recognized, the Cumbres & Toltec Scenic Railroad between Antonito, CO, and Chama, NM, and Fort Garland, where Kit Carson served as post commander and today a state historic site and museum in the little town of the same name. A second railway, combining

freight and passengers enjoying the scenery, the Rio Grande Scenic Railroad, plies a route between Antonito, Alamosa, and La Veta Pass, the eastern pass into the heritage area and Costilla County. A majority of this National Heritage Area's historic resources, however, are not well known.

Many physical resources pertain to Hispano heritage, such as the historic plazas, placitas, moradas, churches, cemeteries, hundreds of miles of hand-dug irrigation canals called acequias, and small-scale ranches and farms. A branch of the Old Spanish Trail between Santa Fe and California passes through the region, hardly visible on the landscape. Recognized by the National Park Service as a National Historic Trail, its story is only beginning to be told. A state scenic byway, Los Caminos Antiguos, interprets the region's Hispano history and the landscape as it links Antonito, San Luis, Fort Garland, the national park, and Alamosa.

Cultural traditions are as varied as the National Heritage Area's natural and historic resources. In the southeast corner of the area, settlers from Mexico founded San Luis, the state's oldest town, on April 5, 1851. They brought with them Spanish traditions handed down from at least the 17th century, mingled with New World knowledge gleaned from interaction with indigenous American Indians of today's American Southwest and Mexico. Dance, music, an archaic Spanish dialect, foods, farming, weaving, and embroidery are among customs that have persisted and enrich local culture today.

Others followed from the United States after the region was ceded by Mexico at the end of the Mexican-American War (1846-48) beginning with Mormons in the 19th century. Over succeeding decades more settlers followed from the eastern United States — predominantly Swedes, Dutch, and Germans. Quite recently, the Amish have settled here, drawn by rich farmland like their predecessors. Japanese



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Modern occupations include farming and ranching, including a growing number focusing on local foods amongst irrigated fields of alfalfa and potatoes; plus a strong medical and academic community and the host of other occupations needed in modern communities. An unusual element is the large number of artists, drawn by the culture, the landscape, and the simple life possible here.

That altitude means that the region's newest wealth may soon be found in the solar energy collectors that are beginning to dot the landscape. The process may be accelerated by a reduction in center-pivot irrigation occasioned by Colorado's recent regulation of withdrawals from the massive aquifer that lies beneath much of the valley. For many years, those withdrawals were less strictly regulated than withdrawals from the river's flow, which are regulated in order to deliver water downstream by agreement with New Mexico, Mexico, and Texas. Without precious water, much of the land cannot be farmed, supporting only such austere high desert vegetation as rabbit brush and sagebrush. Solar energy "farming" needs far less water.

In an irony belonging to the late 20th century, however, Conejos profits today from its adjacency to the national



forest and its many recreational opportunities. Costilla's community of San Luis, on the other hand, still exercising common rights to land, has engaged in a bitter fight with landowners who closed off long-standing traditional access to the surrounding hills that offered forage and wood. Almost overnight after a closure in the 1960's, families left the valley, never to return, and ranchers shifted from sheep to cattle, a profound change in the culture. Today, after a decades-long legal battle that is yet to be completed, those rights have been partially restored; the community now faces the challenge of teaching its children how to use them.

THE NATIONAL HERITAGE AREA'S BEGINNINGS

Much of the interpretive and organizational framework for the Sangre de Cristo National Heritage Area is built upon earlier work of the planning committee that was formed to develop a collective vision for Los Caminos Antiguos (LCA). This was designated as a Colorado Scenic and Historic Byway in 1991; an additional extension was designated in 1992, and in 1994 the Bureau of Land Management designated the



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A pulloff along the Los Caminos Antiguos, a Colorado Scenic and Historic Byway, offers interpretation about the region's Hispano heritage.

LCA as a Back Country Byway. Travelling through Alamosa, Costilla, and Conejos counties, the byway was established in order to “interpret, facilitate community development, and market the products of the cultural and historic traditions, natural resources, and diverse communities” of south central Colorado.

Early work included visitor and community surveys, public meetings, personal interviews, interpretive planning, the installation of interpretive kiosks, production of promotional and tourism materials, and the development of a corridor management plan (CMP).

During the development of the CMP, the National Heritage Area concept was introduced as a possible way of developing the area for tourism consistent with the beliefs and customs of local residents. In 1998 Los Caminos Antiguos Association incorporated as a nonprofit organization to oversee byway initiatives, and the following year the CMP, *Los Caminos Antiguos Scenic and Historic Byway Partnership Plan*, was produced to identify priority projects.

In 2001 the LCA Association began holding public meetings to determine the wishes of communities and residents with regard to the possibility of establishing a heritage area. Response was positive, and a Sangre de Cristo National Heritage Area Steering Committee was formed to spearhead efforts that would result in National Heritage Area designation. These efforts included public meetings, research, a symposium entitled “El Agua, La Cultura, Las Placitas,” and local government resolutions supporting National Heritage Area development. In 2005 the steering committee produced the *Sangre de Cristo National Heritage*

Primary Goal 1 for the Sangre de Cristo National Heritage Area

Support development of a vibrant heritage tourism sector that stimulates preservation, economic development, and community revitalization.

Goal 1-1, Visitor Experience & Heritage Tourism: Increase visitation through heritage development projects and events and promotion of heritage tourism and hospitality in order to stimulate heritage preservation, economic development, and community revitalization.

Goal 1-2, Historic Preservation: Support the preservation, use/reuse, rehabilitation, and/or restoration of historic resources as a top priority in all heritage development projects.

Goal 1-3, Business Development: Foster business retention, expansion, and creation through heritage development projects and partnerships, especially in the context of enhancing towns and agriculture as critical contributors to regional economic health.

Goal 1-4, Outdoor Recreation: Sustain, enhance, and promote outdoor recreation opportunities as a means of stimulating heritage tourism and as a significant element of our heritage.

Goal 1-5, Land Stewardship & Natural Resources: Partner with and support the work of organizations working to protect the land, agriculture, and natural resources of the region, as a vital aspect of the way that all experience this cultural and scenic landscape and as a critical contributor to regional economic health.

Area Feasibility Study, which was written by local and regional historians, writers, and scholars (with assistance from Shapins Associates), to formally seek federal designation.

In 2005, 2007, and 2009 Senator Ken Salazar introduced bills to establish the Sangre de Cristo National Heritage Area in the United States Senate. Legislation including S. 185, the 2009 heritage area bill, was passed by Congress and officially signed into law on March 30, 2009 by President Obama as the Omnibus Public Land Management Act of 2009, Public Law 111-11. Two other National Heritage Areas in Colorado were designated within the same law, the Cache La Poudre River National Heritage Area and the South Park National Heritage Area.



- Carrying out programs and projects that recognize, protect, and enhance important resource values;
- Establishing and maintaining interpretive exhibits and programs;
- Developing recreational and educational opportunities;
- Increasing public appreciation for the National Heritage Area's natural, historical, scenic, and cultural resources;
- Protecting and restoring historic sites and buildings consistent with National Heritage Area themes;
- Ensuring the posting of clear and consistent signs identifying points of public access and sites of interest;

- Goal 2-9, Community Awareness:** Foster understanding and pride in our cultural identity and community spirit among residents of all ages and among Colorado residents in general.

- Incorporate an integrated and cooperative approach for the protection, enhancement, and interpretation of the natural, cultural, historic, scenic, and recreational resources of the heritage area;
- Take into consideration state and local plans;
- Include an inventory of the resources located in the core area and any other property in the core area that is related to the themes of the heritage area and should



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Primary Goal 3 for the Sangre de Cristo National Heritage Area

Cultivate excellent management that provides regional leadership, reflects community values, and achieves sustainability.

Goal 3-10, Organization & Management: Strengthen the organization's capacity to achieve its mission through a strong and diverse board of directors, resourceful collaboration and alliances, regular measurement of progress in implementing the management plan, financial stability and expanded funding, and sufficient staffing.

Goal 3-11, Communications: Establish open and consistent communication with partnering organizations, governmental representatives, and the public; build recognition for the National Heritage Area and those involved in its progress.

Goal 3-12, Engaging our Young People: Stimulate involvement of young people in all aspects of the National Heritage Area's work, learning opportunities, and participation.

Goal 3-13, Partner Development: Stand behind partners; assist and lend credibility to their endeavors. Emphasize networking, skill-sharing, coalitions, joint ventures, and other working relationships among partners as the primary means of building the heritage area and accomplishing its goals in a mutually beneficial way.

be preserved, restored, managed, or maintained because of the significance of the property;

- Include comprehensive policies, strategies and recommendations for conservation, funding, management, and development of the heritage area;
- Include a description of actions that governments, private organizations, and individuals have agreed to take to protect the natural historical, and cultural resources of the heritage area;
- Include a program of implementation for this management plan by the management entity;
- Identify sources of funding for carrying out this management plan;
- Include analysis and recommendations for means by which local, State, and Federal programs, including the role of the National Park Service in the heritage area, may best be coordinated to carry out;

- Include an interpretive plan for the heritage area; and
- Recommend policies and strategies for resource management that consider and detail the application of appropriate land and water management techniques, including the development of intergovernmental and interagency cooperative agreements to protect the natural, historical, cultural, educational, scenic, and recreational resources of the heritage area.

Private Property and Regulatory Protections

Nothing in the legislation abridges the rights of any public or private property owner, as provided in Section 8001(f). No privately owned property will be preserved, conserved, or promoted without the written consent of the property owners. The legislation does not require any property owner to permit public access; participate in heritage area plans, projects, programs, or activities; or modify land use under any other land use regulations. It also does not alter any duly adopted land use regulation or approved land use plan, nor authorize or imply the reservation or appropriation of water or water rights.

VISION, MISSION, AND GOALS

The mission of the Sangre de Cristo National Heritage Area is to promote, preserve, protect, and interpret its profound historical, religious, environmental, geographic, geologic, cultural, and linguistic resources. These efforts will contribute to the overall national story, engender a spirit of pride and self-reliance, and create a legacy in the Colorado Counties of Alamosa, Conejos and Costilla.

The Board of Directors developed the following vision statement with the assistance of the National Park Service in the months leading up to the formal planning process:

Nuestra Voz – Our Voice

The Sangre de Cristo National Heritage Area captures the essence of who we are, allowing us to impart our stories and preserve our heritage through our collective vision and creativity. Our spiritual, historical and cultural traditions, including reverence for land and water, assemble an extraordinary legacy to impart with current and future generations. Our communities are united in promoting the sacred center of the Sangre de Cristo National Heritage Area landscape – our living history – as a sustainable, national and international destination while enhancing the quality of life for our residents.

Based upon the mission and vision of the Sangre de Cristo National Heritage Area presented above, at the beginning of the formal planning process, the Board of Directors developed three primary goals to guide heritage area management planning and implementation:





- Support development of a **vibrant heritage tourism sector** that stimulates preservation, economic development, and community revitalization;
- **Tell the stories of the Sangre de Cristo National Heritage Area** in ways that build community pride and support preservation, living traditions, economic development, and community revitalization; and
- Cultivate **excellent management** that provides regional leadership, reflects community values, and achieves sustainability.

PLANNING FOR THE NATIONAL HERITAGE AREA

the development of this detailed management plan. Public meetings conducted throughout the process provided many ideas and sense of priorities.

This management plan has been prepared with the expectation that it will guide the Board of Directors and heritage area partners for the next ten to fifteen years. It is intended to comply with requirements of the heritage area's enabling legislation.

Chapter 1, this chapter, provides information on the background of the heritage area, its enabling legislation, and the planning process and a summary of all other chapters. It is meant for wide publication to explain the National Heritage Area.

Chapter 2, The Natural Landscape, presents a brief overview of the heritage area's natural history and resources.

Chapter 3, The Cultural Landscape, summarizes the heritage area's cultural history and resources. Not intended to be a detailed or comprehensive history, Chapter 3 simply establishes the scope of the region's historical context that is the subject of the heritage area's preservation and interpretive interests. An inventory of the heritage area's natural and historic resources is presented in the 2005 Feasibility Study and summarized in Appendices C and D.



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Blanca Peak is the fourth highest peak of the Rocky Mountains, and the eighth highest peak in the United States. The Navajos believe that their Creator placed them on the land between four mountains representing the four cardinal directions. Mount Blanca (Tsisnaasjini' - Dawn or White Shell Mountain) is the Sacred Mountain of the East.

APPROACH TO HISTORIC PRESERVATION (CHAPTER 4)

One of the areas of greatest need identified by participants in the planning process was historic preservation. This is among the heritage area's highest priorities. If we do not save, we lose touchstones of our culture and history. Heritage area partners recognize that the National Heritage Area is home to a rich mosaic of living cultures, rooted in history but continuing to evolve today. The National Heritage Area's cultural traditions are closely intertwined with and expressed through its communities and its landscape. These two ideas of living cultural traditions and a living cultural landscape are central to the heritage area's approach to historic preservation.

The goal of the heritage area is to place cultural values at the center of community interests. We will accomplish this by raising public awareness and by realizing the economic benefits of heritage-based initiatives. Each chapter of this management plan plays a role in this concept. Historic preservation concentrates upon recognizing and preserving the physical components of our heritage that illuminate our history and give our communities their unique character. Historic preservation is an essential component of community revitalization. The National Heritage Area's approach to historic preservation includes the following four strategies:

Goal for Historic Preservation

Historic Preservation (1-2): Support the preservation, use/reuse, rehabilitation, and/or restoration of historic resources as a top priority in all heritage development projects.

- **Connect with federal and state initiatives:**

Important work in recognizing and identifying cultural landscapes and associated historic resources is happening at the federal and state levels through several initiatives. It is important for the heritage area to be at the center of these efforts so we can connect with and build from them. While they are being undertaken by others, the heritage area should support them, participate where feasible, incorporate them into heritage-area initiatives, and identify follow-up to support preservation within the heritage area.

- **Continue to inventory and study historic resources:**

Good historic preservation practice is founded on comprehensive inventories, deep understanding of history and significance, and documentation of existing conditions. We need to know the extent of the problem and the possibilities. While there is an existing database of historic resources within the Valley, it represents only a first, thin layer of what should be developed and maintained. Modern mapping, photography, and database technologies make it possible to create an excellent inventory, to integrate advance information about historic resources into public decision-making, and to use it for public education as appropriate. Well-organized volunteer and student labor can support much of the work.

- **Provide regional leadership in developing public appreciation, advocacy, technical information, and training to encourage local action:**

The heritage area offers an opportunity to develop preservation leadership at the regional scale, where economies of scale and cross-jurisdictional relationships and technology transfer could prove highly beneficial. At the core of the heritage area's role

are encouragement, support, and leadership for local governments and grassroots advocates for preservation initiatives within our communities. The heritage area must build public trust in preservation initiatives. The interpretation program described in this plan offers a “bully pulpit” to reach out to residents. The more authentic resources they can preserve, the more they can explain their stories within a meaningful context. A regionally based organization is well-positioned to develop close working relationships with such knowledgeable advisors as Colorado Preservation, Inc., History Colorado, and the National Trust for Historic Preservation on behalf of local partners. In addition, the heritage area can become the regional historic preservation advocate.

- **Provide technical assistance and financial support:** The heritage area will coordinate and in some cases provide technical assistance and financial support for local preservation initiatives, including both community planning and specific projects. Technical assistance and funding for projects (feasibility studies, market analysis, building assessments, treatment plans) at an early stage can inject important information and momentum into the implementation process. A well-established competitive grants program can have a large impact in providing support for projects, encouraging their development, and providing visible signs of progress and investment in historic preservation. As of this writing, the first heritage-area matching grants drawn from early-action federal funding by the Board of Directors have been awarded to several local historic preservation projects.

APPROACH TO CONSERVATION AND RECREATION (CHAPTER 5)

This region’s historic and cultural heritage stems from its roots in a rich, intriguing natural environment that has long offered many opportunities for engaging with the outdoors. Today, opportunities for use of the natural environment are many and expanding. Encouraging public appreciation and protection of these resources is a never-ending need; fortunately, there are many helping hands, and much collaboration. The heritage area can address needs for greater public information and deeper interpretation.

The San Luis Valley as a whole is singularly blessed with truly marvelous natural resources that are well protected and publicly accessible. Outdoor recreation opportunities of a wide variety are available to residents and visitors alike. Hundreds of thousands of publicly owned acres are managed by the U.S. Forest Service, U.S. Fish and Wildlife Service, the Bureau of Land Management, the National Park Service, and Colorado state agencies. The City of

Goals for Conservation and Recreation

Outdoor Recreation (1-4): Sustain, enhance, and promote outdoor recreation opportunities as a means of stimulating heritage tourism and as a significant element of our heritage.

Land Stewardship & Natural Resources (1-5): Partner with and support the work of organizations working to protect the land, agriculture, and natural resources of the region, as a vital aspect of the way that all experience this cultural and scenic landscape and as a critical contributor to regional economic health.

Alamosa bought historic ranchlands on its edge that are now partly accessible for public recreation, and is planning greater accessibility through the construction of a western pedestrian bridge crossing near Adams State University. Costilla County has developed a major plan for trails and open space county-wide with assistance from the National Park Service’s Rivers, Trails and Conservation Assistance (RTCA) program. The state of Colorado recently issued a significantly improved version of a statewide birding guide with three trails that intersect with the heritage area. The Rio Grande has been accorded a special BLM designation as a “natural area” from the southern edge of the Alamosa NWR to the Colorado line.

The Rio Grande Headwaters Land Trust, Colorado Open Lands, Colorado Cattlemen’s Agricultural Land Trust, and others have worked successfully for many years with property owners to protect private lands voluntarily in the entire watershed through conservation easements. The three national wildlife refuges are among the nation’s oldest. Along with other lands protected by Colorado State Wildlife Areas and The Nature Conservancy’s preserves, they protect significant habitat along the westernmost edge of the nation’s Central Flyway, with more to come in voluntary partnership with private landowners thanks to recent conservation planning for the refuges. Although most notable for sandhill cranes, the region possesses a wide variety of birdlife, wildlife, and vegetation and an abundance of rare and endangered species, thanks to a wide range of ecological niches within one geographic region. The nonprofit Colorado Field School and Rio Grande Watershed Conservation and Education Initiative both work to acquaint residents, students, and the general public with the special nature of the local environment.

This plan includes the following approaches to land stewardship, natural resources, and outdoor recreation:



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Our Lady of Guadalupe Church serves the oldest parish in Colorado, designated in 1858 after the congregation began meeting in a temporary space in 1856. The church, which replaced the original building after a fire in 1926, is situated in Historic Conejos Plaza, the original plaza of the historic community of Conejos, the county seat (photo by Ann Marie Velasquez).

- **Forge close ties and partnerships with federal, state, and regional land stewardship entities:** The heritage area can partner with and support stewardship, education, recreation, and land conservation initiatives led by these agencies and organizations. It can also encourage their continuing collaboration on “big picture” approaches and cooperative programming, and serve as a supporting resource on developing opportunities, facilities, and best practices.
- **Build public awareness through interpretation:** While the cultural dimensions of this remarkable environment are significant, identifying and interpreting these dimensions are not necessarily the focus of public and private land-managing agencies. The heritage area can enable land stewardship entities, visitors, and residents to better understand human

associations with the region’s natural resources within the context of the heritage area’s interpretive themes.

- **Build visibility of existing opportunities and encourage public access:** The heritage area can encourage public access through making more complete information available and easily accessible to residents and visitors; encouraging eco-tourism initiatives and other outdoor recreation programming offered by organizations, clubs, and private providers; and helping to improve existing public access facilities. A public lands information center of the quality to match the lands involved, as a joint project among land managers, the heritage area, local governments, and other nonprofits, could be a long-term, outstanding project to serve those who find their way into the heritage area. Recreational clubs active in the San Luis Valley and other organizations, such as the Friends of the Great Sand Dunes National Park, could be encouraged to collaborate with local outfitters and guides and programs of the Colorado Division of Wildlife (CDOW) Watchable Wildlife to present special opportunities to experience the backcountry. Planning for public access must take account of and preserve the rare experiences of solitude and quiet that are available now.
- **Promote recreation-related business development:** The heritage area can encourage interaction with the natural environment by promoting recreation-related business development and eco-tourism entrepreneurship.
- **Support planning and development of local and regional recreational trail networks:** The heritage area can support local and regional trail and interpretive initiatives. The heritage area can also work with local and county governments to encourage additional trail planning and development, particularly in areas where visitor services are already provided, or where trails will complement heritage tourism initiatives.
- **Support watershed restoration efforts:** The heritage area can play a supportive role in promoting watershed restoration efforts and educational initiatives. Where possible, it also can play a leadership role in coordinating interpretation of water resources within the broader context of the region’s cultural heritage. Opportunities also exist for the heritage area to promote the development of water-oriented recreational opportunities – both physical and programmatic – to include water and river tourism-related business development.



APPROACH TO CONSERVING COMMUNITY AND TRADITION (CHAPTER 6)

The Sangre de Cristo National Heritage Area can provide leadership in encouraging communities, schools, and residents to be fully engaged in the mission of conserving a sense of community and tradition. It can encourage learning opportunities that demonstrate the importance of the region's cultural heritage and provide support to existing programs and new initiatives that build both community and visitor awareness of the heritage area's character and significance.

The heritage area's cultural heritage is expressed through a variety of means. While some communities, churches, and other institutions sponsor formal educational programs, others engage residents and visitors alike through festivals, art shows, museums, farmers' markets, musical performances, and youth programs. All keep alive the rich cultural traditions that reinforce community identity and instill local pride. Chapter 6 includes many sidebars and photos describing the cultural wealth this National Heritage Area has to share and treasure.

It is not possible to "preserve" culture and tradition in the same sense that we would preserve or restore an adobe church or other historic or traditional structure. Culture, like nature, is always changing. It is possible, however, to recognize the conditions that surround and support culture and tradition, and based on that knowledge, to design programs that support and celebrate community and heritage. The objective is to create the context in which individuals, families, groups, and communities can maintain cultural traditions, transmit them to the next generation, and take advantage of opportunities as they arise, whether those opportunities are economic, performance, or educational in nature.

In order for the Sangre de Cristo National Heritage Area to thrive, residents, communities, organizations, and institutions must be fully engaged in conserving and promoting the region's cultural heritage and identity. Creation of a rich and diverse program of community education and engagement will be stimulated through five strategies:

- **Creating and promoting a heritage pride and community memory program so that residents come to view themselves as an integral part of the heritage area and help to record cultural traditions and memories.** While the National Heritage Area's interpretive strategy should help answer the question "What is the meaning of this

Goals for Conserving Community & Tradition

Business Development (1-3): Foster business retention, expansion, and creation through heritage development projects and partnerships, especially in the context of enhancing towns and agriculture as critical contributors to regional economic health.

Interpretation (2-6): Build a system for interpreting the themes of the National Heritage Area through existing attractions, visitor facilities, and development of interpretive projects using a variety of approaches, especially the development of linkages, sustaining existing events and celebrations, and educating our youth.

Culture & Community (2-7): Protect and celebrate living heritage resources – language, art, traditions, spirituality, etc., and sites associated with traditional cultural practices.

Agriculture (2-8): Promote and interpret agriculture as a way of life, a vital aspect of the way that all experience this cultural and scenic landscape, and as a critical contributor to regional economic health.

Community Awareness (2-9): Foster understanding and pride in our cultural identity and community spirit among residents of all ages and among Colorado residents in general.

Engaging our Young People (3-12): Stimulate involvement of young people in all aspects of the National Heritage Area's work, learning opportunities, and participation.

place?" the self-identification strategy that grows from the ideas in this chapter should encourage residents to answer the question: "How do I see myself belonging to this place?" Given the strong sense of pride in self-reliance, rugged individualism, ethnic diversity, and cultural association with community, church, and place, this self-identification strategy should encourage multiple narratives and means by which groups and individuals can selectively represent themselves and their differences and commonalities.

Since so much of the cultural significance of the Sangre de Cristo National Heritage Area stems from its residents – their families, traditions, faith, and communities – it is important that any initiatives designed to promote local interest in and support of the heritage area allow residents the opportunity to personalize their relationships with it. Self-identification should instill pride and a sense of



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Santo (from the Spanish word meaning “saint”) is a folk art found the southern San Luis Valley and northern New Mexico that produces santos, painted carvings depicting religious figures. Santos carved in the round are called bultos, pictured here (St. Francis of Assisi, the Virgin Mary, and an angel), usually carved from cottonwood root, pine, or aspen. The carvers are known as santeros, honored artists who experience their craft as a holy calling. This tradition descends from 15th century Spanish colonization of the Americas, when ecclesiastical authorities could not supply parishes in remote outposts with works of religious art. The first santos are thought to have been imitations of Spanish Baroque statues carved by priests. Later santos were influenced by native styles. (Photo by Kathleen Figgen, Southern Colorado Council on the Arts Folklorist Collection, Adams State University, Nielsen Library)

belonging within a broader history and place that all have helped to shape. At the same time, promotion and communication of the public presence of the heritage area needs to be well- structured and cohesive enough that the identity of the heritage area as a whole is clear and comprehensible to residents and visitors alike. Potential activities include “community memory” activities, “virtual story board” (using programs like Facebook’s “group” feature) to create shared memories, a community archive or repository, such community-building/placemaking actions as communities creating markers or locally inspired public art, offering markers to historic homes – much like the current Centennial Farm recognition – or recognition of treasured sites,

as appropriate, in the landscape guide recommended in Chapter 7, Heritage Area Interpretation.

- **Coordinating and encouraging community engagement in arts and cultural programs and events that build community awareness and understanding of the heritage area’s resources, character, and significance.** Despite its relatively small population and community size, the Sangre de Cristo National Heritage Area brims with opportunities for residents to participate in or contribute their skills to high-quality art programs and exhibits, musical and dance performances, and community festivals and special events where these talents and traditions take center stage. Encouraging the creation of self-guided walking and auto tours that describe cultural heritage in relation to historic and natural resources in communities, on farms, and in the landscape, the heritage area can stimulate local awareness of the value of local sites, arts, and traditions.
- **Developing well-designed youth education programs that increase understanding and appreciation of local history and culture, and their relationship to the long-term sustainability of the region.** Colorado has made visual and performing arts, including music, dance, and theater, core to both the primary and the secondary curriculum. Local history, local arts, and local culture, however, are not emphasized through any formal curriculum standards, and students often graduate without a full understanding or appreciation of the cultural significance that is unique to San Luis Valley (i.e., land ownership and use, local dialect, folk arts, dance, music, agricultural traditions, ethnic food traditions, etc.). This is a missed opportunity to help local youth not only understand their past and define their self-identity within the region’s broader cultural context, but also enrich their education by exploring ways in which they may personally contribute to the conservation of their communities and cultural traditions. Teachers, schools, parents, and the students themselves can be enlisted in this effort, through training, collaborative programs, demonstration initiatives, etc.

Participants in the planning process made it clear that they hold a deep sense of unease about this missed opportunity in the face of accelerated cultural homogenization that is happening across all American communities. The heritage area can give voice to these concerns and a place where assessments and strategies can be undertaken, and where progress can be



Fort Garland Museum, along with Great Sand Dunes National Park and the Cumbres & Toltec Scenic Railroad, is among the most-visited interpretive attractions in the San Luis Valley.

measured and celebrated in connecting our students and their heritage.

- **Engaging young people in leadership development and creating a deep understanding of community functions, needs, and priorities** is a good investment in lasting leadership for this National Heritage Area and our communities and could potentially lead to initiating future employment opportunities. The challenge is encouraging the region's youth to take a leadership role in preserving the region's heritage, conserving community traditions, and developing heritage tourism programs that expand economic development opportunities. Partnerships with the schools are critical to achieve this objective, but it may also take collaboration with a wide range of civic organizations as well.
- **Encouraging continued dialogue and action reflecting the deep community awareness of agriculture's cultural ties and possibilities for community and economic well-being.** Like arts, music, and dance, food reflects the cultural diversity of the heritage area. Whether it is the method by which it is grown or raised, prepared, served, preserved, or eaten, food is perhaps one of the most personal and perpetuating means by which family and community traditions are kept alive. Within the Sangre de Cristo National Heritage Area, where agriculture has served as the foundation of the region's economy, food takes on an even greater importance. With a renewed interest in ethnic and locally and sustainably produced foods, several notable public and private initiatives have been undertaken to promote and preserve the region's food traditions and agricultural heritage.

APPROACH TO INTERPRETATION (CHAPTER 7)

This management plan presents the interpretive structure for telling the heritage area's story, which also guides preservation and other planning recommendations in other chapters. The building blocks of a complete, enhanced interpretive experience in the National Heritage Area include:

- **Los Caminos Antiguos Scenic and Historic Byway**, a Colorado state scenic byway, is the primary means through which the landscape's resources and experiences are threaded together. It is the way in which the overall landscape can be experienced. Interpretively focused upon the valley's Hispano culture, the byway links communities and sites within the heritage area and features orientation kiosks and interpretive waysides along its route. The Old Spanish National Historic Trail, which follows part of the same route, is under development and will add to the National Heritage Area's ability to satisfy the interests of visitors seeking to traverse the entire region.
- **Great Sand Dunes National Park and Preserve and the Fort Garland Museum**, the National Heritage Area's leading interpretive sites, the former focusing on natural resource themes and Fort Garland on early settlement. Both work to inform visitors of other opportunities for exploring the region and are represented at heritage area board meetings.
- **The Cumbres & Toltec and Rio Grande Scenic Railroads**, popular visitor attractions that provide a broad experience of the landscape. The arrival of the railroad in the late 1870s was a defining element in shaping the valley's history. Today these two rail lines are centerpieces of the region's visitor experience.
- Local museums, including the **San Luis Valley Museum, Adams State University's Luther Bean**

Goals for Interpretation

Interpretation (2-6): Build a system for interpreting the themes of the National Heritage Area through existing attractions, visitor facilities, and development of interpretive projects using a variety of approaches, especially the development of linkages, sustaining existing events and celebrations, and educating our youth.

Community Awareness (2-9): Foster understanding and pride in our cultural identity and community spirit among residents of all ages and among Colorado residents in general.



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Primary Interpretive Themes

Theme 1: A High Desert Valley's Wind, Water, and Sand Dunes

Theme Statement: The delicate interplay of wind, water, and sand have shaped the San Luis Valley's unique landforms and contributed to its biological diversity. Though receiving little rainfall, the Valley's hidden aquifers support extensive wetlands that are home to globally unique plant and animal species and are a migration stopover for many birds.

Theme 2: Land of the Blue Sky People

Theme Statement: Interwoven with the Valley's natural history is a very long and rich human history. The San Luis Valley served prehistoric and Native American cultures as a seasonal hunting ground where fowl, game, and edible and medicinal plants were bountiful. Select landscape features within the Valley have long been revered as sacred.

Theme 3: Interwoven Peoples and Traditions

Theme Statement: The San Luis Valley is a place where different peoples have converged for thousands of years. The Valley's profound historical, religious, and cultural convergence remains visible in the landscape and can be experienced in its communities, art, food, lodging, and events.

Theme 4: Hispano Culture: Folklore, Religion and Language

Theme Statement: The lower San Luis Valley lies at the intersection of the Hispano Southwest and Anglo Rocky Mountain West where the flavor of Hispano culture thrives. The Valley's relative isolation has preserved a living cultural tradition where art, language, architecture, folklore, and religious traditions remain evocative of the region's early Spanish and Mexican settlers.

Museum, Sangre de Cristo Heritage Center in San Luis, Sanford Museum, and Jack Dempsey Museum. Each is tailored to the interests and stories of their locale, and provides a rich, friendly, and highly personalized experience that presents the region as well as individual communities.

- Other **protected natural landscapes** in addition to the Great Sand Dunes, including three national wildlife refuges, numerous state wildlife areas, and the Sangre de Cristo and San Juan Mountains with their extensive trail systems. These are places where the details of the valley's distinct landscapes and ecosystems are best experienced. Due to limits in available funding, formal



The Cumbres & Toltec Scenic Railroad, which runs from Antonito to Chama, NM, was named a National Historic Landmark in October 2012.

interpretation is modest. Water is the valley's big – and untold – story, whether speaking of natural systems or the agriculture upon which communities and residents depend. Understanding the aquifers and how water works within the valley is key to understanding its ecology, its communities, and its character.

- The **National Heritage Area's communities** are where the region's cultural heritage is experienced. Each has a distinctive character and distinctive stories. Some are confined to a particular cultural group, while others clearly represent a blending of cultures. At present, community interpretation is under-developed and presents the greatest opportunity for enhanced interpretive experiences. In communities where there are dining, shopping, and lodging opportunities, the heritage area can become a vehicle for local economic growth and revitalization as visitors are provided reasons to explore through interpretation and other programs. Communities without clear opportunities to benefit economically from tourism, however, are encouraged to participate, to celebrate their traditions and stories and identify ways that the heritage area can enable community enhancements.

This management plan aims to create a high-quality interpretive experience that weaves together the heritage area's stories, communities, sites, and landscapes into a coordinated whole. Themes to guide messages and programs were established in the feasibility study that led to the National Heritage Area's establishment, and are described in Chapter 7, *Heritage Area Interpretation*. Most interpretive projects and programs will be organized and implemented by local and regional partners in accordance with their particular goals and interests. The National Heritage Area board and staff will be responsible for coordinating





The Sangre de Cristo National Heritage Area enjoys a close working relationship with the National Park Service and the Great Sand Dunes National Park and Preserve.

the various initiatives as appropriate. National Heritage Area guidelines will help shape initiatives, and various mechanisms through which initiatives will receive support will help provide incentives for local action. Projects and initiatives will be phased in over time as resources and capabilities permit. Marketing and visitor expectations, discussed in Chapter 8, will be carefully shaped to the level and quality of the visitor experience that can be expected during each stage of the building process.

The management plan organizes the work of creating the National Heritage Area's interpretive experience into four broad areas of action based upon resource types and the partners primarily responsible for implementation:

- **Heritage-area-wide interpretation** establishes the interpretive context, orients visitors to opportunities, and introduces themes. This will primarily be the responsibility of the Sangre de Cristo National Heritage Area board and staff in partnership with Los Caminos Antiguos:
 - Establish a heritage area-wide presence that is apparent to visitors and residents;
 - Orient visitors to opportunities;
 - Introduce the heritage area's four primary themes;
 - Provide physical and interpretive linkages between communities and sites;

- Keep visitors engaged as they move through the landscape among communities and sites;
- Fill gaps in interpretation, telling significant stories that are not told elsewhere; and
- Encourage visitors to explore.

Possible components of a heritage-area-wide interpretive presentation are: website; a family of heritage area-wide publications; a landscape guide; a family of entrance, wayfinding, and exhibit signage; orientation exhibits; additional interpretive exhibits for Los Caminos Antiguos and the Old Spanish Trail; branch routes for LCA; and driving tours and themed itineraries.

- **Community interpretation and visitor services** combine to form the core of what this plan calls "visitor experience." This plan proposes a system of three levels of community participation, Cornerstone Communities (Alamosa, Antonito, Fort Garland, and San Luis), Valley Communities (with visitor services), and Heritage Communities (without visitor services). This system's purpose is to enlist communities in building up the heritage area's visitor experience as a whole and achieving a reputation for high-quality experiences through their participation. In return, communities gain local recognition, boost residents' pride in and appreciation for their resources and stories, and gain a new way to express community

Knowledgeable travelers heading south to Taos from La Veta Pass (eastern entrance) swing along the byway south to San Luis instead of the more traveled route to New Mexico through Antonito. They often stop to climb the magnificent Stations of the Cross trail to the top of the mesa overlooking the little town with its splendid views. Hunting and fishing enthusiasts visit in abundance, as well as hikers, climbers, and bikers, frequenting the two national forests.

While we have some data on visitors to the area, visitor research is part of this management plan. Great Sand Dunes has approximately 370,000 visitors annually, while Cumbres & Toltec Scenic Railroad and the state-sponsored welcome center in Alamosa each logs about one-tenth of that number. In 2010, the top five states of origin for travel to the San Luis Valley and the Colorado Welcome Center were Colorado, New Mexico, Texas, Oklahoma, and Kansas. The center had visitors from 44 countries in 2010, with the top five countries of origin being Germany, England, Canada, France, and Switzerland.

A major marketing objective in this plan is for visitors to the park to realize that there is much more to experience in the National Heritage Area than is commonly known. In general, this is the basis of the early strategy for marketing, to reach those who already know about the heritage area or are close by (within driving distance from Albuquerque and the Front Range). Integrating the development of interpretive elements with the expansion of marketing efforts over time will be critical to ensure that the destination is well worth the drive for visitors to the heritage area. Other strategies outlined in this plan are:

- **A heritage area-wide graphic identity and messaging campaign:** A critical way to link the heritage area's existing and new attractions and visitor services into a cohesive and unified visitor experience is a single graphic identity and message. This will help to establish an awareness of the heritage area, create a greater appreciation for the heritage area's intrinsic resources, and encourage visitation and longer stays at sites and in communities.

The heritage area's efforts to create a shared identity for the region will be distinctly different from marketing efforts undertaken by such regional tourism entities as the Alamosa Convention and Visitors Bureau. An existing logo provides a springboard for dialogue about a full-fledged identity and brand. One challenge is that the heritage area's three counties, the San Luis Valley as a whole, various attractions within the valley, and the national park (just to name a few) already have separate identities. A key objective for a final



Alamosa's Colorado Welcome Center is a major facility, occupying a portion of the historic Alamosa train depot for the former Denver & Rio Grande Railroad.

graphic identity and messaging strategy is to allow for individual identity while minimizing the potential for visitor confusion.

- **Leveraging connections to the National Park Service and Great Sand Dunes National Park:** Federal appropriations for National Heritage Areas are awarded through the National Park Service (NPS), which has several staff entirely dedicated to heritage areas in Washington, DC. The Sangre de Cristo National Heritage Area has had a close working relationship with the NPS Heritage Partnerships Program in Lakewood, CO ("Denver office") as well as with the staff at Great Sand Dunes National Park and Preserve. Not all heritage areas include a national park; the Sangre de Cristo National Heritage Area is fortunate to have Great Sand Dunes.

The heritage area's connection to NPS offers opportunities to build on its credibility and good reputation. These opportunities include linking to the NPS graphic identity under NPS guidelines; locating a passport stamp for the heritage area at the park and in selected locations around the heritage area; a Junior Ranger program to engage younger visitors; and a companion Visitor Guide to the National Heritage Area distributed as part of the welcome for visitors to

Goal for Heritage Tourism and Marketing

Visitor Experience & Heritage Tourism (1.1): Increase visitation through heritage development projects and events and promotion of heritage tourism and hospitality in order to stimulate heritage preservation, economic development, and community revitalization.



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Downtown Antonito includes several restaurants enjoyed by visitors and residents alike. The Dutch Mill Cafe is regionally recognized for its popular green and red chile.

the national park. Suitable for distribution to fourth graders, the Junior Ranger booklet would also begin the long process of creating a rich curriculum for students in the heritage area's schools.

- **Encourage a welcoming culture of hospitality:**

The visitor experience requires conscious cultivation, through hospitality training, visitor centers, and showing the visitors along their way through a variety of media. This includes improving visitors' capability to gain access to information on the region through GPS, Google Earth, and other digital wayfinding tools. A "lure piece" for inviting travelers to the National Heritage Area should be designed to attract heritage travelers, who enjoy shopping and dining, through images showing local food and unique shopping opportunities, not simply museums and other visitor attractions. Rather than including extensive detail, marketing materials should include a link or toll free number to call for additional information about trip planning and gain a warm welcome.

The heritage area should work with key partners to create day and overnight tour packages and itineraries that showcase the best of the National Heritage Area. Community hospitality training for employees at key visitor services (stores, gas stations, restaurants, etc.) initiated through the Colorado Scenic Byways program should be continued and expanded upon on a regular basis.

- **Fully inform visitors:** Chapter 8 describes the variety of possibilities for informing visitors, especially through printed materials. Chapter 7 especially recommends a

large heritage-area-wide map with visitor information and interpretive content. While good design and quality lend to the credibility and appeal of interpretive and marketing pieces, items designed primarily to be informational should be accurate, engaging, and easy to read as well. An inexpensive tear-off map (an 11" x 17" ledger size black-and-white map on a gummed pad) made widely available may be an attractive and helpful informational aid to visitors.

Websites and social media have become increasingly important tourism marketing and information tools, offering cost savings in printing and postage and immediate access to worldwide audiences. Current websites are available at www.sdcnha.org and through the Great Sand Dunes section of the National Park Service's website, www.nps.gov/grsa. As the heritage area's work expands, it will need distinct sections of the website for internal and external audiences. It is especially important that the portal for travelers be prominent and user friendly, as this audience is most likely to be experiencing it for the first time. The portal to additional information to be used by heritage area partners can be more subtle, designed for repeat visitors. Social media is quickly gaining a growing foothold across all demographics; its rapid evolution means that a long-term plan is next to impossible to develop. Diligence in partnering with others in the region to track trends and develop trusted, fun approaches is necessary.

- **Reach out to those who can help spread the word:** Public relations efforts are a valuable and cost effective marketing tool. Good public relations efforts offer the opportunity for feature coverage about the heritage area in targeted publications. The cost of securing media coverage through public relations is almost always much less than purchasing the same space as a paid ad, and a travel feature story is likely to have more credibility with travelers as an unbiased opinion than a paid advertisement.

To maximize the heritage area's public relations opportunities, a local public awareness campaign is a first step, to make residents more aware of the heritage area and encourage existing visitors to stay longer or plan return trips. This could include speaking engagements with local civic groups, taking opportunities to have a booth or table at events, and periodically showcasing the heritage area in local newspapers and on local radio stations such as KRZA and KGIW. A press kit that includes templates for news releases, a standard news release with general information about the heritage area, a digital image library, and a media contact list will ensure that the



heritage area is prepared to respond to last-minute press opportunities.

- **Support festivals and events:** Festivals and events are an important component to represent the heritage area's living culture, and offer opportunities to provide a richer visitor experience for shorter periods and show communities in the heritage area in the best possible light. A calendar of events should be maintained and promoted by the heritage area. While events can be an extremely effective strategy to showcase a community or site, they can also be time-consuming for volunteers and staff. Some festivals used to be offered but were dropped due to volunteer burnout. The heritage area should work to identify and help alleviate challenges facing festivals and events that could help to support the heritage area experience, and to ensure that events complement, rather than compete with other events in the region.

APPROACH TO COMMUNITY REVITALIZATION (CHAPTER 9)

Community revitalization can result from successes in heritage tourism, interpretation, celebration of cultural heritage, protection of natural resources, and historic preservation – activities described in preceding chapters. If we are successful in those activities, and if our communities are alert to opportunities thus presented, they can use those activities and opportunities to achieve a new level of prosperity.



The tiny villages of the upper Rio Culebra above San Luis include several mission churches for the local parish. The vernacular architecture and settlement patterns of this part of Costilla County are well-recognized and have been documented in several major studies. Pictured is the St. Isidro Mission church of the village of Los Fuertes. Note the miniature of the building at right, which congregants carry in traditional local processions. (Photo by Ann Marie Velasquez)

Goals for Community Revitalization

Visitor Experience & Heritage Tourism (1.1): Increase visitation through heritage development projects and events and promotion of heritage tourism and hospitality in order to stimulate heritage preservation, economic development, and community revitalization.

Business Development (1-3): Foster business retention, expansion, and creation through heritage development projects and partnerships, especially in the context of enhancing towns and agriculture as critical contributors to regional economic health. revitalization.

The heritage area's role in community revitalization is to be "aggressively supportive." We plan a patient, long-term presence, to "be there" advocating for smart investment in planning and projects that will make a difference in a wholly new way. This is economic development that aims to capitalize on the region's singular heritage and qualities in order to attract customers, instead of simply manufacturing or growing products to send to customers far away. A heritage area cannot change the local economic dynamic alone – communities need basics in terms of economic development, job training, business growth, and public investment in infrastructure, schools, and other community needs. But we can shine a light on new and less well-understood opportunities. Every dollar we invest in endeavors that promote heritage tourism are dollars that will also benefit our residents and our quality of life – this is an investment that supports communities and promotes sustainability.

We can provide encouragement, ideas, assistance, standards, promotion, and support for our partners' many endeavors. All other things being equal, faced with choices among projects to support, a basic approach is to select projects that offer opportunities for stimulating community revitalization and enhancement no matter what other goals they also achieve.

Strategies for community revitalization include:

- **Establish a community revitalization program through which communities are encouraged to develop revitalization plans customized to their interests and capabilities:** The goal of the community revitalization program is to support local community interests and initiatives, strengthen community capabilities, and enhance quality of life for residents. Communities are encouraged to use heritage area strategies and programs to craft their own,

longer term effort to be carried out in collaboration with regional organizations. The concept is to make potential buyers aware of the quality and character of the region's products, including their place of origin. Cooperative advertising would be a large benefit for affiliated products. The region's arts and crafts and locally grown and processed local foods are especially well suited to this cooperative advertising proposition. An extra benefit for the heritage area is that each product acts as an ambassador to buyers, who learn a bit about the distinct nature of the region with every purchase they make.

- **Encourage local entrepreneurs:** In accordance with the strategies above, businesses reflecting local culture are a particular interest of the heritage area and include purveyors of the region's arts and crafts and locally grown and processed local foods. Businesses providing visitor services are also important, especially but not limited to those offering one-of-a-kind opportunities for visitors, such as outfitters, bed-and-breakfast lodging, or farms offering "agritourism" experiences. There are such businesses in the region, but we need more – which is a chicken-and-egg problem, since a key trigger for investment in such businesses is the assurance that there will be enough of a market from visitors as well as residents. We need to encourage "clusters" of such businesses in order to provide enough of a critical mass that visitors will be reassured that there is the variety they crave. And what better setting for such businesses than our historic commercial areas?

The San Luis Valley has been blessed with smart and innovative business development programs for decades. This strategy relies on those programs; they are fundamental to entrepreneurial success and there is no need for duplication. Where the heritage area can join in supporting entrepreneurs and existing business advisors is in providing insight into the particular businesses, markets, and marketing involved and in facilitating such interaction on a community-by-community basis as part of a community's plan of action. We can call on pioneering fellow National Heritage Areas across the nation for models and best practices. The heritage area can also advise on historic preservation issues related to business locations in older buildings (and the potential tax advantages of doing so). Such businesses are especially well-suited to being housed in buildings in existing downtown commercial areas –precisely the places where entrepreneurial energy is needed most to revitalize communities.



The Conejos County Chamber of Commerce's "Murals of Conejos County Driving Tour" includes these silos as stop #8, "The History of San Luis Valley" in Antonito. Along with many others in showcased in the tour, it is by Fred Haberlein, an internationally recognized muralist and Antonito High School graduate. (Photo by Ann Marie Velasquez)

MANAGEMENT AND IMPLEMENTATION FOR THE NATIONAL HERITAGE AREA (CHAPTER 10)

- This management plan is intended for implementation over the next ten to fifteen years. To oversee the programs, relationships, funding, personnel, etc., needed for implementing the many and widely varied strategies identified here, the heritage area needs a management entity "built" for the long term.

The "management entity" designated in the Sangre de Cristo National Heritage Area's federal legislation is the Sangre de Cristo National Heritage Area Board of Directors, a nonprofit organization empowered under the legislation to accept federal funds and maintain a relationship with the Secretary of the Interior (typically carried out through the National Park Service). The organization includes multiple representatives from each county with one "at large" member from anywhere in the San Luis Valley; the superintendent of the Great Sand Dunes National Park and Preserve (or a



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Goals for Management and Implementation

Community Awareness (2-9): Foster understanding and pride in our cultural identity and community spirit among residents of all ages and among Colorado residents in general.

Organization & Management (3-10): Strengthen the organization's capacity to achieve its mission through a strong and diverse board of directors, resourceful collaboration and alliances, regular measurement of progress in implementing the management plan, financial stability and expanded funding, and sufficient staffing.

Communications (3-11): Establish open and consistent communication with partnering organizations, governmental representatives, and the public; build recognition for the National Heritage Area and those involved in its progress.

Partner Development (3-13): Stand behind partners; assist and lend credibility to their endeavors. Emphasize networking, skill-sharing, coalitions, joint ventures, and other working relationships among partners as the primary means of building the heritage area and accomplishing its goals in a mutually beneficial way.

designee) attends meetings as a non-voting advisor. At least one county commissioner or other elected official from each county serves on the board.

The Sangre de Cristo National Heritage Area Board of Directors embraces the following principles for heritage area management:

- Meaningful partner and community engagement;
- Continually telling the story and promoting the vision;
- Responsiveness to local needs and priorities;
- An open, inclusive, collaborative, and flexible approach to operations; and
- A willingness to try new approaches and a commitment to implementing what is learned in the process of experimenting and growing.

The approach to management described in this chapter involves five critical areas of focus:

- **Partnerships:** The Board of Directors is the organization responsible for communicating the vision for the heritage area. Partners, however, help to carry out this plan. Chapter 10 rounds out the descriptions of partnership approaches in the preceding “mission” chapters” (4 through 9) by describing ways for

coordinating various activities and entities. A key feature is “partnership development,” that is, deploying the resources of the National Heritage Area in ways that reinforce the capacity of partners to implement this plan. Insights and leadership from participants running local programs will be important – and participants must strengthen their own leadership and contribute to local programs.

- **Organization and decision making:** The structure of partnerships shapes the organization of the Board of Directors – the “management entity” – and its committees and staff. The objective is to stimulate as much interaction among partners within the Board of Directors’ own structure as possible.
- **Visibility:** The National Heritage Area must come alive in the minds of all who participate in its development—programs that stimulate communication among partners and enable the public to access more information from the National Heritage Area are critical. The National Heritage Area needs a large and appreciative audience, built through more visibility and marketing, for its interpretive and heritage tourism programs.
- **Funding:** Raising the necessary resources to support the programs that will implement this entire plan is critical. “Resources” are defined broadly to include in-kind and volunteer services and donations, and relationship-building through “resource development” is considered the basic activity that supports the raising of funds.
- **Evaluation:** The Board of Directors will measure and evaluate its work and that of National Heritage Area partners in order to understand progress in implementing this plan and how National Heritage Area funds support the public interest. It must organize adjustments as needed in priorities and work plans.



CHAPTER 2 › THE NATURAL LANDSCAPE



The Rio Grande, shown here with its summertime flow level, is the dividing line between Conejos and Costilla counties below Alamosa County. The San Luis Valley contains the headwaters of the Rio Grande, which ends nearly 2,000 miles away on the Texas shoreline of the Gulf of Mexico at Brownsville. Depending on how it is measured, the Rio Grande is the fourth or fifth longest river system in North America.

We ascended a high hill which lay south of our camp, from whence we had a view of all the prairie and rivers to the north of us. It was at the same time one of the most beautiful and sublime inland prospects ever presented to the eyes of man....

The main river, bursting out of the western mountains and meeting from the northeast a large branch which divides the chain of mountains, proceeds down the prairie, making many large and beautiful islands, one of which I judged contains 100,000 acres of land, all meadow ground, covered with innumerable herds of deer....

The great and lofty mountains, covered with eternal snows, seemed to surround the luxuriant vale, crowned with perennial flowers, like a terrestrial paradise, shut off from the view of man.

- Lieutenant Zebulon Montgomery Pike, 1807 (quoted in Simmons, 4)

INTRODUCTION

At the time that Lieutenant Pike first laid eyes on the San Luis Valley in 1807, the region was inhabited by the Ute people, a nomadic Native American tribe that called themselves the *Nuche*, or “The People.” Then claimed by Spain as the northern reaches of *Nueva España*, the valley also attracted Spanish traders, hunters, and explorers, as well as other Native American tribes. While the Mexican land grants that were to give title to lands within the southern portion of the valley were still several decades away, the beginning of the 19th century marks a significant turning point in the evolution of the San Luis Valley as various cultures began to converge in this region and eventually settle this rugged landscape.

The San Luis Valley has a unique character that is a product of both its geology and its diverse peoples. Bordered on three sides by mountain ranges, the valley contains bountiful water, abundant timber, dramatic views, and a diverse array of ecosystems that support a wide variety of plant and animal habitats. Together these resources,





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The Natural Landscape

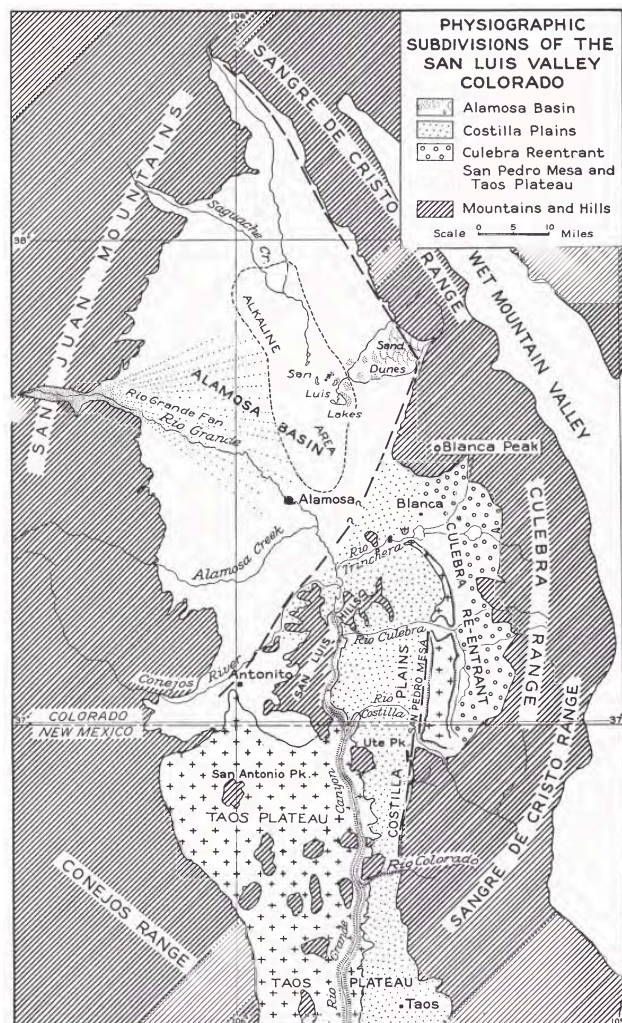


Figure 2-1. Physiographic Subdivisions. Source: Upson, J.E. "Physiographic Subdivisions of the San Luis Valley, Southern Colorado," in *Guidebook of the San Luis Basin, Colorado*. New Mexico Geological Society: Twenty-Second Field Conference, H.L. James ed. 1971: 114.

along with the real or imagined opportunities associated with Hispano and Anglo-American migration, beckoned hundreds of families from both Mexico and the eastern United States who were willing to risk everything for the promise of a new beginning. This chapter provides an overview of the resources found within the Sangre de Cristo National Heritage Area to show how they have converged to create a place of national significance worthy of both preservation and interpretation.

PHYSIOGRAPHY

Physiographic regions are broad-scale subdivisions based on terrain texture, rock type, and geologic structure and history. The Sangre de Cristo National Heritage area is located within the southern portion of the San Luis

Valley, which lies within the Southern Rocky Mountains physiographic province of the United States. The Southern Rockies extend from southeastern Wyoming to northern New Mexico. The San Luis Valley is one of six intermountain basins found within the Southern Rockies and the largest within Colorado. Ranging in elevation from 8000 feet on the north end to 7500 feet at its lowest point near Alamosa, the San Luis Valley as a whole is approximately 150 miles long and 50 miles wide at its maximum width. Bordered on three sides by mountains, the valley is open on the south side along its border with New Mexico where it merges into the Taos Plateau (Simmons, 4).

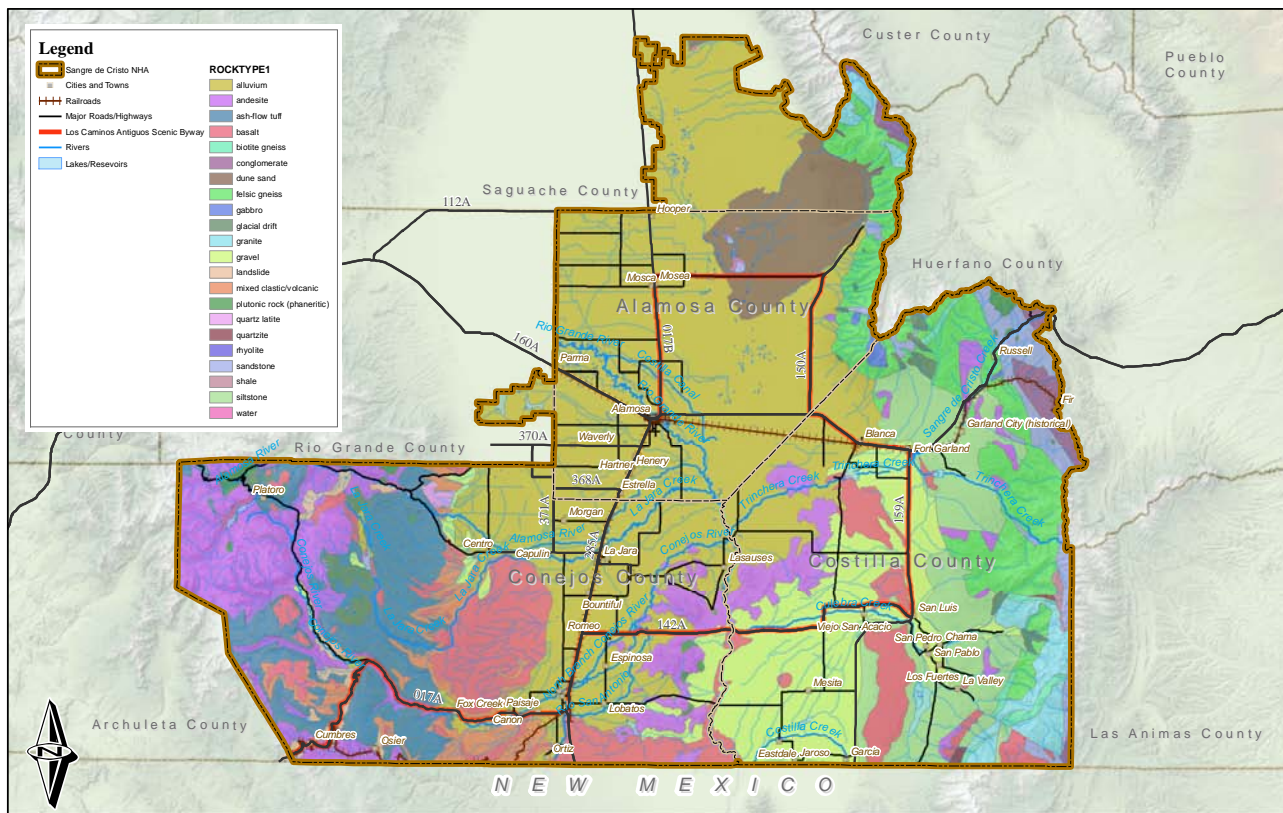
The eastern side of the valley is bordered by the majestic Sangre de Cristo Mountain Range, which rises abruptly from the valley floor to more than 14,000 feet. Blanca Peak, or Mount Blanca, which is the highest mountain in the range, reaches 14,345 feet. It is the fifth highest mountain in Colorado, and the eighth highest in the contiguous United States. The main Sangre de Cristo range is separated from a southern branch, the Culebra Mountains, by Sangre de Cristo Creek and La Veta Pass. It is this Culebra Range which defines the southeastern border of the heritage area.

The San Juan Mountain Range, and more specifically the La Garita Mountains and the Cochetopa Hills, borders the valley on the western side. The two mountain ranges join together at Poncha Pass to form the northern boundary of the San Luis Valley. In total, the valley encompasses approximately 8000 square miles and has an average elevation of 7500 feet above sea level.

In 1939, J.E. Upson published a widely accepted model that divides the San Luis Valley into five physiographic sub-regions. These include the Alamosa Basin, the Costilla Plains, the San Pedro Mesa, the Taos Plateau, and the Culebra Reentrant (Upson, 113-122); see Figure 2-1. These features are described in more detail below.



The Culebra Re-entrant is defined by the gentler rise of the valley floor and the long spurs of piñon and juniper that merge into the foothills of the Sangre de Cristo range.



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Geology

Data Sources: U.S. Geological Survey, 2010.

Map Prepared For: Sangre de Cristo
National Heritage Area, Colorado
Map Prepared By: Heritage Strategies, LLC.
in association with Progressive Urban Management
Associates (PUMA) and The National Trust for Historic
Preservation's Heritage Tourism Program

HERITAGE *strategies*

Figure 2-2. Geology of the Sangre de Cristo National Heritage Area. Source: U.S. Geological Survey, 2010. Available from the U.S. Department of Agriculture, Service Center Agencies; <http://datagateway.nrcs.usda.gov>.

GEOLOGY

The underlying geology of the San Luis Valley and associated mountain ranges provides both the literal and figurative foundation for understanding the landscape as we see it today. This history is a complex and fascinating one involving tectonic events, mountain uplifts, volcanism, glaciers, and erosion. The Sangre de Cristo and the San Juan mountain ranges illustrate two different types of geologic activity. Whereas the formation of the Sangre de Cristo Mountains was primarily influenced by faulting and lifting, the San Juan Mountains were mostly formed from volcanic activity. The resulting landscape and geologic formations narrate not only the physical history of the valley, but also tell the story of various cultures that made use of the resources it left behind; see Figure 2-2.

The modern geologic history of the valley dates back to 65 million years ago when the great inland seas disappeared from the Rocky Mountains, leaving behind sedimentary rock

(shale, limestone, sandstone, and siltstone) formed from marine deposits several hundred to several thousand feet thick in some places. A period of intense tectonic activity, known as the Laramide Orogeny, followed and produced mountain uplifts and corresponding basins from Montana to northern Mexico along the entire Rocky Mountain chain (Benedict, 105).

In southern Colorado, the Laramide uplift rose vertically as narrow, mostly north-south anticlines (or upfolds) and faults, which elevated the once flat-lying layers of sedimentary rock like rippled blankets. This action spawned the Sangre de Cristo Range. The synclines (or downfolds) formed the valleys and were rapidly filled with sediments eroding from the rising folds (Benedict, 105).

The Laramide uplift was followed by violent volcanic eruptions that occurred repeatedly throughout the Southern Rockies between 40 and 25 million years ago. Widely



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The Natural Landscape



The Conejos River flows within the Rio Grande National Forest in western Conejos County. Volcanic activity here formed the San Juan Mountains, which are composed mostly of ash-flow tuff and andesite that have been eroded by the river over time.

scattered volcanoes spewed lava and ash over hundreds of miles, with volcanic centers eventually coalescing to form a giant volcanic field that covered large portions of the southern and central Southern Rockies. The San Luis Valley is part of the Oligocene volcanic field, which covered all of south-central Colorado and adjacent New Mexico (Benedict, 117).

This volcanic activity brought to the surface an abundance of mineral-rich solutions from magma sources deep within the earth. This action resulted in the formation of the Colorado Mineral Belt, a narrow band of rocks containing rich deposits of gold, silver, and other precious metals stretching from Boulder southwest to Durango. While the San Luis Valley lies largely east of the core Mineral Belt, portions of Conejos County and the San Luis Mountains contain significant ore deposits. Platoro in Conejos County, for instance, was established in the 1870s as a mining camp when gold and silver were discovered around the nearby headwaters of the Conejos River. The community derived its name from the Spanish words for silver and gold (*plata and oro*).

Around 26 million years ago another uplift, known as the Miocene-Pliocene Uplift, triggered widespread faulting (shearing). The most important feature to form during this period, as it pertains to the formation of the San Luis Valley, was the Rio Grande Rift, where edges of the earth's crust pulled away from each other along fault lines that ran through the valley. The San Luis Valley represents the deepest and broadest portion of the Rio Grande Rift, which extends from central Colorado southward to Chihuahua, Mexico.

Occurring simultaneously with the rift was another intense period of volcanic activity, which spawned the formation of several of the major landforms that now define the valley:

the San Juan Mountains, the San Luis Hills, the Taos Plateau, and the San Pedro Mesa. These volcanoes produced lavas with a high proportion of quartz and feldspar, known as andesite, which underlies much of the Rio Grande National Forest in western Conejos County. Along the eastern side of the range between Capulin and Fox Creek, the mountains here are composed primarily of basalt (formed by lava) and ash-flow tuff (formed by ash), whereas the western edge of the county has a higher abundance of andesite.

The San Luis Hills and the San Pedro Mesa rise conspicuously 500 to 1000 feet above the valley floor. The San Luis Hills actually comprise a chain of hills arcing northeast-southwest. They include the Brownie Hills, Fairy Hills, Piñon Hills, and South Piñon Hills. Flat Top rises the highest at 9211 feet. The San Pedro Mesa, a separate geologic feature, extends north-south for about 15 miles east of San Luis from the Rio Costilla to the Rio Culebra. It rises to more than 8800 feet and forms a prominent table-land, particularly when viewed from the west.

Basalt flows also formed the Taos Plateau in northern New Mexico, which is found south of the San Luis Hills and west of the Rio Grande. The Taos Plateau generally marks the southern boundary of the heritage area and extends for approximately 60 miles southward.

In areas along the eastern side of the valley, lava intrusions traveled upward along fault lines. For instance, the core of highest peak within the Sangre de Cristo range, Blanca Peak, is composed of gabbro — another form of volcanic rock. Its properties are different from basalt as it cooled below the earth's surface rather than above it.

This additional volcanic activity also caused gold deposits to be emplaced along the fault lines, forming linear belts of





The enormous sand dunes of the Great Sand Dunes National Park and Preserve are believed to be derived from the sand deposits left over from Lake Alamosa. This sand blows with the predominant southwest winds toward a low curve in the Sangre de Cristo Mountains where it accumulates in a natural pocket. The winds blow from the valley floor toward the mountains, but during storms the winds blow back toward the valley. These opposing wind directions cause the dunes to grow vertically (courtesy National Park Service).

precious metals that run the entire length of Costilla County, from the Battle Mountain Gold Mine just northeast of San Luis to the Independent Gold Mine in Saguache County. Some linear belts of gold also occur in Conejos County although they have not been developed (Shapins, 17).

Turquoise, which is produced by heating of the copper minerals in basalt, is found in several areas throughout the region. A historic turquoise mine exists near Manassa in Conejos County, which was known historically as the Lickskillet Turquoise Mine. On the west side of the valley, these faults have deposited belts of onyx, which were utilized in the Lime Kiln Creek area for the production of quick lime (Shapins, 17). Other types of minerals, including opal and agate, are formed from volcanic ash whose silica has been dissolved by water. One of the patterns in the agate found within the San Luis Valley (just northwest of the heritage area) is so distinctive that it is called Del Norte agate, named for the town of Del Norte in Rio Grande County (Shapins, 17).

Between the Sangre de Cristo Mountain Range and San Pedro Mesa lies the Culebra Re-entrant. The Culebra Re-entrant, which occupies the curve of the mountain range east of San Luis between Blanca Peak and the New Mexico border, is defined by the gentler rise of the valley floor and the long spurs forested with piñon and juniper that merge into the foothills of the Sangre de Cristo range. Underlain by siltstone, this geologic feature is about 40 miles long (Upson, 199-120).

Between the San Pedro Mesa and the San Luis Hills lies the Costilla Plains. This nearly level and featureless area extends southward from Blanca Peak through the border with New

Mexico and continues southward to Taos. It is primarily underlain by gravel (Upson, 119).

The Alamosa Basin occupies the northern and west-central parts of the San Luis Valley north of the San Luis Hills. A closed basin, it slopes gently toward the east from the Rio Grande's alluvial fan. Recent research hypothesizes that about three to three and a half million years ago, this basin was filled by an enormous high-altitude lake. Named Lake Alamosa, it is believed to have been one of the largest high-altitude lakes in North America, persisting for about three million years. During this time it expanded and contracted, filling the valley with sediment until about 440,000 years ago when it is believed to have spilled out over the San Luis Hills, cut a deep gorge, flowed into the Rio Grande, and eventually receded due to climate change (Machette, 157).

During the time that Lake Alamosa was in existence approximately two million years ago, the Ice Age caused extreme climatic fluctuations that resulted in the growth and retreat of enormous ice sheets and valley glaciers. In the Southern Rockies region, alpine glaciers formed in all major ranges, reaching as far south as south-central New Mexico (Benedict, 131). As glaciers moved down the mountains they stopped at just about the valley floor, leaving behind end-moraines such as the one seen at Zapata Falls. When the glaciers melted, they released large volumes of muddy water and a thick layer of mud formed at the bottom of the valley floor. Gravel and sand deposits from the surrounding mountain streams also flowed into the valley and settled in deposits that are estimated to be 4000 to 7000 feet thick in some places (Simmons, 6). This layering of eroded sediments (clay, silt, sand, and gravel) is what provides the basis for the



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large underground aquifers that exist today under the valley floor (Shapins, 17).

The enormous sand dunes of the Great Sand Dunes National Park and Preserve are believed to be derived from the sand deposits left over from Lake Alamosa. This sand blows with the predominant southwest winds toward a low curve in the Sangre de Cristo Mountains where it accumulates in a natural pocket. The winds blow from the valley floor toward the mountains, but during storms the winds blow back toward the valley. These opposing wind directions cause the dunes to grow vertically (NPS, Great Sand Dunes).

Remnants of smaller lakes that persisted after Lake Alamosa receded are still found today, in the form of sabkha wetlands. The sabkha forms where sand is seasonally saturated by rising groundwater. When the water evaporates away in late summer, minerals similar to baking soda cement sand grains together into a hard, white crust. Areas of sabkha can be found throughout western portions of the sand sheet, wherever the water table meets the surface (NPS, Great Sand Dunes). Further discussion of these unique ecosystems is found later in this chapter.

CLIMATE

The climate of the Sangre de Cristo National Heritage Area varies widely, depending on elevation. The San Luis Valley floor has a mean annual precipitation of just 7.5 inches (Emery, 1). Much higher precipitation (with mean annual precipitation over 40 inches) is found in the highest mountain ranges. More than 67 percent of the annual precipitation occurs as scattered showers in spring and thunderstorms in summer. August is the wettest month with 50 percent of the total summer precipitation (Forman, 3).

The average annual temperature is about 58 degrees Fahrenheit; summers and autumns are usually temperate. The average summer temperatures reach a high of 82 in July with average lows reaching the low 40s. Average winter temperatures dip below zero in December and January with average highs reaching into the low 30s.

HYDROLOGY

While the San Luis Valley meets the definition of a true desert (receiving less than 10 inches of rainfall per year), the heritage area has abundant water resources. Surface runoff from the surrounding mountains soaks into alluvial fans and feeds two major underground aquifers. These aquifers give rise to many ephemeral lakes, wetlands, springs, and artesian wells, and support considerable irrigation in the valley; see Figure 2-3. It is this rich and diverse water system that attracted the wildlife and created the ecosystem that supported Native American hunters and gatherers for thousands of years, as well as the Hispano and American



The heritage area's complex hydrologic system sustains several unique ecosystems. It is this rich diversity of wildlife that drew Native American hunters to the valley for thousands of years in search of wild game. Today bison, such as these grazing at Dollar Lake within the Great Sand Dunes National Park and Preserve, inhabit the valley once again. (Courtesy NPS)

hunters, trappers, ranchers, and farmers who followed. This section explores the diverse and complex hydrologic system of the San Luis Valley as well as the economic and political demands that influence its distribution and consumption.

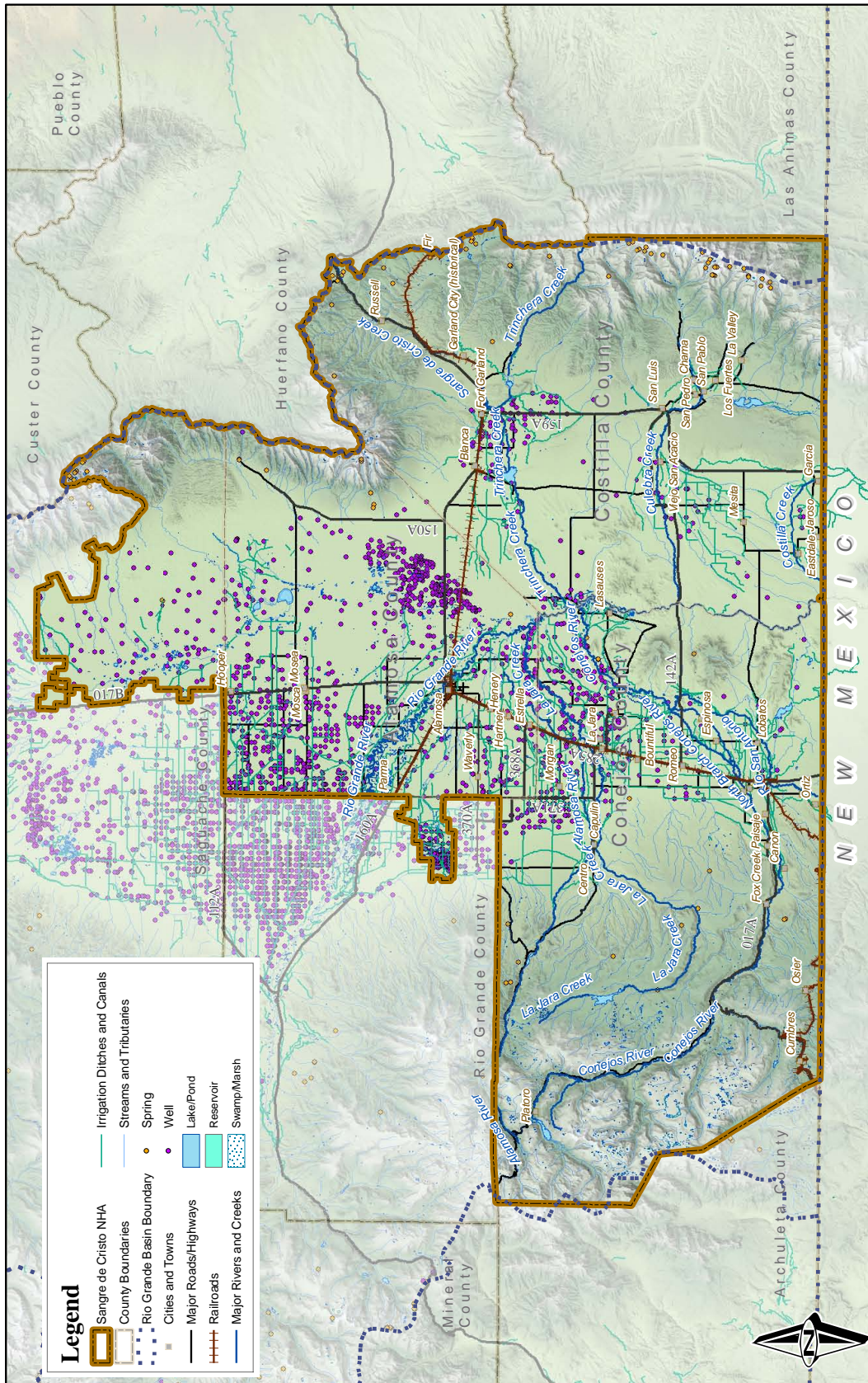
The Rio Grande

It is not possible to discuss the Rio Grande or any of its tributaries without recognizing the complex interconnectivity of the entire hydrologic system that is the Rio Grande Basin. This includes the mountain streams and underground aquifers discussed above, as well as the underlying alluvial deposits of sand and clay that lie under the valley floor. Yet the Rio Grande itself is the most well-known water feature within the heritage area, for it is the longest, widest, most visible, and continuous water body within the San Luis Valley.

The Colorado portion of the Rio Grande Basin (or watershed) encompasses approximately 7500 square miles. Originating in the San Juan Mountains just to the northwest of the heritage area, the Rio Grande flows through the center of the San Luis Valley on its way to New Mexico before passing along the southern border of Texas to separate the United States from Mexico. In total, the river flows approximately 1200 miles before reaching the Gulf of Mexico. Within the heritage area, the Rio Grande flows through the City of Alamosa. South of Alamosa County, it forms the boundary between Conejos and Costilla Counties.



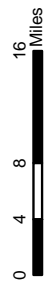
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Hydrology of the Rio Grande Basin

Data Sources: Colorado Division of Water Resources, Rio Grande Basin, 2011; USGS National Hydrography Dataset, Colorado, 2011.



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Figure 2-3. Hydrology of the Sangre de Cristo National Heritage Area as part of the larger Rio Grande Basin.



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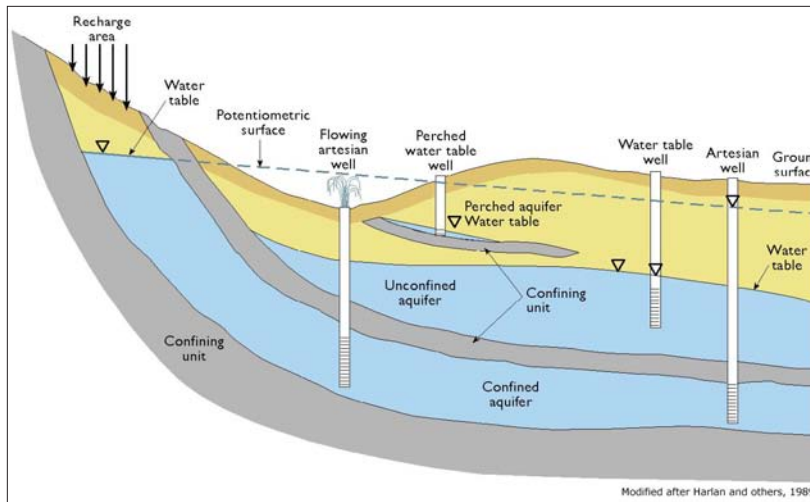


Figure 2-4: Schematic Cross Section of Aquifer Types. Source: Topper, Ralf, et al. *Groundwater Atlas of Colorado*. Colorado Geological Survey. Special Publication 53. 2003. Available online: <http://geosurvey.state.co.us/apps/wateratlas/>

Mountain Streams

Most of the water entering the Sangre de Cristo Heritage Area originates from rainfall that channels into mountain streams high above the valley floor. In the southern portion of the San Luis Valley these streams merge into rivers and creeks that serve as tributaries to the Rio Grande. Among these are Rock Creek, Alamosa River, La Jara Creek, Conejos River, and San Antonio River from the west; and Trinchera Creek, Culebra Creek, and Costilla Creek from the east. North of Alamosa, no mountain streams reach the Rio Grande because surface waters disappear into the gravel and sands contained within the valley floor. Among others, these include Saguache Creek, Medano Creek, Zapata Creek, and San Luis Creek, the latter of which often disappears and reappears before reaching its destination at the San Luis Lakes.

Valley Lakes and Wetlands

The San Luis Lakes are located at the lowest elevation within the Alamosa Basin. They are perennial, meaning that they do not dry up, because they are fed by seepage from the underlying water table as well as by surface flow. The San Luis Lakes are primarily two separate self-contained water bodies: San Luis Lake and Head Lake. Several other smaller lakes, such as Bachelor Lake, Cotton Lake, Twin Lakes, and Dollar Lake, which are fed by feeder streams and flowing artisan wells, surround these larger water bodies.

Other smaller lakes and wetlands are found throughout the heritage area, but most are found within the Alamosa Basin north of the San Luis Hills. The largest cluster, named Dry Lakes, is found within the Blanca Wildlife Habitat Area, and within

the floodplain areas of the Rio Grande to the northwest and southeast of the City of Alamosa in the form of oxbow lakes and marshes resulting from migration of the river bed. These lakes and wetlands are also associated with other major river drainages such as Sangre de Cristo and Trinchera creeks and smaller tributaries of these stream systems (Shapins, 21).

Clusters of other lakes and wetlands are found within the Baca National Wildlife Refuge in Saguache County and the Monte Vista National Wildlife Refuge in Rio Grande County. In total, the San Luis Valley contains more than 230,000 acres of wetlands, the most extensive system in the Southern Rocky Mountains (Shapins, 21).



Example of both center pivot irrigation (upper left) and a traditional acequia, side by side.



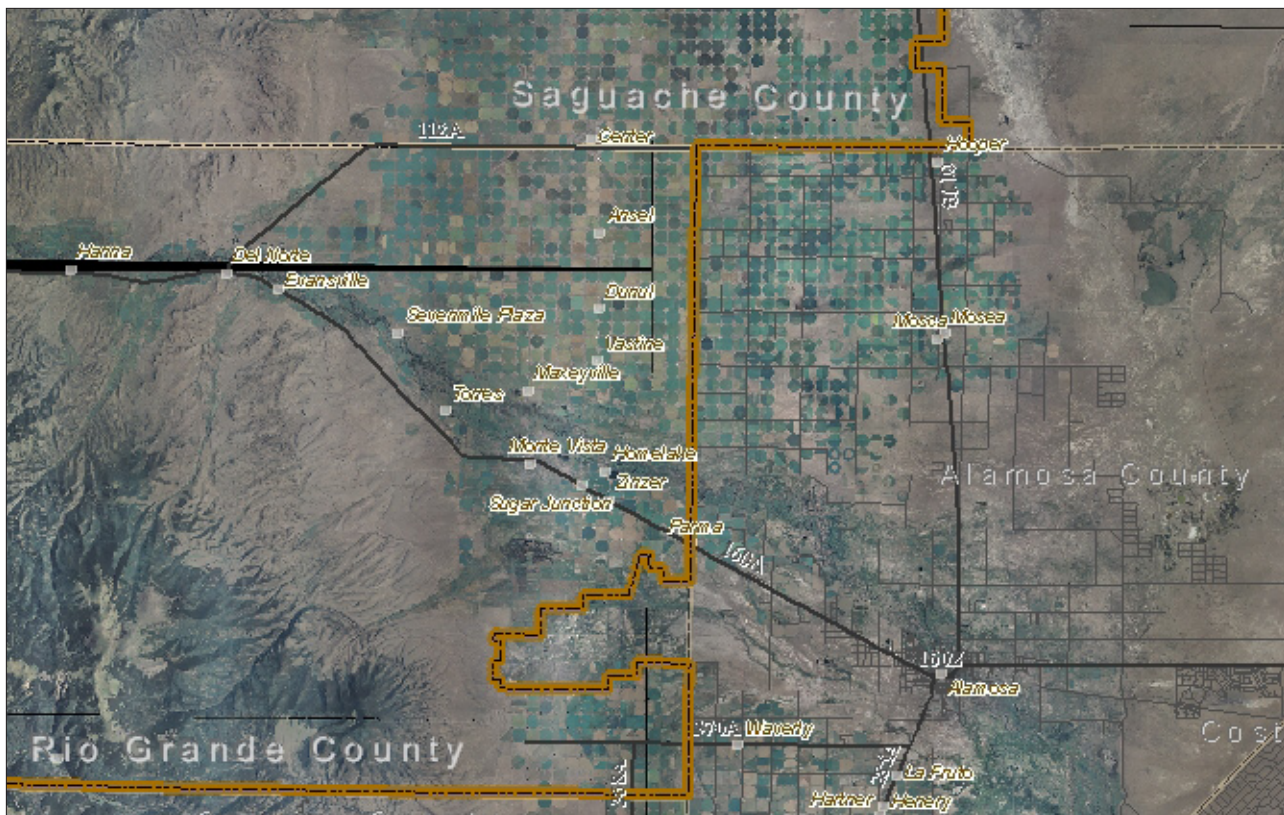


Figure 2-5. Aerial photo showing the concentration of circular fields irrigated by center pivot irrigation northwest of Alamosa. Source: 2009 National Agricultural Imagery Program Mosaic.

Within the heritage area, a mixture of wetland community types, such as riparian wetlands, perennial and ephemeral ponds, upland shrublands, and playa wetlands provide breeding and migration habitat for thousands of birds. More about the ecological value of these systems is discussed later in this chapter.

Aquifers and Artesian Wells

When the mountain streams sink into the porous floor of the San Luis Valley, seepage does not continue downward unimpeded. Rather, it is impounded by a relatively impermeable layer of clay that divides the upper unconfined aquifer from the lower confined aquifer. The unconfined aquifer sits on top of this impermeable layer and essentially forms the water table, which resides within the sandy alluvium and gravel subsurface of the Alamosa Basin, refer to Figure 2-2. The depth of the confining clay layer varies from about 100 feet in the northern part of the Rio Grande Basin to about 40 feet in the southern part (Topper, 7.1, 2). There is nothing between it and the surface of the valley floor to prevent it from appearing as surface water in low-lying areas, such as within lakes and creek beds. Shallow unconfined groundwater occurs almost everywhere in the valley and extends 50 to 200 feet beneath the land surface. The depth to water in about 50 percent of the valley is less than 12 feet (Emery, 130).

The confined aquifer (also known as an artesian aquifer) sits both above and below impermeable clay layers. It is recharged in areas where the confining layers are tilted vertically due to geologic lifting and faulting; see Figure 2-4. Because the groundwater is confined under pressure that is greater than atmospheric pressure, the water rises naturally (without pumping) through natural fissures in the rock, or in areas where wells are drilled. Where it reaches the surface, it becomes a flowing artesian well or spring. The confined aquifer is both deeper and larger than the unconfined aquifer. It extends from 50 to 30,000 feet deep and can yield up to 4000 gallons per minute (Emery, 131).

As of 2001, water well permit records indicated that nearly 10,000 wells had been drilled in the San Luis Valley, 90 percent of which are used for irrigation of commercial crops. Groundwater is also used for public water supply in most of the municipalities within the San Luis Valley. As of 2000, there were 76 permitted municipal wells in the valley, with a total permitted pumping rate of 32,552 GPM (Topper, 1.1, 4).

Irrigation Systems

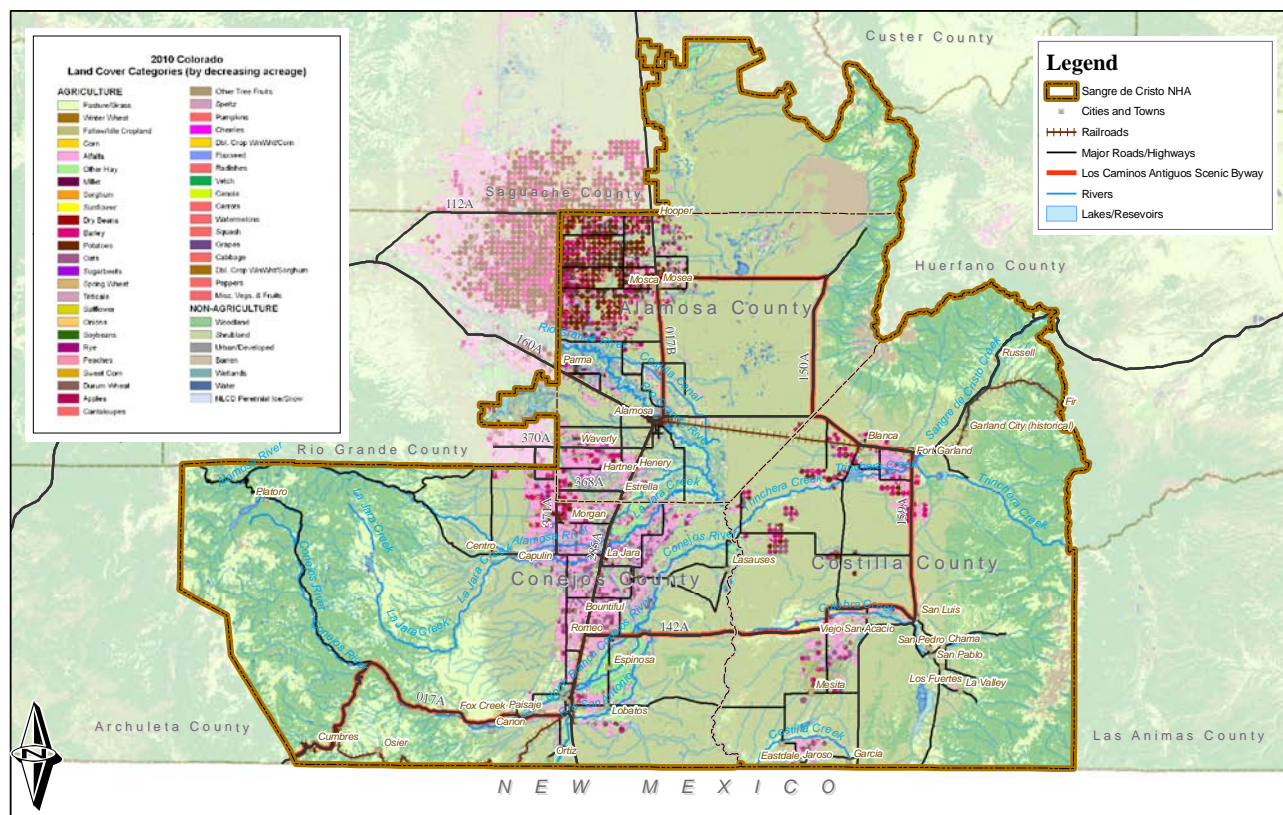
The agricultural fields of the San Luis Valley are irrigated in two ways: gravity-flow surface ditches, also known as acequias, and mechanized circle pivot irrigation. Acequias



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Land Cover

Data Sources: U.S. Department of Agriculture,
National Agriculture Statistic Service, 2010.

0 3.5 7 14
Miles

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Figure 2-6. Principal Land Cover within the Sangre de Cristo National Heritage Area. Source: U.S. Department of Agriculture, National Agriculture Statistic Service Center; <http://datagateway.nrcs.usda.gov>.

were the historic means of irrigation. The first acequia was the San Luis People's Ditch, which was dug in 1851. Being the oldest in the valley. The People's Ditch holds the first adjudicated water rights in Colorado. Currently it serves 16 *parciantes* (affiliated water users) and irrigates approximately 2100 acres of hay and other row crops. A majority of *parciantes* are descendants of the original founders of the acequia (San Luis Valley Heritage).

Within the heritage area, there are approximately 130 named gravity-flow irrigation ditches comprising approximately 1,300 miles of irrigation channel. While most of these divert water from rivers and streams, others channel water directly from flowing artesian wells and springs (refer to Figure 2-3 for a map showing irrigation ditches and artesian wells and springs).

The longest and most complex irrigation system in the San Luis Valley is the Rio Grande Canal, which began construction in 1881. While most of its 210 miles of canals and laterals provide water to Rio Grande and Saguache

counties, many miles of this system also irrigate western Alamosa County. Completed in 1884, the canal's main channel is 60 feet wide at the bottom, 90 feet wide at the top, five feet deep at the sides, and six feet deep in the middle. Today, 31 prior appropriations take 1699 cubic feet per second of water from the canal. In an average year, 30 percent of the Rio Grande's water is diverted into this canal system (Baumann).

Mechanized center pivot irrigation, which was introduced to the valley in the 1950s, began to tap the tremendous amount of water available in the confined aquifers. While the aquifers had been tapped as early as the late 1800s through drilled artesian wells to provide surface flow to ditches, the center pivot irrigation system provided a much more efficient method of distributing the water. This system is based on a well being in the center of a field and an irrigation pipe mounted on wheels gradually moving around the well. This arrangement forms circular field patterns. Most of the center pivot systems are found in the northwest portion of the valley, mainly in Saguache, Rio Grande, and

Alamosa counties. These counties were organized under the Public Land Survey system with the basic land parcel being the quarter section, 160 acres. Since the initial center pivot systems were designed chiefly for quarter section land parcels on the Great Plains, it was relatively easy to apply the technology to similar areas under the Public Land Survey system. Figure 2-5, an aerial photo of the region, illustrates the concentration of center pivot irrigation fields in the northwestern portion of the heritage area.

Water Consumption

Excessive use of water in the Rio Grande Basin for irrigation and surface water has led to many economic and environmental challenges. The principal source of water for irrigation in the San Luis Valley between 1880 and 1950 was surface water. A large network of canals was built in 1880-90 to irrigate lands in the eastern and central parts of the closed basin, including those fed by artesian wells and springs (Emery, 131). The first drilled artesian well in the valley occurred in 1887 and within ten years, more than 3000 wells existed (Baumann). By 1915 most of the area around Mosca and Hooper became waterlogged because of this irrigation. Drainage systems constructed between 1911 and 1921 to reclaim waterlogged lands alleviated some of the problems but created waterlogging in areas downslope (Emery, 131).

Waterlogging causes soils to become alkaline (pH higher than 8.5), and groundwater has become highly mineralized from concentration of salts. Where salts are allowed to build up, the fertility of the soils is decreased. Excess water must be used on the fields to break up the salt and carry it back below the ground level. Pumping large volumes of water over long periods of time also uses a tremendous amount of energy. Since energy prices fluctuate, a farmer may find it difficult to judge energy costs, which is a major factor in the overall production of a crop (Baumann).

By the 1880s water conflicts were occurring and the need arose to adjudicate water rights. In 1888, a General Adjudication of water rights occurred with supplements being added over the years. In addition to these adjudications, a severe drought hit the valley and other areas in 1893. This resulted in bank failures, farmers leaving the valley, the disappearance of some small communities, and the Rio Grande drying up along the Texas-Mexico border (Baumann).

Eventually, the Rio Grande Compact was signed in 1938 by Colorado, New Mexico, and Texas, to equitably apportion the waters of the Rio Grande Basin. Because too much water was being taken from the Rio Grande by the valley for agricultural development and not enough was being sent downstream, Colorado had to find a means to transfer more water downstream to New Mexico, Texas, and Mexico. Initially envisioned in the 1930s, the Closed Basin Project



Irrigated valley soils being used to grow alfalfa, a major cash crop. San Luis Valley alfalfa commands a premium on the market.

did not get started until the 1980s. Under this project, 170 wells now tap water from the unconfined aquifer and pump 100,000 acre-feet of water per year into an aqueduct that transfers the water to the Rio Grande for use downstream (Baumann).

Historically, depth to water in the unconfined aquifer had been less than 12 feet below ground surface. However, extensive irrigation in the valley using groundwater wells has resulted in depletion of the aquifer. In the period 1969 to 1980 water level declines of up to 40 feet were documented in the unconfined aquifer. Since 1976, Colorado's Water Division engineer estimates that the unconfined aquifer has lost 1 million acre-feet of storage. (Topper, 7.1, 4).

Depletion of groundwater resources in the valley spurred the Colorado legislature to adopt legislation requiring the State Engineer to promulgate new rules on future appropriations from the deeper, artesian confined aquifer. These appropriations now require an augmentation plan. More about water right legal issues is discussed in Chapter 3.

SOILS AND LAND USE

Generally speaking, based on geography the soils of the heritage area can be broadly characterized as two types – those soils found on the hills, mountains, and mesas; and those comprising the alluvial fans and floodplains found on the valley floor. Dune areas, which represent a third type, are discussed in more detail in the following section.

Mountain Soils

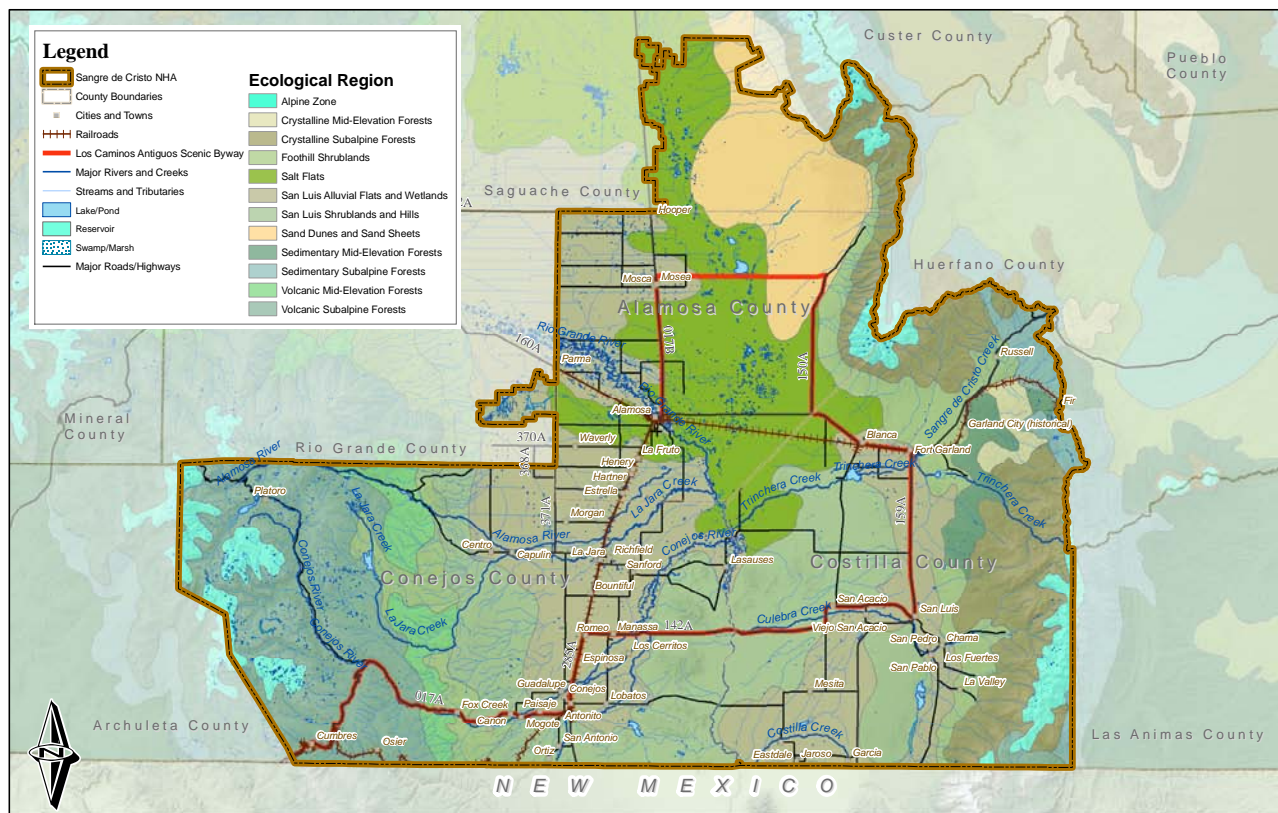
Mountain soils range from gently sloping to very steep. These soils are deep, highly porous, and sandy and are underlain by gravelly subsoils. In some cases there are rocky outcrops. The prevailing soils in the San Juan Mountains are derived mainly from weathering and erosion of volcanic rocks. Among others, these include the Seitz, Frisco, Granile, and Bendire complexes. These soils are used



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Ecological Regions

Data Sources: U.S. Environmental Protection Agency,
Level IV Ecoregions of Colorado, 2011.

0 5 10 20 Miles

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National Heritage Area, Colorado
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Figure 2-7. Ecological Regions of the Sangre de Cristo National Heritage Area.

principally for livestock grazing and timber production. The most common native vegetation consists of western wheatgrass, blue grama, piñon and ponderosa pine, juniper, oak, and blue spruce with an understory of sideoats grama, and mountain muhly. While the foot slopes can be cultivated with irrigation, they are leachy and do not retain moisture.

In the Sangre de Cristo Mountains, the parent material is primarily outwash derived from granite, gneiss, mica schist, and sedimentary rock. Common soils include the Teewinot, Leadville, Stunner, Uracca, and Lakehelen complexes, which range from deep and well drained stony and sandy loams to bedrock outcrops in the higher elevations. Common uses include livestock grazing, timber production, and natural pastureland, see Figure 2-6 (Land Use).

Valley Soils

Valley soils are primarily classified as San Luis, Gunbarrel, Mosca, Hooper, Alamosa, and Travelers soil complexes. These are deep alluviums typically composed of sandy loams, loams, or clay loams underlain by gravelly subsoils that

formed from igneous and metamorphic rock. Compared to the mountain soils, these are darker in color, and have a heavier texture and more compact structure.

Generally speaking, these soils are poorly drained, typically alkaline, very low in organic matter, and subject to waterlogging. In some cases, depth to water table ranges from 12 to 40 inches. These soils occur along the tributary stream bottoms and alluvial fans, and over extensive areas of the valley floor. They represent the most common soil types of the southern and western parts of the larger San Luis Valley.

These soils are well adapted to grains, alfalfa, grasses, field peas, and vegetables, including the root crops. Principal native plants associated with these soil types include saltgrass, alkali sacaton, rabbitbrush, and greasewood, as well as sedges and rushes in the wetland and riparian areas.

ECOREGIONS

Containing alluvial valleys, volcanic plateaus, alpine and subalpine forested mountains, shrubland-covered hills, sand dunes, sand sheets, salt flats, wetlands, and a variety of aquatic habitats, the ecological diversity of the Sangre de Cristo National Heritage Area is enormous. Its landscape comprises 12 of Colorado's 35 Level IV Ecological Regions, the most detailed categorization of ecological regions defined by the US Environmental Protection Agency, (see Figure 2-7). Each ecoregion represents an area that is similar in geology, physiography, vegetation, climate, soils, land use, wildlife, and hydrology; they are designed to serve as a spatial framework for the research, assessment, management, and monitoring of ecosystems and ecosystem components, especially across federal agencies, state agencies, and nongovernmental organizations that are responsible for different types of resources within the same geographical areas.

Ecoregions within the Sangre de Cristo and San Luis mountain zones are principally determined by geology and elevation. They include the Alpine Zone, Crystalline Mid-Elevation and Subalpine Forests, Sedimentary Mid-Elevation and Subalpine Forests, Volcanic Mid-Elevation and Subalpine Forests, and Foothill Shrublands (Chapmann, map and table).

Alpine Zone

The Alpine Zone makes up a small percentage of the heritage area. Found along the highest peaks of the Sangre de Cristo and San Luis mountain ranges, these are treeless glaciated areas with steep slopes and exposed rocky peaks that rise above the timberline at an elevation of 12,000 feet. The amount of precipitation received within this zone is the highest within the heritage area – between 35 and 70 inches per year – and its snowmelt serves as a water source to the lower elevations. Its principal land cover includes snowpack, ice, bare rock, and alpine meadows containing bistort, alpine timothy, alpine avens, alpine bluegrass, alpine clover, tufted hairgrass, and various sedges.

Crystalline, Sedimentary and Volcanic Subalpine Forests

The Crystalline and Sedimentary Subalpine Forests occupy most of the Sangre de Cristo Mountain Range within the heritage area, whereas the Volcanic Subalpine Forest occupies most of the San Luis Mountains. Distinguished by their bedrock, these are high mountain and steeply sloped, glaciated zones that range between 9,000 and 12,000 feet in elevation. Found below the Alpine Zone, they receive slightly less precipitation – between 28 and 50 inches per year (the Crystalline Subalpine Forest receiving slightly more), which persists as deep winter snowpack. Forests within these zones are dominated by Engelmann spruce



San Luis shrublands in northern Conejos County below the foothills of the Rio Grande National Forest. Ranging between 7,900 and 9,100 feet in elevation, this type of ecoregion has a mean annual precipitation between 10 and 14 inches per year and is used primarily as rangeland. Species include big sagebrush and rubber rabbitbrush, which predominate in this view, plus winterfat, western wheatgrass, green needlegrass, blue grama, and needle-and-thread grass.

and subalpine fir that are often interspersed with aspen groves, lodgepole pine, or mountain meadows, and with Douglas fir at lower elevations. The Crystalline Subalpine Forest understory is dominated by dwarf huckleberry and grouse whortleberry, whereas the Sedimentary and Volcanic Subalpine Forests contain more kinnickinnick, snowberry, sedges, mountain brome, and forbs. Perennial streams are also found in this zone.

Crystalline, Sedimentary, and Volcanic Mid-Elevation Forests

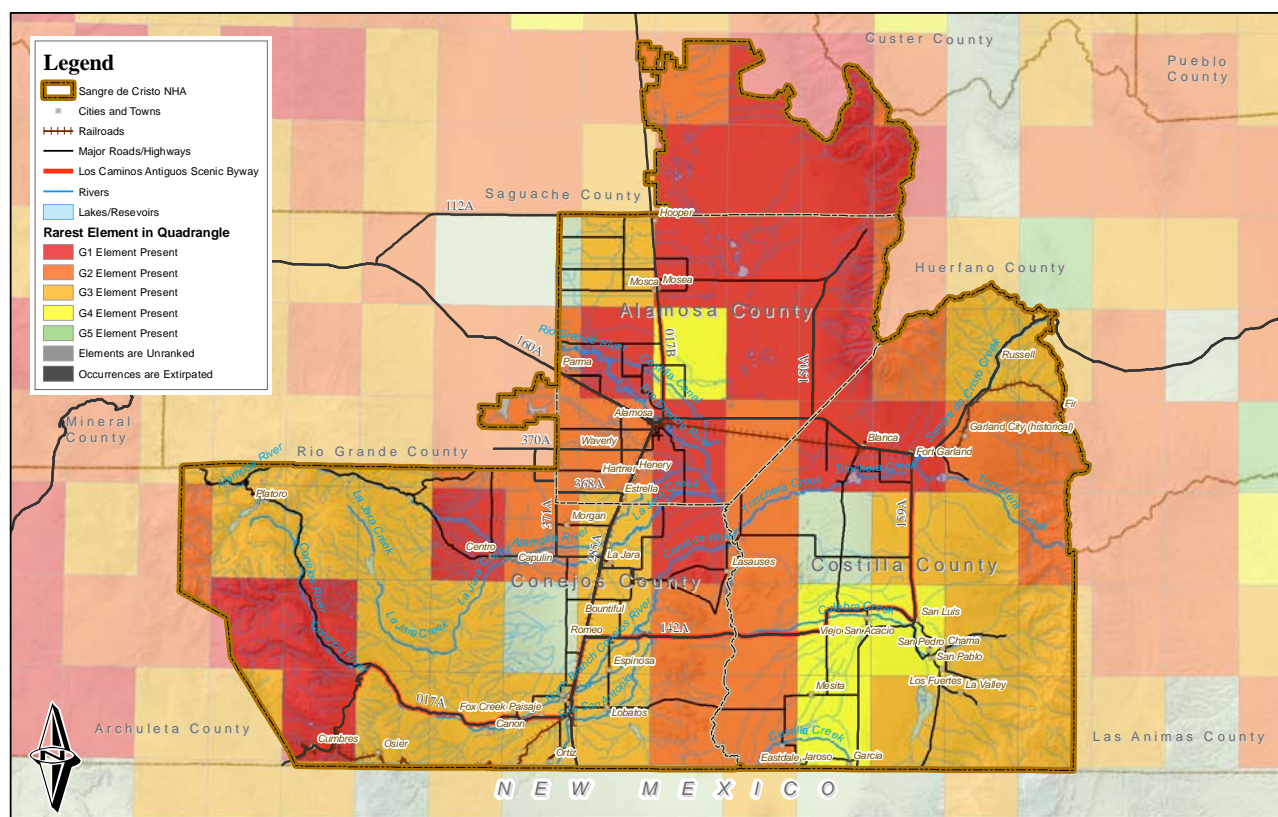
The Crystalline, Sedimentary, and Volcanic Mid-Elevation Forests are partially glaciated. The Crystalline and Sedimentary Mid-Elevation Forests occupy only a small portion of the heritage area east of Garland City in Costilla County, whereas the Volcanic Mid-Elevation Forest comprises a small zone west of Fox Creek and Centro in Conejos County. These ecoregions occupy an elevation ranging between 7000 and 9000 feet. Their forests are characterized by low mountain ridges, slopes, and outwash fans that receive between 20 and 32 inches of precipitation per year. The Crystalline Mid-Elevation Forest vegetation consists primarily of Ponderosa pine with areas of Douglas fir, and an understory of mountain mahogany, bitterbrush, wax currant, skunkbush, woods rose, mountain muhly, Junegrass, Arizona fescue, king spike-fescue, and various sedges.



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Element Occurrences (EO)

Data Sources: The Colorado Natural Heritage Program (CNHP), University of Colorado, 2010.

0 3.5 7 14
Miles

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Figure 2-8. Element Occurrences within the Sangre de Cristo National Heritage Area.

The Sedimentary Mid-Elevation Forests contain more Gambel oak woodland, aspen forest, and two-needle piñon pine, as well as antelope bitterbrush, fringed sage, serviceberry, and snowberry. Volcanic Mid-Elevation Forests differ in that their understories contain more dwarf juniper, western wheatgrass, Oregon grape, blue grama, sideoats grama, and needlegrasses.

Foothill Shrublands

The Foothill Shrublands comprise a narrow zone at the foothills of both the San Luis and Sangre de Cristo mountain ranges. Mostly occupying an elevation range of 6000 to 8500 feet, they can extend up to 10,000 feet in small areas. This ecoregion is unglaciated and contains perennial as well as intermittent and ephemeral streams.

Receiving a mean annual precipitation of 12 to 20 inches, it consists of mostly sagebrush, as well as some areas of piñon-juniper woodland that are interspersed with mountain mahogany shrubland, Gambel oak, mountain big sagebrush, skunkbush, serviceberry, fringed sage, and rabbitbrush,

as well as such grasses as blue grama, Junegrass, western wheatgrass, Indian ricegrass, Scribner needlegrass, and muttongrass.

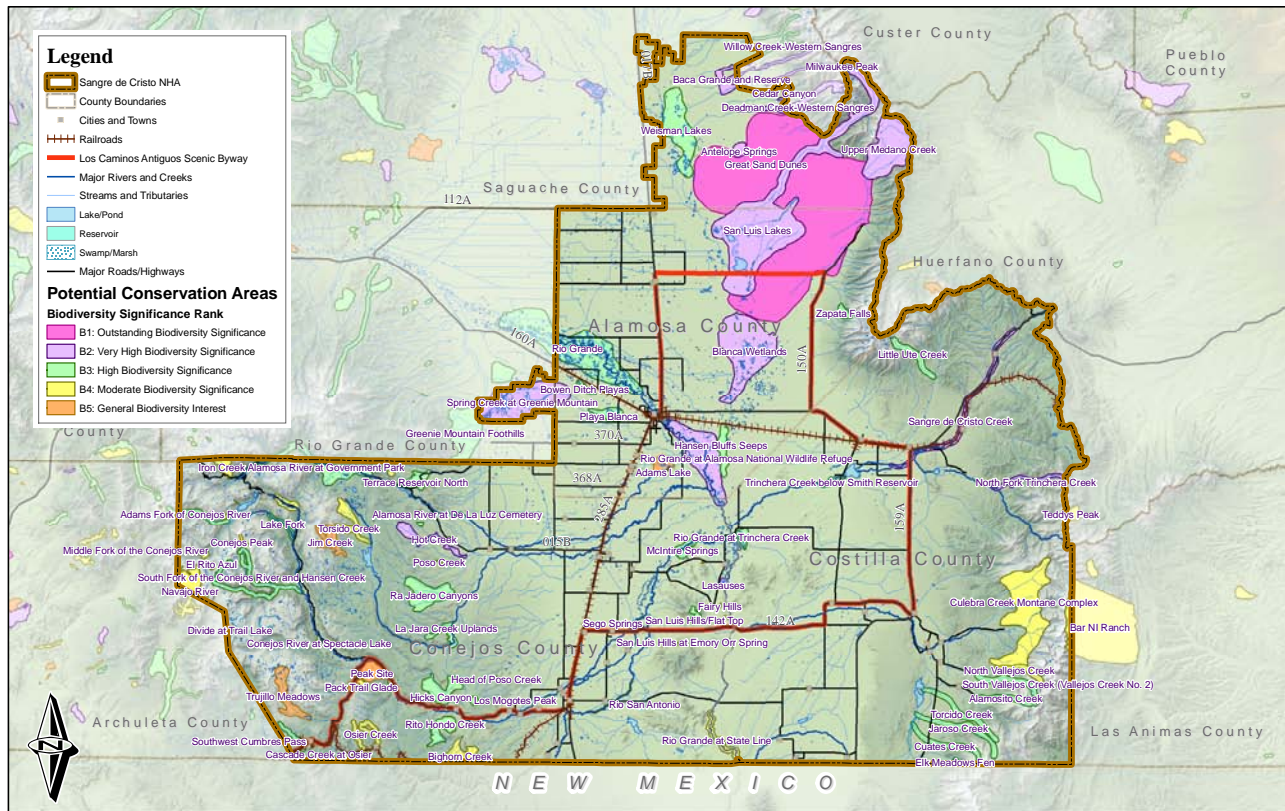
Ecoregions within the valley area include Salt Flats, Sand Dunes and Sand Sheets, San Luis Alluvial Flats and Wetlands, and San Luis Shrublands and Hills.

The San Luis Shrublands and Hills

The San Luis Shrublands and Hills are found throughout much of the southern portion of the heritage area and encompass the San Luis Hills, Taos Plateau, and the lower foothills of both mountain ranges. Ranging between 7,900 to 9,100 feet in elevation, this ecoregion's mean annual precipitation averages between 10 and 14 inches per year. The lands are primarily used for rangeland and contain shrublands, grasslands, and piñon-juniper woodlands at their highest elevations. Species include big sagebrush, rubber rabbitbrush, winterfat, western wheatgrass, green needlegrass, blue grama, and needle-and-thread grass.

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Potential Conservation Areas

Data Sources: The Colorado Natural Heritage Program (CNHP), University of Colorado, 2010.

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Figure 2-9. Potential Conservation Areas within the Sangre de Cristo National Heritage Area.

The San Luis Alluvial Flats and Wetlands

The San Luis Alluvial Flats and Wetlands ecoregion covers extensive areas of the San Luis Valley. In Alamosa County it extends along most of its western border and as far south as Antonito in Conejos County. Another large area is found in a stretch along Route 159A extending south from Blanca to the state line, and another extending southwest from San Luis to the Rio Grande. As its name suggests, it is a relatively flat area containing wetlands, springs, and areas with a high water table. It also hosts several large perennial streams that originate in the mountains. Ranging from 7,500 to 8,000 feet in elevation, it receives only 6 to 10 inches of precipitation per year. This ecoregion generally corresponds with irrigated cropland, which has replaced most of the natural vegetation (shadscale, fourwing saltbush, and greasewood). The most common crops include potatoes, alfalfa, barley, hay, and wheat, as well as small areas of vegetables such as lettuce, spinach, and carrots.

Salt Flats

The Salt Flats comprise some of the lowest lying areas of the heritage area. They extend from the north boundary of the heritage area southward to the vicinity of La Sauses, making up approximately half of Alamosa County. This ecoregion receives only 6 to 8 inches of precipitation per year. Unlike the Alluvial Flats and Wetland ecoregion, however, most of these lands are not irrigated and remain in shrubland that are adapted to the alkaline soils (shadscale, fourwing saltbush, greasewood, horsebrush, spiny hopsage, rubber rabbitbrush, saltgrass, and alkali sacaton). Much of this region is used as low-density pastureland.

Sand Dunes and Sand Sheets

The Sand Dunes and Sand Sheets are located in and around the Great Sand Dunes National Park. This ecoregion is characterized by the dunes themselves, as well as the sandy grasslands that extend around three sides of the main dunefield, also known as the sand sheet. Almost 90 percent of the sand deposit is found in the sand sheet, while only



Shallow San Luis Lake is the warmest body of water in the San Luis Valley and a popular local destination for fishing, swimming, boating, sailing, and water-skiing. Wildlife watching is also especially rewarding owing to the variety of habitat in the immediate area.

about 10 percent is found in the main dunefield. The sand sheet is the primary source of sand for the Great Sand Dunes. Small dunes form here and then migrate into the main dunefield (NPS, Great Sand Dunes).

Comprising a unique ecosystem, this area has outstanding biodiversity significance. While the dune areas are mostly devoid of vegetation, some Indian ricegrass, blowout grass, and lemon scurfpea can be found here. The sand sheet plant communities are characterized by rabbitbrush, needle-and-thread grass, and rice grass, while scurf pea, skeleton weed, and blowout grass characterize the shifting sand component. Some of the sand sheet is used as native pastureland for bison and cattle.

BIODIVERSITY

Biodiversity is the degree of variation of life forms within a given ecosystem. Greater biodiversity implies greater biological and ecosystem health. The Colorado Natural Heritage Program (CNHP) tracks and ranks Colorado's rare and imperiled species and habitats and provides information and expertise on these topics to promote the conservation of Colorado's valuable biological resources and the protection of its biodiversity. As part of its mission, the CNHP also maps Elements of Occurrence (EO) and Potential Conservation Areas (PCA).

Element Occurrences

Elements are defined as a biodiversity unit worthy of conservation attention and action for which a Heritage Conservation Status Rank is assigned. These are typically recognized as individual species and ecological communities.

An Element Occurrence (EO) is defined as a specific example of an Element at a geographic location characterized by a habitat capable of sustaining or contributing to the survival of the species, or by a landscape that supports the ecological integrity of the biological community.

The classification scheme that CNHP uses to track rare species and natural communities is a standardized ranking system that allows the CNHP and other organizations to target the most at risk species and ecosystems for inventory, protection, research, and management. Species and ecosystems are ranked on the Global (G), National (N), and State (S) levels. The basic ranks used to classify species and ecosystems are:

- 1 = Critically Imperiled
2 = Imperiled
3 = Vulnerable to Extirpation
4 = Apparently Secure
5 = Demonstrably Widespread, Abundant, and Secure

Figure 2-8 shows the general locations where globally rare species and natural communities have been identified throughout the heritage area. Due to the sensitive nature of these data, actual species and natural community locations have been generalized to 7.5-minute USGS quadrangles. As can be inferred from this map, the rarest species and habitats are found in and around the Great Sand Dunes National Park, the San Luis Lakes area, the Baca NWR, the Alamosa NWR, the Monte Vista NWR, the Blanca Wetlands, the Sangre de Cristo National Forest, the Rio Grande, Sangre de Cristo Creek, Medano Creek, Alamosa River, and Conejos River.

Potential Conservation Areas

Potential Conservation Areas (PCA) are identified by the CNHP in order to delineate the best estimate of the primary area required to support the long-term survival of targeted species or natural communities, see Figure 2-9. PCAs may include a single occurrence of a rare element or a suite of rare elements or significant features. The following descriptions of the areas ranked as the largest and highest priority (B1 and B2 sites) are summarized from the Level 4 Potential Conservation Area Reports made available online by the CNHP. These and other Conservation Area Reports are available at http://www.cnhp.colostate.edu/download/gis/pca_reports.asp#s:

Great Sand Dunes

According to the CNHP the Great Sand Dunes ecosystem is the highest priority (B1 ranked) conservation area in the San Luis Valley. Six endemic species of insects (five beetles and one robber fly) are known from this ecosystem. Although there are approximately 900 insects known from the Great Sand Dunes, experts have estimated that at least 2,000 possibly reside here. In addition to the rare and rich invertebrate assemblage, a wide variety of plants, plant communities, and vertebrates also are of biological significance. To the north approximately 10,000 acres are dominated by grasslands of needle-and-thread grass and rice grass. Interdunal and isolated wetlands provide important habitat for unusual plant communities and rare plants. Several of these wetlands have small populations of the globally rare slender spiderflower. This system is also important habitat for the endemic mammals of the San Luis Valley, especially Ord's kangaroo rat, silky pocket mouse, plains pocket mouse, and northern pocket gopher.

Of the 13 conservation areas ranked as having very high biodiversity significance (B2) within the heritage area, the largest (encompassing more than 10,000 acres) are described below.

San Luis Lakes

This large site encompasses nearly 35,000 acres adjacent to the Great Sand Dunes. It encompasses the San Luis Lakes Basin and Sand Creek, one of its primary water sources. Elevations range from approximately 7,497 feet at the bottom of San Luis Lake to 12,042 feet at the headwaters of Sand Creek. There are two natural lakes at the site that have no outlet in most years. The surrounding upland habitats are saline basins or wind-blown sand deposits with a decidedly saline character, supporting greasewood and saltgrass vegetation. This site supports 21 elements of concern: eight plant communities, three plant species, two mammal subspecies, seven birds, and one invertebrate species. Five significant wetland communities are also found at this site. The majority of this PCA is in public ownership and within



The Monte Vista National Wildlife Refuge encompasses most of the Spring Creek at Greenie Mountain Potential Conservation Area.

the boundaries of the San Luis State Park and the Great Sand Dune National Park and Preserve. Most of the remainder of this PCA is owned by the Nature Conservancy as the Medano-Zapata Ranch.

Blanca Wetlands

The Blanca Wetlands site encompasses more than 15,400 acres. Lying just to the south of the Great Sand Dunes, the site is characterized by a mosaic of low dunes and depressions, with little topographic relief. Most of the area is federally managed by the Bureau of Land Management as the Blanca NWR, where the agency employs intensive management for waterfowl, water bird, and shorebird habitat. The topographic depressions are seasonally flooded by canal or artesian water to produce a diverse mosaic of wetland habitats. The artesian wells are generally located at the slightly higher elevations, and water is allowed to flow by gravity through the reserve, supporting a series of wetland types. Ponds, marshes, subsaline wetlands, and hypersaline playas are produced sequentially from a given water source as flow is lost to evaporation and salts accumulate. With the exception of rinsed pond or marsh soils near the artesian wells, wetland soils are highly alkaline (pH 8.5 to 10.5) and poor in organic matter.

The Blanca Wetlands site supports a variety of wetland vegetation types and contains excellent occurrences of the globally imperiled slender spiderflower, saltmarsh bulrush, and red glasswort. The Western snowy plover, white-faced ibis, and black-crowned night heron, all state-listed rare birds, nest at the site.

Spring Creek at Greenie Mountain

This site contains a diverse assemblage of open water, emergent marsh, saline wet meadows, peatland, riparian communities, and some uplands. Historically, much of the site received flow from Spring Creek and possibly from



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Upper Medano Creek.

groundwater discharge. The natural hydrology has been altered due to groundwater pumping and water diversions for local irrigation and for habitat management on the Monte Vista National Wildlife Refuge, which encompasses most of this PCA. Spring Creek has also been channelized for much of its length. Although the hydrology does not likely represent natural historic conditions, current hydrologic management supports all of the elements. For instance, seepage from canals, ditches, and ponds supplement natural groundwater discharge is supporting sedge meadows and emergent marshes, whereas open water areas within the habitat management units support floating/submergent species.

It has been speculated that much of the refuge, prior to European settlement, was dominated by greasewood, saltgrass, alkali sacaton, and rabbitbrush. There are still some very large tracts of land dominated by such species. Exact species composition varies with the degree of soil moisture and salinity. It is believed that the area where Spring Creek crosses CO Highway 15 may best represent what freshwater marshes were like in the western portion of the San Luis Valley prior to European settlement as this stretch of creek has not been channelized.

Upper Medano Creek

The Upper Medano Creek site covers about 11,500 acres and spans an elevational range from 8,700 to 12,600 feet. This site has some sand dunes at the lowest elevations, and grades through montane forests to subalpine areas at the crest of the Sangre de Cristo Mountains. Upper portions of the Medano Creek site lie in a glaciated basin. Medano Lake, at the upper elevations, is surrounded by subalpine wetlands in excellent condition. These wetlands include shrublands, sedge meadows, and forblands. There are excellent occurrences of the globally imperiled Smith

whitlow grass and the globally imperiled subalpine riparian/wetland willow carr, a good occurrence of the globally vulnerable thinleaf alder/mesic forb riparian shrubland, an excellent occurrence of a globally secure alpine wetland, and occurrences of the globally vulnerable Rio Grande cutthroat trout.

Rio Grande at Alamosa National Wildlife Refuge

This site encompasses a segment of the Rio Grande River and its floodplain downstream of the City of Alamosa to the southern tip of the Alamosa National Wildlife Refuge. This area was historically referred to as the “Alamosa Marshes” and documented as one of the largest wetland complexes in the San Luis Valley by the 1878 Wheeler expedition maps. Historically, the area was grazed by domestic livestock and irrigated for forage production. Following the establishment of the Alamosa National Wildlife Refuge in 1962, irrigation continued in many areas. The Closed Basin Canal, constructed in 1983 by the Bureau of Reclamation, bisects the Refuge and provides water to the Refuge as mitigation for wetlands impacted from the Closed Basin project. Water management (e.g., irrigation), the Rio Grande, and alluvial groundwater support numerous wetland types, such as decadent cottonwood riparian forests, emergent wetlands, semi-permanent wetlands, willow shrublands, and fresh and saline wet meadows. These wetland types are scattered throughout the floodplain and constitute a diverse oasis of wetland habitat in Colorado’s driest mountain valley.

These wetlands support a diverse array of nesting, migrating, and wintering water birds, songbirds, and raptors. Many species of water birds, shorebirds, and songbirds nest on the refuge. Many species of mammals, including elk, coyote, deer, porcupine, rabbits, beaver, muskrats, and weasels, are also found here. Bald eagles and Southwestern willow flycatchers are federally listed threatened and endangered species that are documented on the refuge, and other species of management concern, such as the American bittern, black tern, burrowing owls, ferruginous hawk, and white-faced ibis are also found in this PCA.



CHAPTER 3 › THE CULTURAL LANDSCAPE



Portion of Lieutenant Zebulon Pike's "Map of The Internal Provinces of New Spain," showing detail of the San Luis Valley, his route of travel, where he was met and held by Spanish troops, and the location of Spanish villages established at the time. Published by C. & A. Conrad, Philadelphia, 1810. Source: David Rumsey Historical Map Collection.

INTRODUCTION

Long before Lieutenant Zebulon Pike laid eyes on the San Luis Valley in 1807, southern Colorado had been occupied on and off for thousands of years by native peoples who used the valley's resources for sustenance and shelter. Eventually, the abundance of wild animals attracted hunters and trappers from both the early Hispano and American cultures. The natural resources of gold, silver, opals, turquoise, and calcite-bearing onyx veins also brought miners and laborers, who were followed by ranchers and farmers attracted by the valley's abundant and diverse water systems. The landscape of the Sangre de Cristo National Heritage Area is layered with rich and complex stories of these peoples and the resources they knew.

PREHISTORIC PERIOD: FERTILE HUNTING GROUNDS

The long span of human occupation of the San Luis Valley was greatly influenced by its geology, topography, and climate. Toward the end of the last Ice Age, while large portions of the continent were still covered by ice, a corridor of land along the eastern slopes of the Rocky Mountains enabled nomadic hunters from the north to enter the plains of what are now Colorado, northeastern New Mexico, and western Texas. Early Folsom Man, as they were called, was

followed by waves of other prehistoric cultures that ebbed and flowed into the San Luis Valley over the next 8,000 years. While some cultures are better documented than others and our collective understanding of this history evolves with new findings, there is no doubt that the region served as rich hunting grounds and encampments for various prehistoric peoples. There is no evidence, however, that any permanent settlements existed within the San Luis Valley until the mid 19th century.

Folsom Man: Paleoindian Period (10,000-5500 BC)

The Paleoindian Period is characterized by the presence of various types of points used for hunting of now extinct large game species, such as mammoths and bison. Paleoindian nomadic people, known as Folsom Man, survived by hunting these large creatures, as well as a few smaller animals that still exist today. Bones of many extinct bison have been excavated in recent years, and stone tools belonging to Folsom Man have been found in the San Luis Valley, where game was pursued until about 8000 BC (Simmons, 14; Shapins, 30). The first discovery of Folsom artifacts in the valley occurred in the vicinity of the sand dunes, and others have been found in pockets between low dunes, around the San Luis Lakes, the Dry Lakes, and elsewhere throughout northeast Alamosa





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County (Simmons, 14-15; Guthrie, 16). Important Folsom campsites in the heritage area include the Linger Folsom site, a bison kill site; the Zapata Folsom site, a temporary camp site most likely associated with a bison kill event; and Stewart's Cattle Guard site, a short-term bison kill and processing site. Later Paleoindian cultures including Agate Basin, Dalton, Hell Gap, Eden, James Allen, and Scottsbluff visited the area until about 6,000 BC (Shapins, 30).

Upper Rio Grande People: Archaic Period (5500-500 AD)

Somewhere around 6000 BC there was a shift in environmental conditions that caused prehistoric people to adapt to hunting smaller game and diversify their sustenance to include wild plant species, such as piñon nuts, wild grasses, and sagebrush leaves (Guthrie, 22, 34). This marks the beginning of the Archaic Period, which lasted about 5000 years. Early Archaic remains are relatively common in the San Luis Valley, especially in close proximity to the Rio Grande (Guthrie, 22). Although not formally recognized as a discrete culture, the Upper Rio Grande people were migratory hunters and gatherers who had no pottery and appear to have raised no crops. They hunted rabbit, deer antelope, and buffalo with points that were crudely carved from black and gray volcanic stone. Dwellings were temporary camps and shelters made of rock, the locations of which have been found on knolls and canyon rims that provided good views of game and enemy aggressors (Simmons, 15). While dating has not been definite, evidence indicates these people were moving up and down the Rio Grande for some time before the birth of Christ and left extensive artifacts, indicating larger groups and longer periods of occupancy. However, there is still no evidence to indicate a permanent type of occupancy – rather, only migrations in the more temperate weather. Bones found in excavations are those of deer, antelope, bison, and smaller animals (Wilson, 204).

Pueblo Indian Influences: Formative Period

The Formative Period is distinguished from the earlier prehistoric periods by the presence of agriculture or similar subsistence farming. Within the mountain region of central Colorado, however, there is little evidence to suggest that prehistoric peoples were practicing a sedentary lifestyle. Artifacts such as pottery and definitive point styles suggest that the Ancestral Puebloans (11,300 AD) from southwestern Colorado, who practiced agriculture and lived in villages, did penetrate into the San Luis Valley and Rio Grande National Forest, but most likely only for hunting or trade expeditions (Guthrie, 39; Simmons, 16).

Of the San Luis Valley, the Tewa Indians who now live in pueblos north of Santa Fe, tell legends about Sip'ophe (a sacred lake where people emerge into this world from the

underworld, and where spirits of the dead return) as being a small brackish lake near the sand dunes (Simmons, 13-14). Several artifacts have been found near the sand dunes and San Luis Lakes, such as ceramics that are associated with formative Pueblo cultures along the Rio Grande, some dating to 700-1400 AD (Guthrie, 41). Pueblo Indians were also attracted to the San Luis Valley for turquoise, a material they especially prized. The Kings Mine near Manassa is believed to be the oldest known prehistoric turquoise mine in North America (Simmons, 16).

Despite this evidence of Pueblo contact and knowledge of the San Luis Valley, no evidence of permanent dwellings has been found (Wilson, 205). During this entire development period, nomadic hunters came from spring to fall, seeking the bountiful game and wildfowl. From evidence found at camp sites it is apparent that three approaches into the valley were used by the Pueblo Indians. The one traveled most often was north from Taos, along the east side of the Rio Grande into the sand dunes area.

Another route existed along the west side of the Rio Grande, extending west into the valley and continuing north. Indians from Chama and the Pajarito Plateau came in from the San Antonio area along the Rio Tuscas, the Rio San Antonio, and the Rio Vallecito. Very little pottery has been found along the last two trails. Since the horse was unknown at that time women and dogs packed the provisions. Artifacts found at the eastern sites – pottery shards, manos, metates, and tools in large amounts – indicate that families traveled together and spent some time in the area. The metate and mano were used to grind wild grass seeds picked along the way. Many varieties of wild plants were plentiful and it is known they made use of yucca, *tules* (cattails), nuts, and berries (Wilson, 205).

HISTORIC PERIOD: EXPLORATION AND SETTLEMENT

Around 1300 AD Indian tribes in southern Colorado and northern New Mexico were becoming distributed and aligned much as the Spaniards found them in the late 1500s. By at least 1400 AD and maybe as early as 1100, the Utes had entered western Colorado in search of better hunting and more easily defended territory than they had occupied in the Great Basin of Utah. When they moved eastward into Colorado, they took over most of the mountain areas as their hunting territory (Simmons, 17). Several divisions of the Utes frequented the valley:

Although Utes traveled in small family groups to hunt or to fight, they belonged to larger bands. While various members of the southern bands visited the San Luis Valley from time to time, the Capotes most often frequented the southwestern part of the Valley

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Example of “culturally scarred trees” within the Great Sand Dunes National Park, in a place referred to as Indian Grove. There are approximately 72 Ponderosa pines in this area that show evidence of use by the Ute and Apache Indians, who scarred the trees when they collected the bark for medicines. (courtesy NPS)

and the Moaches frequented the eastern portion, with the Tabeguache band entering the western side by the 1800s. Both the Moache and Capote were in and out of the San Luis Valley, but it was the Tabeguache or Uncompahgre band who claimed the valley as their territory (Wilson, 206).

When the Utes first came to this area they had no horses, did not practice farming, and they fashioned their tools and weapons from stone (Wilson, 206). The Utes were primarily small game hunters and gatherers, collecting piñon nuts, roots, seeds, and grass. Much of their game included rabbit, antelope, deer, mud hens, and fish, as well as snakes, lizards, and insects (Guthrie, 50). Each family unit hunted in a certain area. When winter approached and game became scarce, the Utes were forced to migrate to warmer areas such as Pagosa Springs or along the Gunnison and Uncompahgre rivers between Montrose and Grand Junction further to the west. Several routes were regularly used during these migrations, including Poncha Pass and Cochetopa (or Buffalo) Pass. Mosca Pass was used often, as well as Medano Pass, to gain access to Wet Mountain Valley. Wolf Creek and Cumbres Pass led the Utes in and out of the southwest country as did Rock Creek. Campsites and rock art remain along these routes as evidence of their passage (Wilson, 206; Simmons, 18).

When spring came the Utes would gather for their ceremonial bear dance and social activities before moving out in small family groups again for summer living. When danger threatened from the Arapahoes, Cheyennes, Comanches, Kiowas, Sioux, or Pawnees (who also used the valley for seasonal hunting), the Ute families grouped together for defense (Wilson, 206).

“These were the conditions the Spanish found when they first entered the area between 1630 and 1640” according to one scholar, who goes on to describe the changes that resulted from the mixing of these cultures:

First encounters were peaceful and trading flourished.

The Utes traded meat and hides for trade goods from the Spanish, but above all they bartered for the horse....[W]ith the added mobility provided by the horse the Utes’ hunting grounds spread over the mountains to the east where they found the buffalo in plentiful numbers. Now they had a resource that provided them with tepee covers, blankets, sinew thread, bowstrings, horn glue, skin bags, moccasins and more meat than they had ever known. No longer did they have to depend on women and dogs to carry provisions. Likewise, the horse permitted them to invade and withdraw quickly from enemy territory and they became warlike and aggressive. Another factor that brought about the change to a more warlike nature was the influx of traders and trappers and later settlers, who were encroaching on the territory the Tabeguache had known as their own for so many years (Wilson, 206).

In the 1830s, Anglo-American trading forts began to be constructed in northern and western Colorado, and the Utes’ relationship with New Mexico began to deteriorate. Indian conflict in the valley came to an end when Chief Ouray made a treaty with the United States in 1868, after which the Utes were moved to a reservation in western Colorado (Wilson, 206). More about these conflicts is discussed later in this chapter.

Spanish Exploration and Dominance (1580-1822)

In late April of 1598, Don Juan de Onate took possession of New Mexico, claiming all the territory drained by the Rio Grande, including the San Luis Valley, for King Phillip II of Spain. During the period 1580-1594, there were several Spanish expeditions into northern New Mexico and the San Luis Valley – mostly to look for gold. The first Spanish contact with the Utes in the San Luis Valley resulted from an exploration party early in that period, sent by Onate, in search of buffalo (Simmons, 22-23). Contact, however, was brief, and the Spaniards focused on defending their territory in New Mexico from Pueblo Indians.





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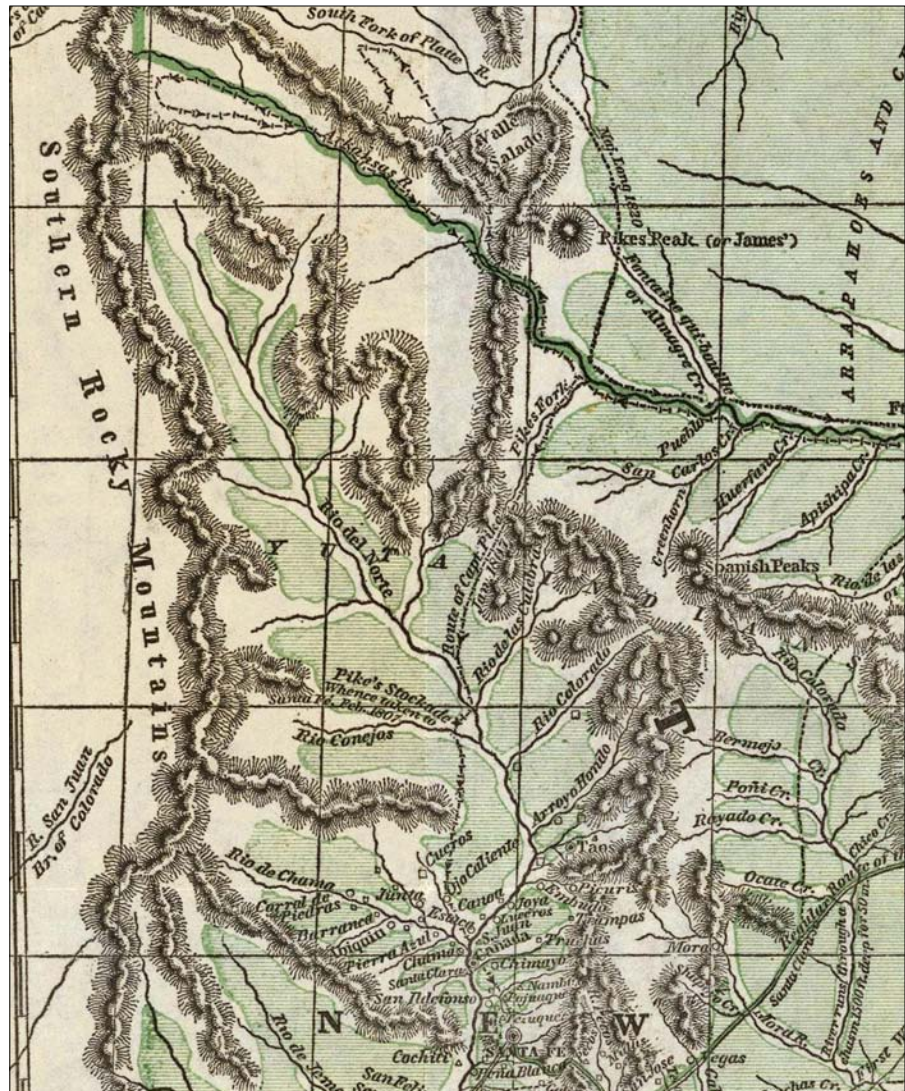
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It was not until 1694 that the next documented expedition occurred within the San Luis Valley. It was during that year that General Don Diego de Vargas, having defeated the Pueblo Indians and restored Spanish possession of Santa Fe, brought his expedition into the San Luis Valley, travelling up Rio Culebra and then south to Costilla Creek (Carter and Mehls, 1).

A few additional expeditions were conducted throughout the region during the mid 1700s. Governor Manuel de Portillo led an expedition into the San Luis Valley in 1761 (Carter and Mehls, 2). Don Juan Maria de Rivera set out in 1765 to search the mountains of southwest Colorado for minerals. The party entered the area by way of the Rio Chama, the route that became known as the Spanish Trail. They returned along the Gunnison, across Cochetopa Pass, and down through the San Luis Valley (Simmons, 26). A military expedition organized by Governor Juan Bautista also travelled north through the San Luis Valley in 1779 to wage a battle against the Comanche. Individual Spaniards also made trips into the San Luis Valley to trade with the Utes and to hunt deer (Carter and Mehls, 2). Spanish exploration into southern Colorado followed two primary routes:

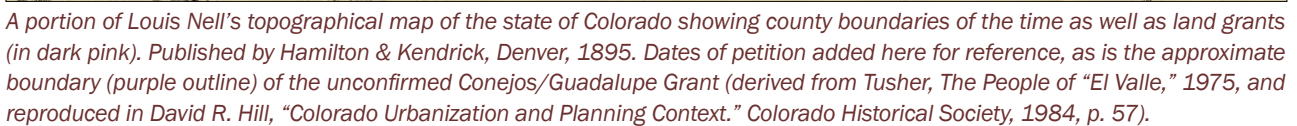
The San Luis Valley route was followed either along the mountains on the west side of the valley by travelers coming north from Santa Fe or along the Sangre de Cristo Mountains on the east side of the valley. The Rio Grande River Gorge dictated this division of routes. The eastern route along the Sangre de Cristo Mountains was popular, and much traffic turned east at the base of Mount Blanca and cross the mountains via Mosca Pass. The western route followed just to the east of the San Juan Mountains and took a northeast arch toward Cochetopa Pass or, curving northeastward, followed a route over Poncha Pass through South Pass and down Ute Pass to the Plains. The second route from Santa Fe was in



Portion of Josiah Gregg's "Map of Indian Territory, Northern Texas and New Mexico." New York: Henry G. Langley, 1844. The San Luis Valley is labeled as "Yuta" territory. Source: David Rumsey Historical Map Collection.

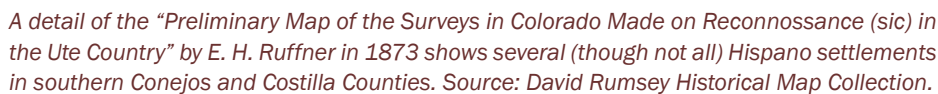
a northeastwardly direction toward Taos and across the Raton Mountains and then north along the Front Range (Carter and Mehls, 4).

While the Spanish presence within the San Luis Valley was certainly felt by the Utes and other indigenous tribes they encountered, they left little evidence of their adventures. While outposts and forts were located at the Sangre de Cristo Pass or in the San Luis Valley along the New Mexico border, their detailed locations are unknown and no traces of these features have been found. Explorers traveled light and left little (Carter and Mehls, 4). According to one scholar, "Though more than two hundred years had passed since Spanish acquisition of New Mexico, little had changed in the San Luis Valley. Indians still occupied it, hunting, fishing, and raiding....Despite the fact that Spaniards had lived on



In order to promote settlement, reward patrons of the government, and create a buffer zone to separate hostile Indians from the more populated regions of New Mexico, Spain (and later Mexico) made land grants to individuals, towns, and groups throughout its northern frontier lands. The number of grants made between the end of the 17th century to the middle of the 19th century total about 295 (Shapins, 31). The first land grants in present-day Colorado were executed in the 1830s: the Tierra Amarilla Grant and the Conejos Grant, both within the San Luis Valley (Carter and Mehls, 25). The boundaries of the Conejos grant covered most of present-day Conejos and Rio Grande counties. It was described as “extending north to La Garita Mountains,

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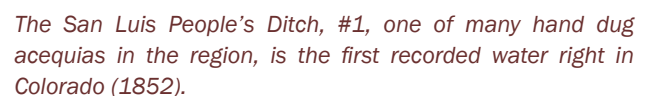
Early Hispano Settlement (1848-1900)

the oldest continually occupied settlement in Colorado), and San Pedro in 1852 (Simmons, 84; Carter and Mehls, 18). Additional early settlements in the Rio Culebra valley include San Pablo (1853), San Acacio (1856), and San Francisco, or La Valley (1855).

It was just south of San Luis that the settlers first constructed several *acequias* (irrigation ditches) to distribute water from the Rio Culebra to their fields. The San Luis Peoples Ditch #1, which was constructed in 1852, is the first recorded water right in Colorado. Other ditches followed: the San Pedro Ditch and Acequia Madre Ditch, also in 1852, the Montez Ditch (1853), the Vallejos and Manzanares Ditch (1854), and the Acequiacita Ditch (1855) (Carter and Mehls, 18).

The Rio Culebra settlers laid out their farms in *varas*, long narrow strips. They ranged anywhere from 55 feet to one thousand feet long, depending upon the size and importance of the families receiving the plots. East of San Luis, a vega, or communal pasture, of nearly 900 acres was given to the families (Simmons, 86).

It was not until 1854 that Indian hostilities ceased and permanent settlements were allowed to establish within the





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Photo of San Luis taken from the top of San Pedro Mesa. La Vega (in background) is a communal pasture of nearly 900 acres that was given to the families of the original settlers of San Luis.

Conejos Grant. In the fall of that year Jose Maria Jacques together with Lafayette Head and more than 50 other families from Abiquiu and El Llanito began the settlement of Guadalupe, near the present town of Conejos. It was here that they built Colorado's first church, Our Lady of Guadalupe, and helped establish the first and oldest Catholic parish (Simmons, 88). Here each family was also allotted a long, narrow strip of land for cultivation. These long plots extended from the river for irrigation to the foothills and mountains for pasture and timber land, but measured only about 500 feet wide (Carter and Mehls, 17). They eventually filled most of the irrigable land between the San Antonio River and La Jara Creek. As stipulated in the proclamation, pastures and watering places would be held in common, and roads in and out of town would be public (Simmons, 79).

Additional settlements of Servilleta and Mogote followed in 1854, and two irrigation ditches, the Guadalupe Main Ditch and the Mills Head Ditch, were built in 1855 (Carter and Mehls, 17). Others followed on all of the neighboring tributaries. By 1855 there were 11 ditches bringing water from the valley's rivers to the fields. By 1857 nine more were added (Simmons, 96).

As time passed, settlement spread northward. La Garita and La Loma (near present-day Del Norte) were settled in 1858 and 1859. Across the valley, Zapata was settled in 1864 at the western base of Sierra Blanca (Simmons, 107). By the early 1860s these Hispano settlers had transformed the valley into an area typical of rural northern New Mexico

with architectural styles and settlement patterns following in the tradition of Spanish and Mexican villages.

Each settlement typically was established near a creek and built around a central plaza or square, with *corrilleras* or linear arrangements of contiguous homes facing each other along a road. These *corrilleras* were separate from the *plazas* (Hill, 47). Less formally clustered *placitas* (places – originally a diminutive for plaza) also appeared in some settings operating as an informal hamlet containing a few families. As time passed, settlement continued in this tradition:

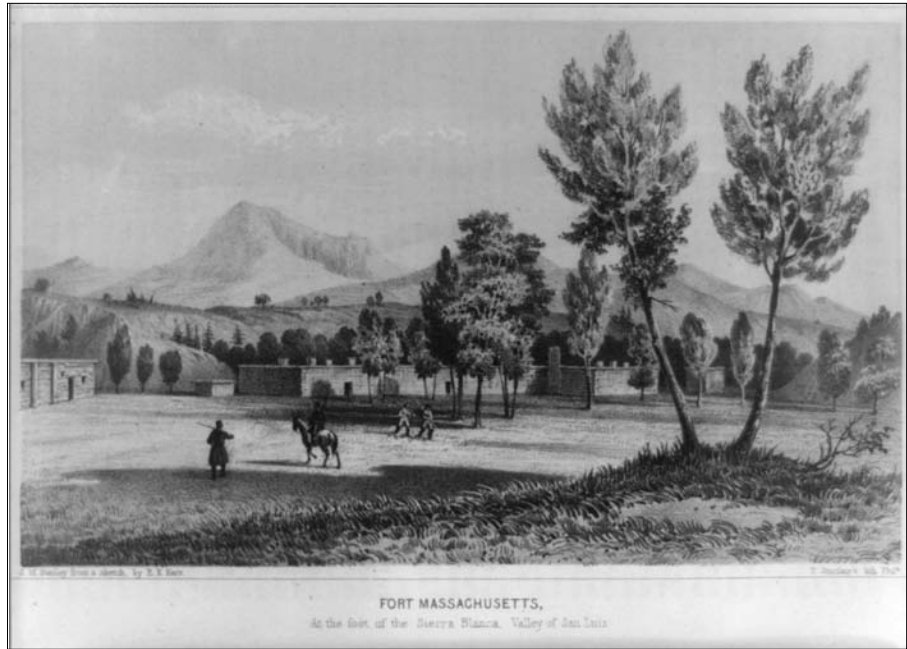
Some of the new settlements on the valley's grants continued to be made by people from New Mexico. On the west side, between the Alamosa and La Jara Rivers, Capulin, meaning "chokecherries" was established in 1867 by people from Ojo Cliente, and La Jara was settled on the south side of the latter stream at about the same time. Plazas around La Loma expanded to the north, while Ortiz and San Antonio began to prosper in the corner of the valley south of Conejos. To the east Ojito on Trinchera Creek and to the north Rito Alto appeared. Nearly every stream with the San Luis Valley had at least one settlement of Spanish-speaking people (Simmons, 132).

Beside the living quarters, a compound usually contained other farm related structures like barns, sheds, granaries, walls, fences, corrals, storage facilities and shelters. The earliest structures were *jacales*, which were built of



Town economies were based on subsistence stock raising and crop growing (Hill, 48). One scholar describes the general character to be expected once a nucleus of a settlement appeared:

In 1860 Congress confirmed the Sangre de Cristo Grant, but adjudication of the Conejos Grant was held up by the surveyor general of New Mexico. Documents regarding the grant were not received in Colorado until 1867, six years after the new territory was created (Simmons, 143-144). It was 1900 before the Court of Private Land Claims heard the arguments and dismissed the petition on the grounds that no evidence of the original 1833 grant existed, and that the governor of New Mexico had expressed doubt regarding his own authority to grant possession (Simmons, 144). As a result, many of the early settlers of the Conejos Grant eventually lost their land when it was opened for homesteading (Simmons, 81; Carter and Mehls, 18). Following the Homestead Act of 1862, new settlements



within the valley conformed to the township, range, and section pattern of development, with farmsteads being partitioned on a 160-acre grid.

The first American military post in the San Luis Valley was Fort Massachusetts. It was authorized in 1852 to provide protection from Ute raids and promote settlement with the valley. Located just south of Blanca Peak off the Sangre de Cristo Pass, the fort saw some action as the cavalry based there engaged in battles with the Utes and Jicarilla Apache (Carter and Mehls, 35). Abandoned in 1858 due to isolation and poor drainage, it was replaced by Fort Garland, six miles further south.

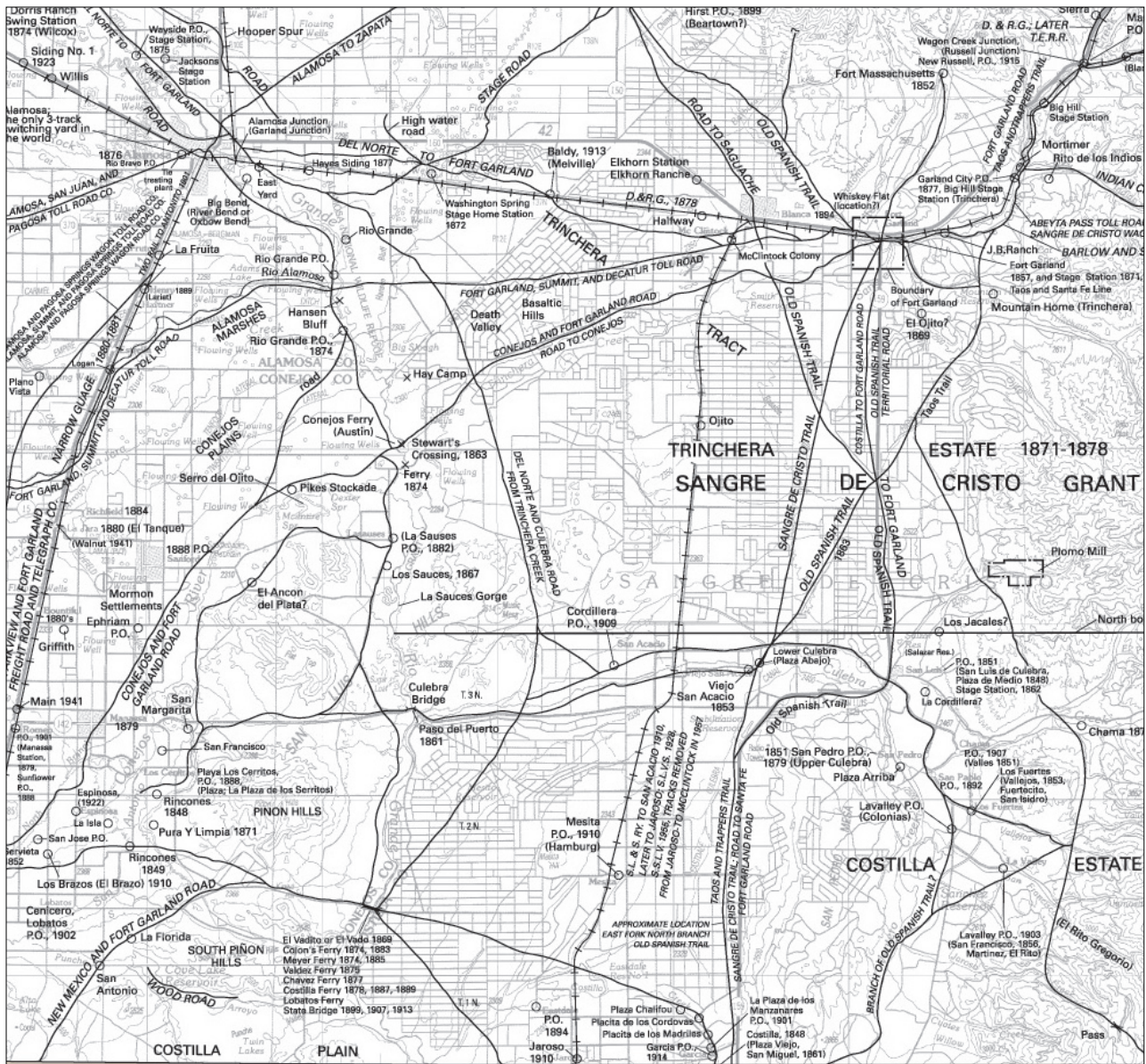
Army operations based out of Fort Garland covered much of Colorado. Troops participated in rescue missions and participated in many punitive expeditions against the Utes.



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Map detail depicting all the major trade routes through the eastern portion of the San Luis Valley, including trails, stagecoach roads, railroads, and river crossings. Source: Glen R. Scott, U.S. Department of the Interior, U.S. Geological Survey, "Historic Trail Map of the 1 x 2 Trinidad Quadrangle, Southern Colorado," 2001.

Between 1866 and 1868 the post was under the command of Kit Carson, famed for his explorations of the West.

In the 1860s several treaties were negotiated with the Utes to remove them from the San Luis Valley and relocate them to reservation lands in western and southwestern Colorado. Hostilities continued, and eventually the treaties were modified to reduce the reservation land and completely remove the Utes from the entire state except a small corner in the southwest. In 1881, all of the northern bands and the Uncompahgres were sent to a reservation in Utah (Simmons, 120). After removal of the Utes, Fort Garland was abandoned when soldiers were ordered to relocate

to Fort Lewis across the San Juan Mountains to the west (Carter and Mehls, 35).

Between the close of the Mexican American War and 1861, the San Luis Valley had been in New Mexico Territory. On February 26th of that year, the Territory of Colorado was established by Congress with its boundaries almost identical to today's state line. The exception was the southern boundary, which was drawn along the 37th parallel, almost but not quite where the state line lies today. Counties were established soon after. Costilla County occupied the eastern and northern portions of the valley with San Luis as its county seat, whereas Guadalupe County encompassed the

western side north to the Rio Grande. Seven days later its name was changed to Conejos County with its county seat bearing the same name (Simmons, 129). It was not until 1913 that Alamosa County was carved from portions of Conejos and Costilla counties.

Early Farming and Ranching (1840-1870)

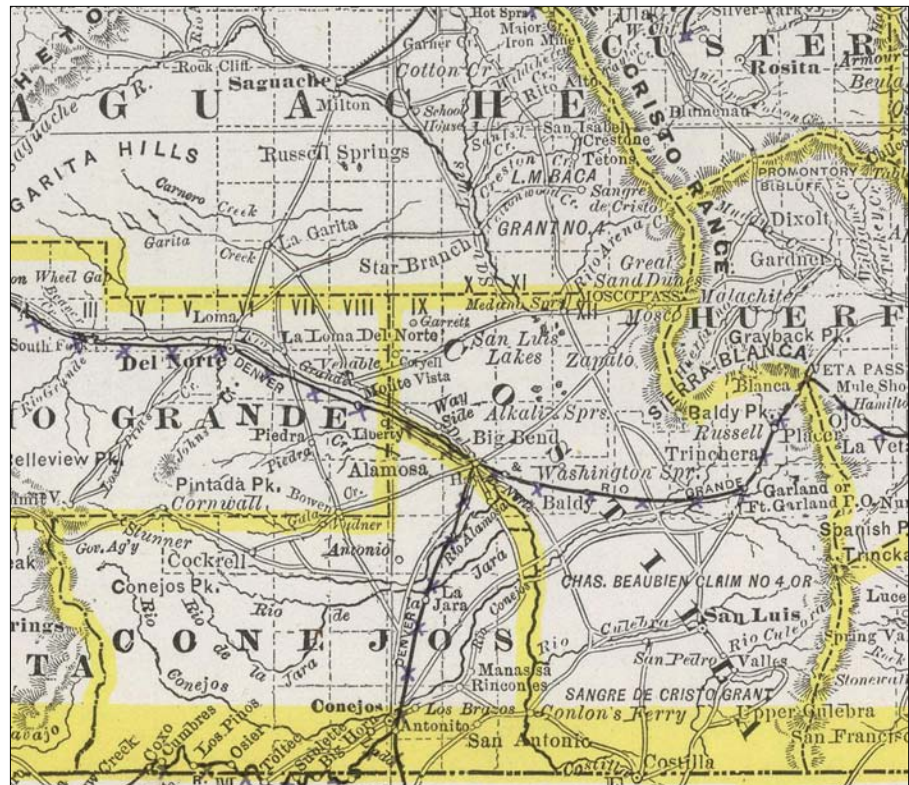
The early Hispano settlers of the San Luis Valley were primarily poor subsistence farmers and herdsmen who brought with them from New Mexico their food culture, seeds, and traditions of farming and ranching. They spun and wove fabric for clothing, bedding, and rugs from the wool of their own sheep and goats. They also raised some cattle, hogs, and chicken but relied mainly on a vegetarian diet (Simmons, 96). Their crops consisted chiefly of *maiz blanco* (white corn), *cebolla* (onion), *aberjon* (field peas), *calavaza* (pumpkin), *manzana de agosto* (apples), *ciruelo de indio* (plums), wheat, *papa* (potatoes), *havas* (fava beans), and *chile* peppers (Shapins, 44).

Indigenous plants were used for both food and medicine, and among others included *plumajillo* (yarrow) for colds and dysentery, garlic for constipation, *chamiso hediondo* (sagebrush) for flu and pneumonia, oregano for pain in lungs, *osha* (lovage) as an antiseptic, *poleo* (brook mint) for toothache, and *romero* (rosemary) for arthritis (Everts, 46 47). Agricultural practices also followed Mexican traditions, such as use of oxen plows and *acequias*. Stock was raised on *vegas*, or common pastures. *Cercas* (fenced gardens) and roof farming were also practiced, as were many of the communal and religious traditions such as Saints' days, fiestas, and Mexican *fandangos* (Carter and Mehls, 19).

Food preservation became a highly developed art and custom. Fruits, vegetables, meat, and chilies were carefully dried to last through the winter. These were transformed into jerky, *chicos* (green corn roasted in a traditional oven, dried, and shucked by hand), and cured and dried elk meat (Everts, 81).

Trails, Roads, and Railroads (1820-1945)

Since the late 16th century the Rio Grande corridor through the San Luis Valley had been a known travel route used by



Map of Colorado showing the Denver & Rio Grande Railroad lines, with Alamosa already well established as a central transportation hub. Chicago: Rand McNally and Company, 1889. Source: David Rumsey Historical Map Collection.

early Spanish explorers to access the northern reaches of their colony. By the early 18th century, such routes, most likely adapted from Indian trails, were well established and frequently used by explorers, traders, and military expeditions. By the 19th century, several of these routes were improved as wagon roads, either by toll road builders or government road builders:

Roads passable for wagons were graded in places and generally were free from tree stumps, large boulders, and deep ruts. Diaries kept by some of the travelers give accounts of the stages turning over when traversing steep slopes along valleys. Deep streams had to be bridged; shallow streams were forded. The post roads and toll roads...were built quickly and had very rough surfaces compared to the paved and even unpaved roads prepared today. Over the years many types of vehicles used the roads, ranging from huge freight wagons to Conestoga wagons and small delivery wagons. Passenger vehicles also varied considerably in size from large stagecoaches to surreys, buggies, open spring wagons, or even handcars, such as those used by the Mormons during their immigration to Utah. Travel on the roads must have been especially difficult after strong rains or heavy snowfall. On mountain



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National Park Service map depicting the routes of the Old Spanish Trail linking Santa Fe with Los Angeles.

roads heavy snowfall generally shut down the passage of both mail and passenger traffic (Scott, 2-3).

The two most important early routes included the Spanish Trail and the Taos Trail. The route now known as the Old Spanish Trail actually consisted of a network of trails that passed through six western states. Through time the trails evolved into established trade routes that linked the villages of northern New Mexico to Los Angeles. The “North Branch” of the Old Spanish Trail carried traffic through the San Luis Valley. It is believed there were several routes that comprised this Northern Branch, both to the east and west of the Rio Grande. The eastern route travelled past Costilla, New Mexico on its way to San Luis, Fort Garland, and Crestone before turning westward over the San Juan Mountains at Cochetopa Pass. Today Route 159 essentially follows this historic route as far north as Fort Garland (Scott, map). The western route, which is still under investigation, may have connected Ojo Caliente, New Mexico with Conejos and Monte Vista before heading north over Cochetopa Pass.

In 1822 when Mexico gained its independence, the focus of trade shifted east. The Santa Fe Trail was established as a major overland trade route linking Franklin, Missouri with Santa Fe, and opened up much of southeastern Colorado to settlement. While the main route of the Santa Fe Trail passed east of the Sangre de Cristo range, the Taos Trail (or Trappers Trail as it was known), linked Taos, New Mexico and the San Luis Valley to the Santa Fe Trail via the Sangre de Cristo Pass, continuing northward toward Pueblo, Colorado, and Laramie, Wyoming (Scott, 2). Its alignment generally followed that of the Old Spanish Trail towards Fort Garland before heading eastward along the Sangre de Cristo Creek.

When Colorado gained territorial status in 1861, the development of transportation infrastructure quickly accelerated. In that same year, two ferry permits were granted to cross the Rio Grande. One was located near the juncture of Trinchera Creek (Stewart’s Crossing), which connected Conejos with Fort Garland, and the other near the Piñon Hills which connected Conejos with Costilla. Bridges soon followed, to include one near the juncture of Rio Culebra. These locations continue to serve as major crossings today.

Several toll roads were also constructed throughout the San Luis Valley during the latter half of the 19th century. Some of the most significant included a toll road was built by the Denver and San Luis Valley Wagon Road Company in the late 1860s to operate between Denver and the valley. This line crossed South Park and Poncha Pass and ran through the San Luis Valley on the Conejos Road as far as the New Mexico border. Otto Mears, a Russian immigrant turned entrepreneur, funded toll roads across Poncha Pass in 1867 and Cochetopa Pass in 1871, thereby opening up a route over the San Juan Mountains to the west (Simmons, 131-135). Entrance to the San Luis Valley from the east continued with Sangre de Cristo Pass Wagon Road, chartered in 1864, which essentially followed the Taos Trail (Scott, 10).

Stage lines were also established on the Taos Trail and on the Santa Fe Trail. The principal need was for transportation of people, but almost as important was the transport of freight and mail, which constituted a large part of the profit for the stage companies. In 1866, mail to the San Luis Valley traveled from Pueblo over the Sangre de Cristo Pass and entered the San Luis Valley at Fort Garland, then south to San Luis, Costilla, and on to Santa Fe (Scott, 4):



Antonito's Denver & Rio Grande Western railroad passenger depot.

The stages traveled as rapidly as the drivers could get the horses or mules to run. Teams were changed about every 10-15 miles at stations where extra stock was kept in order to provide rested and vigorous animals that could maintain the schedules. These stations were called “swing” stations but they provided little comfort to the passengers, as stops were only long enough to provide for the changing of the teams. About every fourth station was equipped with a kitchen and dining room so that the passengers could take meals along the routes. These stations were called “home” stations. Some of them had beds, but generally the stages did not stop for the night and the passengers had to sleep in the coaches as they traveled through the night. Because of the sparseness of trees along the stage routes, many of the stations were simply dugouts along the banks of streams or some stations were made of adobe or, rarely, of logs or lumber. (Scott, 3).

At the close of the Civil War, railroad development quickly marched westward. In 1870 William Jackson Palmer, a construction engineer with Kansas Pacific, filed for the incorporation of the Denver & Rio Grand Railroad (D&RG). Believing that a rail line from Denver to New Mexico and El Paso would be a lucrative investment, the D&RG utilized narrow-gauge tracks with only three feet between rails to negotiate the sharp, steep curves of the Rocky Mountains. Starting in Denver, the line reached Colorado Springs in 1872 and Pueblo by 1873. By 1876 it had reached La Veta Pass, and a year later Garland City sprung up as a temporary end-of-track town that lasted only until the D&RG reached the Rio Grande in 1878, where Alamosa eventually grew up around its shop and roundhouse (Simmons, 155-156; Shapins, 41).

Originally called Rio Bravo, the town was platted as the Alamosa Town Company by A.C. Hunt in May 1878, only

two months before the railroad reached it. Anglo-American settlement and speculation soon followed. Alamosa quickly became the commercial center of valley as banks, mills, stores, and other businesses located there. By the 1880s it had added two newspapers, a school, and a Presbyterian church (Simmons, 159).

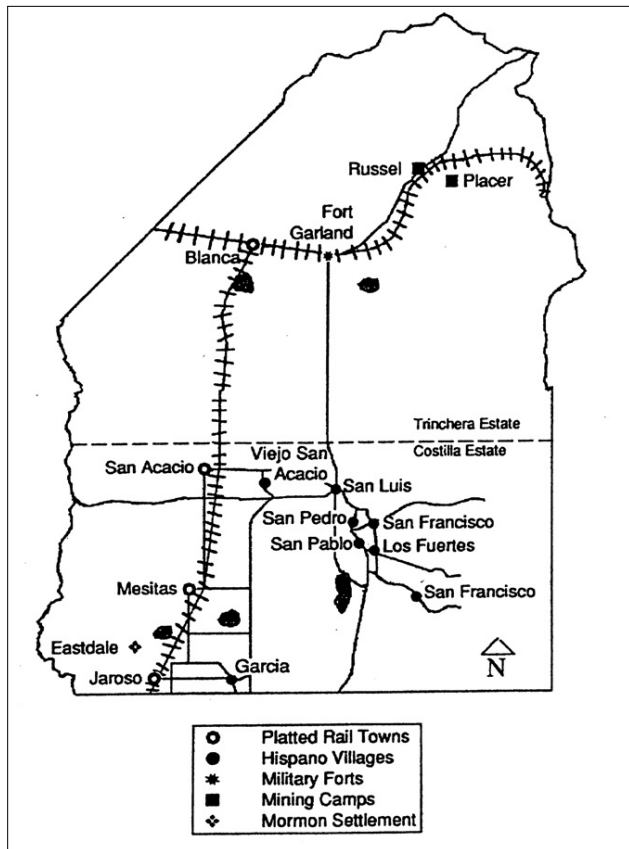
The D&RG continued to lay track southward, eventually linking Alamosa to Santa Fe, and westward to Chama, New Mexico via a San Juan extension from Antonito. This latter line opened up the Colorado towns of Durango and Silverton, both important mining towns. Antonito, which was built about a mile south of Conejos in 1880, became the principal community in the southern portion of the county. Antonito soon became a bustling settlement with its own railroad depot, a section house, a bunk house, a sawmill, numerous saloons and gambling houses, a hotel, a newspaper, stores, and three churches (Simmons, 163).

The economic downturn of 1893 and recession that followed discouraged further railroad development within the valley for almost two decades. The next railroads to be built were agricultural feeder lines to meet the needs of the growing farming communities. These included the San Luis Southern, later called the San Luis Valley Southern. This line operated between Blanca and agricultural areas developed on the Costilla Estate, and was completed in 1910. An extension was eventually built through Mesita to Jarosa. The other line was the San Luis Central, built from Monte Vista to Center in 1913. It primarily hauled sugar beets, lettuce, and other produce from the agricultural center of the valley to the D&RG tracks at Monte Vista. The San Luis Central still operates seasonally, but the other line's rails were removed in 1958 with the exception of a mile and half of track between the D&RG and a shipping facility at Blanca (Simmons, 170).

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Early Settlements and Platted Towns (courtesy Valdez & Associates). Source: Maria Mondragon-Valdez, "The Culebra River Villages of Costilla County, Colorado. National Register of Historic Places Multiple Property Documentation Form, 2000, p. E-25.

Eventually the southern line (nicknamed the “Chili Line”) between Antonito and Santa Fe lost out to competition from the Atchison, Topeka & Santa Fe (AT&SF), a major competitor of the D&RG, and it was dismantled in the 1940s (Simmons, 164). The Cumbres Pass line to Chama continued to serve local passengers until 1951. In the early 1970s, in order to save it from being dismantled, Colorado and New Mexico cooperated in jointly purchasing the line and leasing it as a tourist attraction (Simmons, 166).

Late 19th and Early 20th-Century Agriculture and Settlement (1870-1930)

With the extension of the railroad into the San Luis Valley, an established network of feeder roads, and improvements in irrigation technology, agricultural development began to progress rapidly in the 1870s and the population of the region boomed. Practices soon shifted towards larger farms and ranches owned and operated by Anglo-American migrants who acquired much of the wealth in the valley. Many areas of the valley were opened to farming for the first time by

these settlers. Other sections of the valley saw a retreat of Hispano influences. The Medano Ranch, for example, was assembled gradually through the Dickey brothers' purchase of Hispano farms. Its 130,000 acres were eventually sold in 1882 to New York investors who developed the largest cattle operation in the valley (Simmons, 219). Likewise the large Zapata Ranch was acquired by Texas cattlemen in the 1870s (Simmons, 294). Some districts, however, particularly in the south, maintained their Hispano identities that are reflected in the landscape today (Wyckoff, 198).

Other small settlements were established throughout the San Luis Valley through land speculation associated with the railroad and agricultural development. These platted rail towns, or “New Towns” as they were called, included Mosca, Mesitas, Blanca, New San Acacio, Jaroso, Antonito, and Romeo. For instance Mosca was established in 1881 through the Mosca Land and Farm Company to provide land for tenant farmers. Blanca was established in 1908 by the San Luis Valley Land Company and incorporated in 1910. New San Acacio and Mesitas were both developed by the Costilla Estate Development Company in the early 1900s (Costilla County Comprehensive Plan). The Seventh-Day Adventist Church established a colony at Jaroso with a cooperative farm in 1914 after a San Luis Southern Railroad depot was built there in 1910 (Carter and Mehls, 110). Romeo was platted in 1901 by Zeph Felt, a land developer from Denver (Simmons, 299).

Mineral speculation led to the development of mining towns in the San Juan Mountains. Platoro, taking its name from silver and gold ore, was established in the 1880s. Although the gold rush primarily targeted the San Juan Mountains further to the north and west, those mining camps and settlements created tremendous demands for food that farmers and ranchers in the San Luis Valley were well positioned to satisfy (Wyckoff, 198).

Lettuce, spinach, peas, and cauliflower were important vegetable crops being shipped from the valley; barley, beans, oats, and hay were also produced extensively. (Simmons, 241). Cattle and sheep raising also grew to be important industries. Entrepreneurs soon established mills, warehouses, and other types of facilities related to the logistics of moving, storing, and processing agricultural products. Because of the great distance between the San Luis Valley and urban markets, farmers needed to pack the most perishable vegetable in ice to reduce spoilage. Doing so required the construction of packing sheds, ice houses, and crate-making facilities (Mondragon-Valdez, E-27). As commercial potato production also increased during the first half of the 20th century. Hispano farmers constructed *soterranos*, or large underground cellars, which helped to



Photo of farmstead in the San Luis Valley, ca. 1939. Source: Library of Congress, Arthur Rothstein, photographer, Farm Security Administration/Office of War Information Black-and-White Negatives.

maintain even temperatures and keep the potatoes from freezing. Anglo farmers adopted these Hispano construction techniques and build above-ground storage facilities made of double-wall adobe (Mondragon-Valdez, E-27).

Cheap and abundant labor was needed to work these farms, and farmers began to hire local Hispano-Americans and immigrants from Mexico as day laborers as the vegetable industry expanded. These workers built small adobe homes near the towns where they worked (Simmons, 239). In 1909 the Costilla Estate Development Company encouraged Japanese, who wished to emigrate from California, to work the farms on the estate. Some came as tenant farmers, while others moved into a cooperative colony called Culebra Village. These Japanese farmers perfected the practice of truck farming in the San Luis Valley, specializing in cool weather crops like spinach, lettuce, cauliflower, and broccoli that were well suited to the valley's cool summers. Many settled in the area of Jaroso and San Acacio and around Blanca and Fort Garland (Simmons, 239-240). Within a decade they expanded their agricultural land holdings from 53 acres in 1919 to more than 10,000 acres (Mondragon-Valdez, E-27).

Other ethnic and religious groups also played a role in the settlement of the valley. In 1879 Mormon settlers seeking religious freedom established the town of Manassa. In their surrounding fields the Mormons grew wheat, field peas, oats, and alfalfa. Eventually they went on to establish Morgan and Sanford (Simmons, 222).

In 1876 T.C. Henry and his Colorado Loan and Trust Company created demonstration farms to lure land speculators and participated in the construction of the Rio Grande, San Luis, Monte Vista, and Empire canals, all

in the western portion of the valley. Although Henry and his investors were not successful, farmers benefited from the construction of these irrigation systems and eventually came to control them through local cooperatives (Wyckoff, 202). Artesian wells were drilled to tap the underground aquifer beginning in 1887. Within the next decade about three thousand were drilled.

These important changes in the scale and technology of irrigation greatly expanded the number of arable acres in the valley. These changes also influenced the distribution of wealth. Traditional *acequias* were restricted to short laterals that served nearby bottomlands. The new ditches reached higher benches and the artesian wells watered lands wherever drilling succeeded (Wyckoff, 202).

After the financial panic of 1893, agricultural prices dropped and coincidentally a severe drought began. Irrigation canals dried up, except for the Rio Grande Canal, which took almost the entire flow (Simmons, 233). During this period of depression, many farms failed and farmers fled the valley in search of more reliable sources of water. Several of the small communities disappeared.

During the early 1900s too much water became the problem, as irrigated lands near Mosca and Hooper became waterlogged and alkaline (Simmons, 231-232). The result was widespread abandonment of more than 300,000 acres in the valley's center between 1890 and 1920 (Wyckoff, 203). Smaller scale versions of the problem appeared elsewhere in the valley.

The longest dry spell recorded in Colorado's history spanned the entire decade of the 1930s. With the land already stressed ecologically, and the Great Depression further crippling

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to remain near their ancestral homes. Rising poverty throughout the country spurred President Roosevelt's New Deal program, including its Works Progress Administration (WPA). The WPA undertook several construction projects throughout the San Luis Valley, most notably road, bridge, and school construction. Among other projects, these included the Rito Seco Bridge, the San Luis District One School and Junior High School in San Luis, and the Chama School in Chama (Mondragon-Sanchez, E-30-33).

Despite this influx of government funds, the population of the region plummeted, and Costilla County witnessed the largest population decline in the state. Between 1940 and 1950, Costilla lost 19 percent of its population. This trend continued in 1960, as out-migration accelerated by 25 percent. The closing of the Taylor Ranch to those with rights to resources on the ranch, which made it possible for small herders and farmers to survive economically, was a unique factor in the population loss of the 1960s.

Conejos County also suffered. Peaking in 1940, out-migration there caused a 28 percent decrease in population by 1960. Both Costilla and Conejos counties were very slow to recover from this downward trend as both continued to lose population until 1980 and 1990, respectively. However, this influx was short lived as both have lost population over the last decade. The 2010 population of Costilla County (3,524) is still less than half of its 1940 peak, and Conejos County (8,256) remains down by 30 percent (U.S. Census Bureau).

Alamosa County is the exception to the downward trend as its population has increased. With only one decade of minor loss (a five percent decrease between 1950 and 1960), Alamosa County's population has grown almost 50 percent since 1940 and currently makes up over half of the population in the heritage area. Most of this growth has occurred since 1980. The City of Alamosa and the unincorporated area of Alamosa East (a designated census community) together comprise more than 66 percent of the county's population.

Overall, however, the population of Sangre de Cristo National Heritage Area has increased less than one percent over the last decade and falls well below the average 17 percent growth rate of the state. Table 3-1 shows the total population change of the Sangre de Cristo National Heritage Area compared to the population of Colorado and the United States between 1980 and 2010.

The physical effects of these historic population changes are evident in the cultural landscape. What exists today is a reflection of community adaptations to economic expansion and contraction, as well as the historical differences between the U.S. Public Land Survey System and the Spanish and Mexican vara system of land subdivision.

Founded in 1878 as a railroad town for the Denver and Rio Grande Railroad, the City of Alamosa possesses a physical form that represents rail town development traditions that occurred throughout the western and midwestern United States between 1870 and 1920. As the primary aggregator

Table 3-1: Population Change within the Sangre de Cristo National Heritage Area, 1980-2010

	1980	Pop Change	1990	Pop Change	2000	Pop Change	2010	Pop Change
Alamosa	11,799	3.30%	13,617	15.41%	14,966	9.91%	15,445	3.2%
Conejos	7,794	-0.66%	7,453	-4.38%	8,400	12.71%	8,256	-1.71%
Costilla	3,071	-0.65%	3,190	3.87%	3,663	14.83%	3,524	-3.79%
Sangre de Cristo NHA	22,664	1.27%	24,260	6.58%	27,029	10.24%	27,225	.73%
Colorado	2,889,964	30.9%	3,294,394	14.0%	4,301,261	30.6%	5,029,196	16.9%
United States	226,545,805	11.5%	248,709,873	9.8%	281,421,906	13.2%	308,745,538	9.7%

Source: U.S. Census Bureau, 2010 Decennial Census, CensusScope (www.censusscope.org).

Table 3-1: Population Change within the Sangre de Cristo National Heritage Areas, 1980-2010.

station and critical link to the D&RG's western extension to Chama, New Mexico. Like Alamosa, Antonito's physical form deferred to the railroad, which formed the community's eastern boundary. The historic train station, which is currently unused but undergoing historic restoration, is centrally located within the town. Large numbers of sheep from ranches in the southern part of the Valley were shipped from Antonito, and wool brokers also served the area (Simmons, 276). Prior to World War II, Antonito had more than 3000 residents. Its population, however, began to decrease soon after the Chili Line was dismantled in the 1940s, and today comprises fewer than 800 residents.

Other towns that sprang up along the rail lines include La Jara, Blanca, Romeo, New San Acacio, Mesita, Jaroso, Mosca, and Hooper. All served as secondary rail shipping points and supply centers for the valley's farming and ranching operations. While originally established as a military outpost, the town of Fort Garland also expanded substantially in 1898 after the D&RG laid track on its way west to Alamosa. Except for Mesita and Jarosa, which remained small, the rail communities developed from a platted grid system derived from the U.S. Public Land Survey System of land subdivision.

Manassa and Sanford, the two other most populated communities within the heritage area after Alamosa, were also platted communities that developed within a grid network. Originally Mormon communities, they followed in the traditions of western town survey and subdivision. Manassa's settlers selected the land for their colony based upon assumptions that the railroad would soon be built nearby. One year later, however, the railroad bypassed the colony three miles to the west.

The pattern of grid development based on land speculation and railroad infrastructure contrasts significantly with the Hispano communities that evolved from the *vara* system of land subdivision and subsistence farming, and where town centers were oriented around plazas. While this historic Hispano settlement typology is reflected most prominently in San Luis, the largest of its type and the heritage area's sixth most populated town, it is also represented in other historic Hispano communities and *placitas*, albeit to a lesser degree due to their small size. These include San Acacio Viejo, San Pedro, San Francisco (La Valley), San Pablo, Los Fuertes, San Antonio, San Francisco, Garcia, Conejos, Guadalupe, Chama, Las Mesitas, Los Cerritos, Las Sauces, Ortiz, Cañon, Mogote, Paisaje, Espinosa, Capulin, and Lobatos (Cenicero). In many cases only one or a few family homes remain to mark the settlements that once contained several dozen or several hundred residents. In other instances, such as Lobatos and Los Cerritos, the historic places contain only



Sts. Peter and Paul Mission in San Pablo.

a cemetery, church, or foundation remnants that signify its former community (Simmons, 275-307).

Despite the fact that Costilla County stands alone as Colorado's only county-wide break in the township and range grid system (Hill, 49), its lands have not been immune to speculative land subdivision. More than 30 percent of the county and almost all the undeveloped land between the foothills of the Sangre de Cristo Mountains and the Rio Grande (except for a portion of the San Pedro Mesa, the San Luis Hills, and Trinchera Creek and Rio Grande lowlands) has been subdivided with platted roads. In total, there are 29 separate subdivisions that include 37,000 lots on approximately 260,000 acres. Most were platted in the 1960s and 1970s. If all these lots were to be developed, it could potentially add more than 45,000 housing units and 118,000 people to Costilla County. However, more than 90 percent of these lots remain undeveloped. Due to environmental constraints, economic conditions, and the lack of services and infrastructure, full build-out is unlikely. Should growth occur, the current county comprehensive plan has established a vision for an alternative model that will encourage future development to occur within and around established community areas and protect its agricultural and environmental resources (Costilla Comprehensive Plan, 26).

CHAPTER 4 , HISTORIC PRESERVATION



Adaptive reuse of the Joyce Block in Antonito includes retail space on the first floor and bed-and-breakfast lodging on the second. Such privately sponsored preservation projects are critical to achieving momentum for preservation in the National Heritage Area.

INTRODUCTION

The national significance of the Sangre de Cristo National Heritage Area is conveyed through its rich mosaic of architectural and archeological resources, ethnic settlements, agricultural landscapes, native languages, and cultural traditions. These resources are what remain to tell the story of the region's history. The National Heritage Area is significant for its unique ecology, Native American occupation, early Hispano settlement, American westward migration, and the evolution of the San Luis Valley's agricultural economy.

The Sangre de Cristo National Heritage Area is a living cultural landscape that continues to evolve over time. The resources that contribute to the cultural landscape's character and significance are worthy of preservation. As such, they are affected by the changing economic conditions and current challenges associated with shrinking populations, high unemployment, and the scarcity of public funding available for conservation and preservation initiatives.

National Heritage Areas, as designated by Congress, are uniquely structured to address the challenge of making the region's natural and cultural resources relevant to

local interests and needs. The Sangre de Cristo National Heritage Area is the vehicle through which this region's living cultural landscape can be managed to promote both natural and cultural resource stewardship and economic revitalization. By providing regional leadership and by supporting local initiatives, the National Heritage Area can play an important role in preserving historic resources.

This chapter provides an overview of the types of cultural resources within the heritage area and the range of public and private organizations involved in their stewardship. It describes the challenges associated with preservation of historic resources within the National Heritage Area and proposes a program for new and ongoing resource stewardship efforts by heritage area partners.

PRESERVATION CONTEXT

The National Heritage Area is home to a wide variety of historic and cultural resources significant to its various periods of historical development. These resources are closely related to its landscape and to landscape uses over time.

In many areas, the preservation and appropriate management of the region's landscape resources and





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Subterranean soterranos (food cellars), which take advantage of the natural cooling of the earth, were historically used to store harvested fruits and vegetables.

landscape character also tend to preserve significant associated historic and cultural resources. Because of the National Heritage Area's large size and the economic challenges that have been evident throughout the region's history, the overall pace of change has been moderate and the range and number of significant resources that remain is impressive. Yet because of these same economic challenges, many resources are under-appreciated, neglected, and threatened. Local funding for historic preservation has not been available from either public or private sources. Neither, though, has funding been available for renovation, development, or change. Consequently, many historic resources that might not otherwise exist have been preserved because of the lack of development pressure and the lack of available personal income to renovate properties and make adverse changes.

The National Heritage Area is noted for its multi-cultural character. Because of limited population growth, the multi-cultural character of the landscape and its communities remains evident. Like its built environment, the region's historic ethnic and cultural character can be clearly read and appreciated today. Historic preservation in the National Heritage Area is about more than just buildings. Cultural traditions, language, folklore, religion, art, foodways, and agricultural practices are as important to preservation as the built environment. In fact, they may be more important. The National Heritage Area has a living culture rooted in its past that has changed over time but retains its distinctive character.

Of particular note are the areas of Hispano settlement that are both historically significant and continue to retain their cultural identity. As the northern edge of Spanish and Mexican settlement into the American frontier, communities in the southern portion of the San Luis

Valley have been relatively isolated from change and have retained many linguistic and cultural traditions that have been lost to Hispano communities further south. As a result, the Hispano communities are distinctive and unique and warrant particular attention to both their physical and cultural legacies.

History and traditions related to Mexican land grants are tied closely to the National Heritage Area's cultural landscape and its patterns of long-lot agricultural fields and acequias. La Vega, the 633-acre communal pasture east of San Luis, and associated sites have been studied for National Historic Landmark designation. The vernacular architecture and settlement patterns of the National Heritage Area's Culebra River villages are well-recognized and have been documented in a National Register multiple property context study and related surveys and studies.

Anglo, Mormon, Japanese-American, and Dutch history and cultural traditions are evident in other National Heritage Area communities and closely tied to railroads, the automobile, agriculture, water rights, and other themes. Today's settlement patterns are laid over a natural landscape that was the migratory domain of Native Americans for thousands of years, with archeological sites providing evidence of their use and with competing claims of religious significance by more recent tribes.

Historic resources are significant, character-defining features of the Sangre de Cristo National Heritage Area. They include not only individual buildings but the groupings of buildings and structures that comprise communities and represent settlement patterns of various periods of the National Heritage Area's historical development. In some areas, such as the smaller Hispano villages, only ghosts of the former settlements remain, evident in landscape patterns more than in the extant buildings themselves. These and other resources, including Native American sites, early homesteads, the ruins of *moradas* (buildings reserved for devotions by the *Penitentes*, a Roman Catholic brotherhood found in the American Southwest) and *soterranos* (adobe food cellars), and the region's early trails, bespeak the fragility of the National Heritage Area's historic legacy.

The National Heritage Area is a cultural landscape in which the overall composition is more important than its individual parts. Agricultural patterns and transportation networks convey the stories of Anglo, Hispano, and other ethnic groups. Everything is closely tied to characteristics of the natural landscape and access to water especially. Above all, the interplay of cultural traditions of all of the National Heritage Area's ethnic groups is a key part of the preservation picture. Preservation within this living landscape is a challenge with multiple facets and possibilities.

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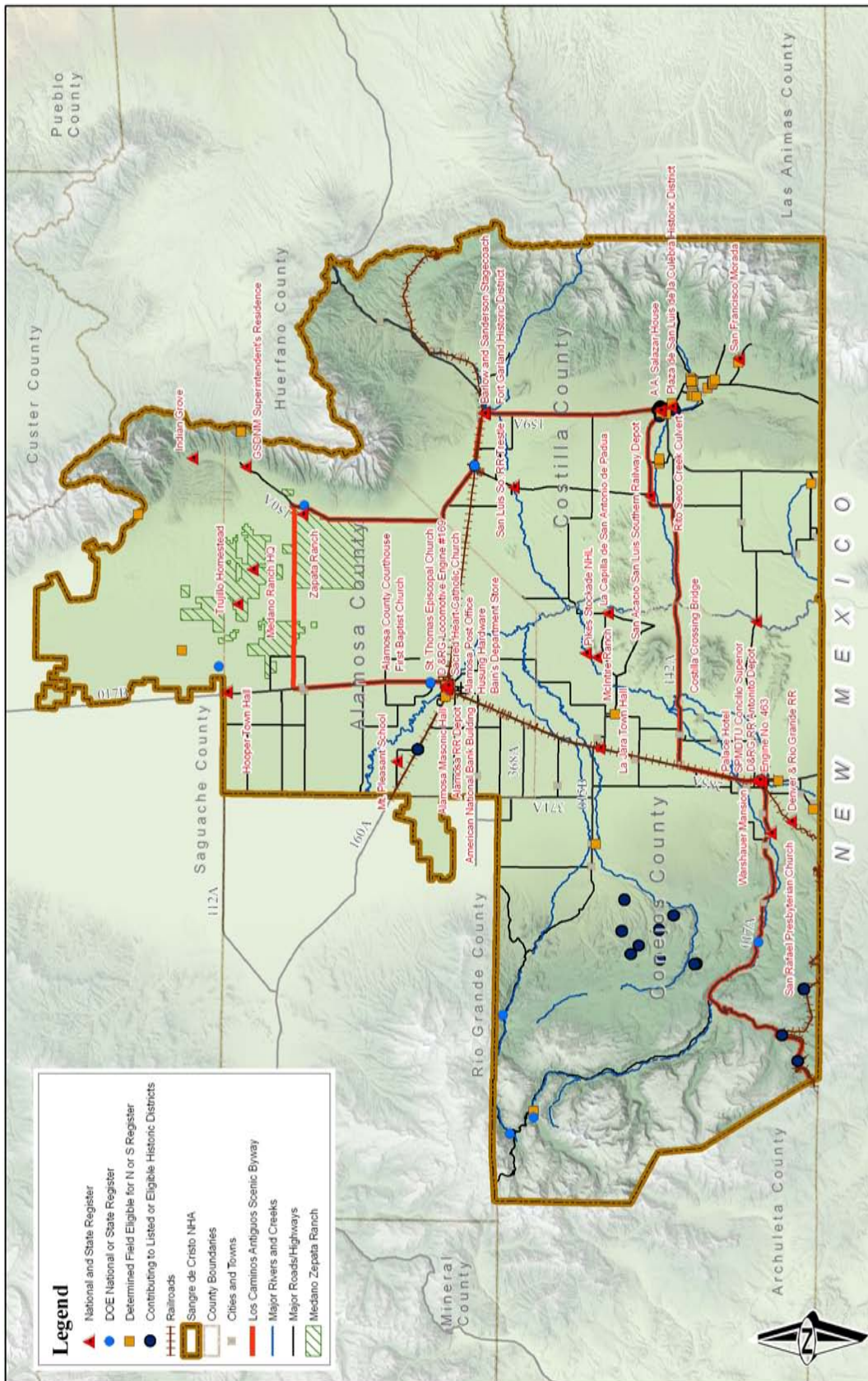


Figure 4-1. National and State Register Listed Properties.



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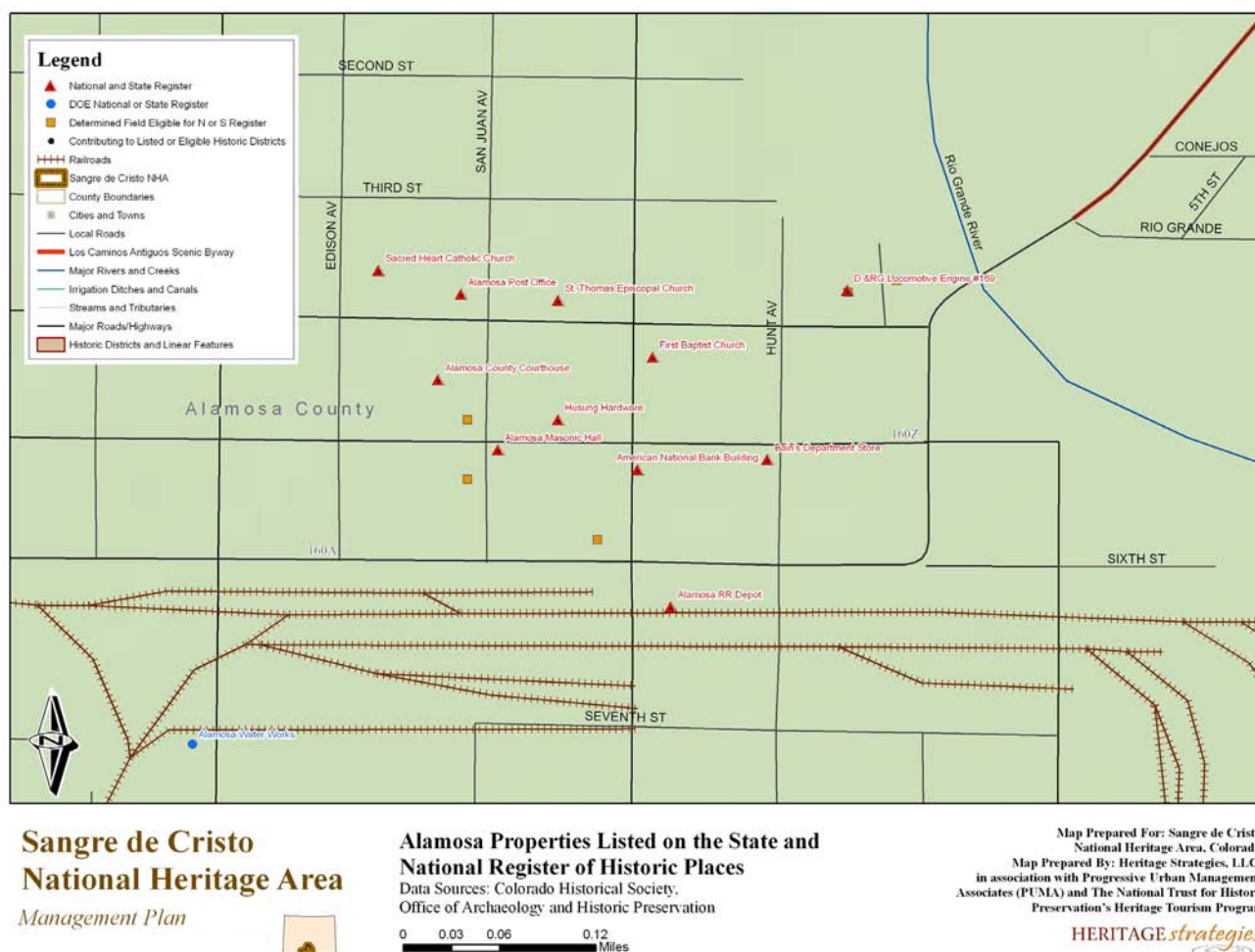


Figure 4-2. National and State Register Listed Properties within the City of Alamosa.

Documentation of the Valley's Historic Resources

History Colorado's Office of Archaeology and Historic Preservation (OAHP) serves as the federally recognized State Historic Preservation Office (SHPO) and administers federal and state preservation programs, including the National Register of Historic Places, Colorado State Register of Historic Properties, Centennial Farms Program, and surveys of historic and archaeological resources (refer to sidebar on p. 4-13). Within the Sangre de Cristo National Heritage Area, more than 2,300 properties and features have been inventoried through historic and archeological research surveys overseen by the OAHP. Of the properties surveyed:

- 673 of the properties are in Alamosa County, 1,275 are in Conejos County, and 375 are in Costilla County;
- 37 individual properties have been listed on the National Register of Historic Places and Colorado State Register of Historic Properties (18 in Alamosa County, 13 in Conejos County, and six in Costilla County);

- One National Register Historic District with multiple contributing buildings has been listed (Plaza de San Luis de la Culebra Historic District in San Luis);
- 16 properties have been determined eligible for listing on the National Register but not yet listed, including 13 historic resources and 3 archeological resources; and
- 47 properties have been determined eligible for listing on the National Register during field survey work but require updated assessments and additional research to verify their eligibility.

Descriptions of the properties listed on the National and State Registers within the heritage area are included in Appendix B along with a list of properties determined eligible. The locations of properties are shown in Figure 4-1.

Of the 18 National Register properties in Alamosa County, 11 are located in the City of Alamosa (see Figure 4-2), all but one of which are buildings. The Medano-Zapata

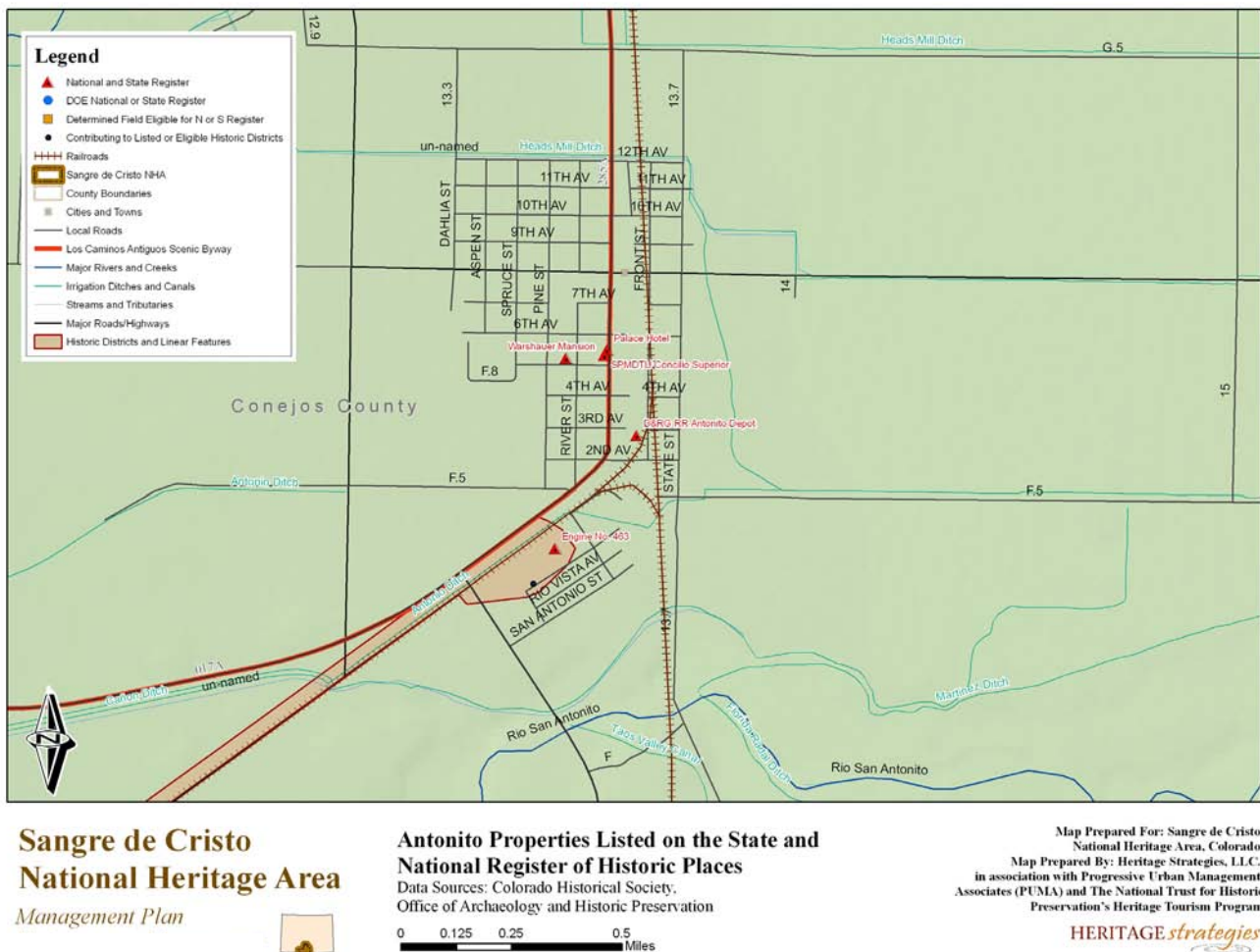


Figure 4-3. National and State Register Listed Properties within the town of Antonito.

Ranch, owned by the Nature Conservancy, is home to three listed resources, and two are located in Great Sand Dunes National Park. The Trujillo Homesteads, an early Hispano settlement on the Medano-Zapata Ranch, has recently been designated as a National Historic Landmark, the nation's highest historic preservation designation, for its significance to American Latino Heritage.

Of the 13 National Register properties in Conejos County, eight are buildings, four of which are in Antonito (see Figure 4-3) and two in Sanford. The site of Zebulon Pike's Stockade in Conejos County is a National Historic Landmark in addition to being listed on the National Register. Conejos County resources include the entirety of the Cumbres & Toltec Scenic Railroad, a linear resource recently designated as a National Historic Landmark. Two of Conejos County's listed resources are an engine and a railroad car associated with the Cumbres & Toltec. Two others are railroad depots, in Antonito and La Jara. The high number of resources surveyed in Conejos County is related to the amount of

federally owned land in the county and resource surveys undertaken for federal purposes.

Of the seven National Register listings in Costilla County, the one historic district is located in San Luis along with an individually listed building, culvert, and bridge (see Figure 4-4). Fort Garland is listed on the National Register and preserves a stagecoach which is also a listed resource. As mentioned above, La Vega and the San Luis People's Ditch have been studied for National Historic Landmark designation for their association with American Latino Heritage as the Sangre de Cristo Land Grant Historic District. The multiple property submission *The Culebra River Villages of Costilla County, Colorado* provides a context study under which Hispano vernacular buildings have been evaluated and assessed for designation.

Listing in the National Register of Historic Places or in the Colorado State Register of Historic Properties is important because the registers identify and recognize significant



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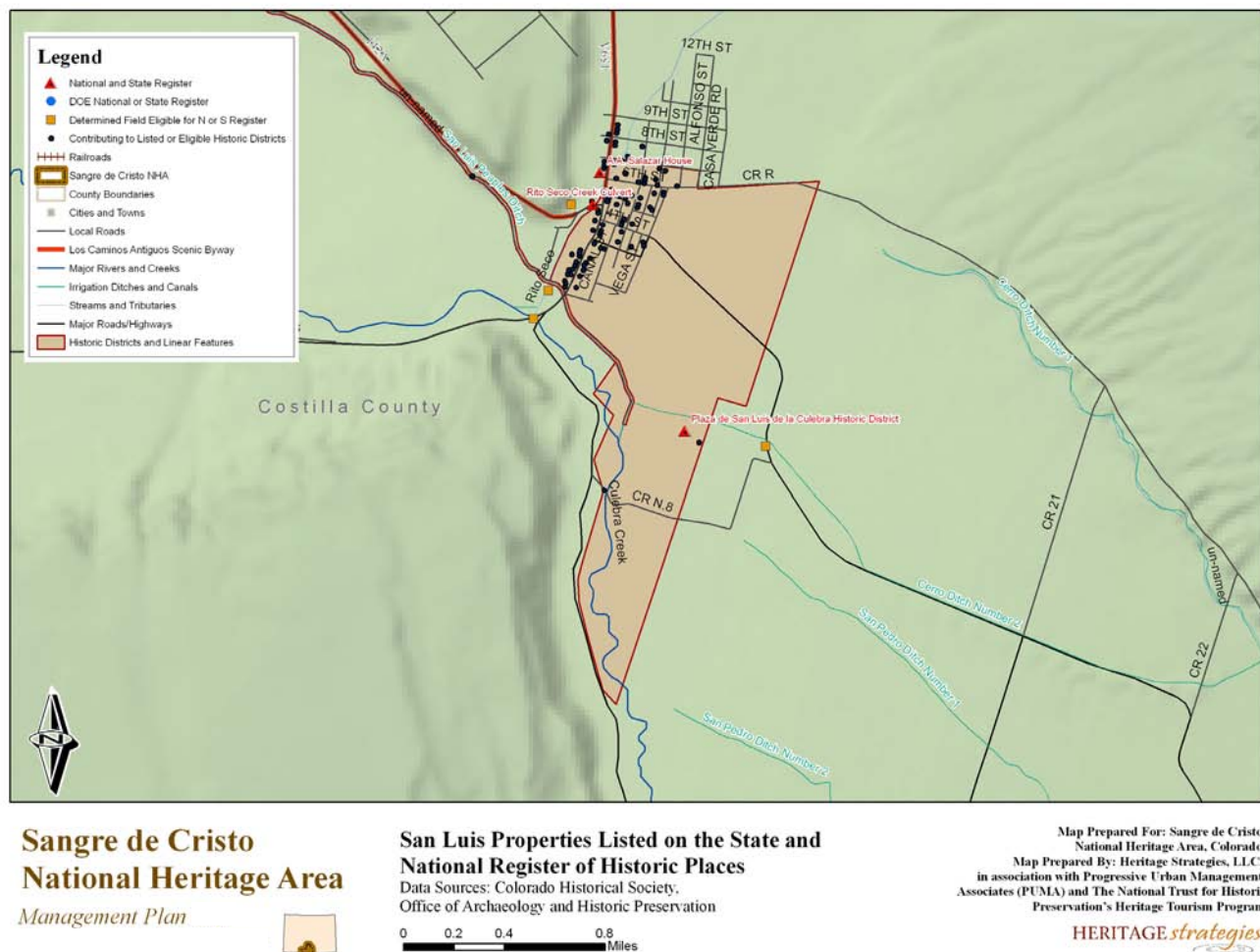


Figure 4-4. National and State Register Listed Properties within the town of San Luis.

resources in accordance with professionally developed criteria and standards. Such recognition does not, however, guarantee preservation. Most historic buildings and other resources are privately owned, and listing in one or the other of the registers does not require owners (or local governments) to take action to preserve them. However, there may be tax benefits for historic preservation, or, in some cases, Colorado makes matching grants for preservation through its State Historical Fund. The Colorado State Register of Historic Properties provides an alternative for some properties that may fall just short of National Register designation eligibility and also provides access to state funding for preservation.

Federal Preservation Initiatives

The federal government has been particularly active within the Sangre de Cristo National Heritage Area, in part because of the amount of federally owned land in and adjacent to the San Luis Valley (refer to Figure 5-1). Within the past two decades, federal, state, local, and nonprofit entities have collaborated closely in a variety of ways, most notably in

the protection of ecologically significant lands in the vicinity of Great Sand Dunes National Park. Federal activities have included the identification, documentation, and protection of historic resources as well as technical assistance and professional guidance with preservation issues.

Key federal agencies involved in the San Luis Valley include the Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service, and the National Park Service. Cultural resource, landscape, and planning professionals from these agencies are involved in the management of the region's federally owned lands and, as residents of the San Luis Valley, are also engaged in local initiatives. Their interest and presence within the valley provides a range of professional expertise that is an important asset in support of historic preservation interests.

Several of these federal agencies are involved in studies and initiatives related to historic resources that support heritage area goals. These include:

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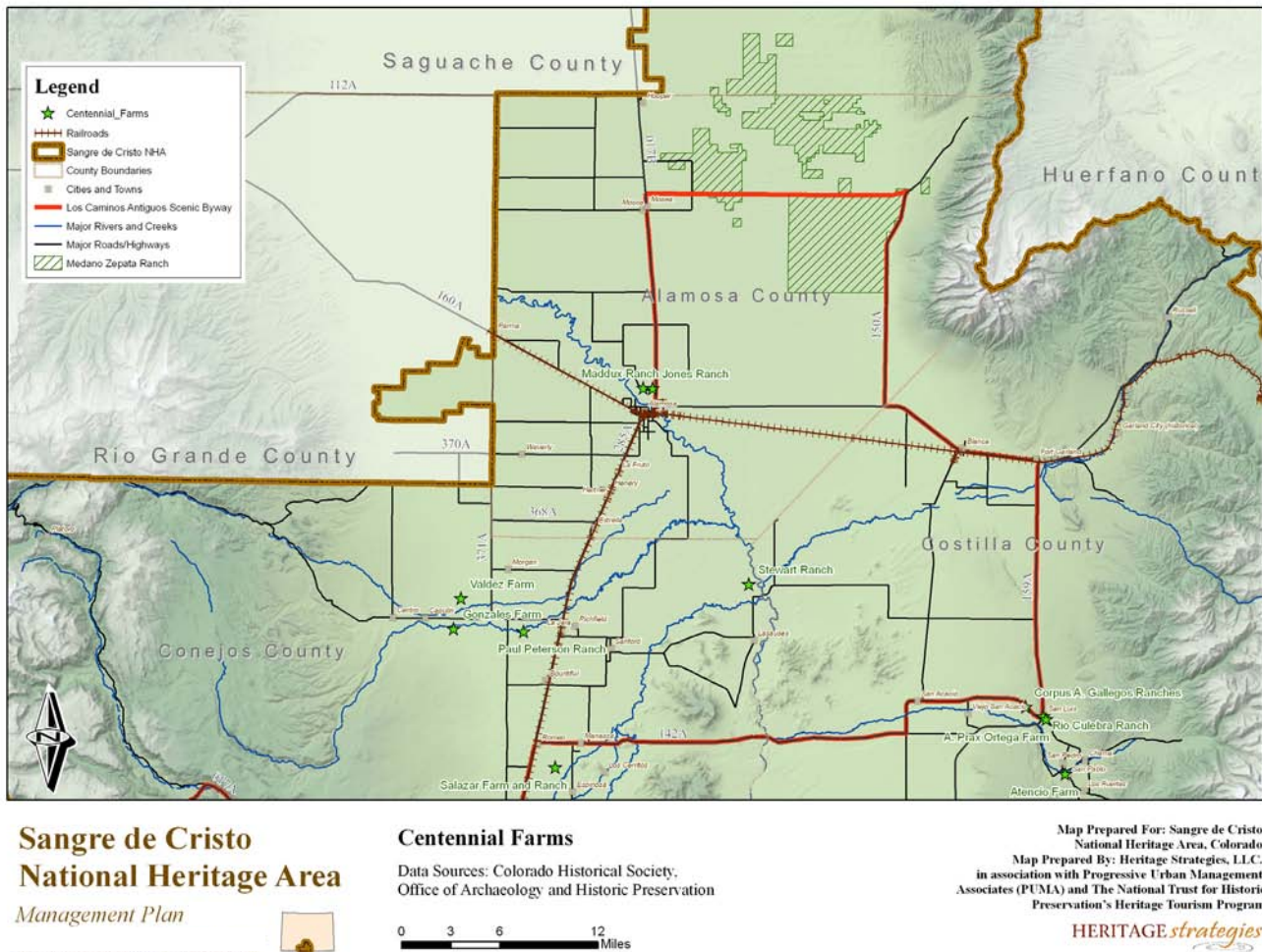


Figure 4-5. Centennial Farms.

- Technical assistance in planning for the Sangre de Cristo National Heritage Area and its partners by National Park Service staff from the Great Sand Dunes National Park and Intermountain Regional Office in Denver.
- Identification of cultural resource sites on federally owned lands by cultural resource specialists from each of the related federal agencies.
- Archeological investigations on federally owned lands that contribute to the knowledge of pre-historic and historic occupation of the San Luis Valley.
- Preparation of a National Historic Landmark draft nomination for the Sangre de Cristo Land Grant Historic District in the vicinity of San Luis and assistance with preparation of a successful nomination for the Trujillo Homesteads in the Medano-Zapata Ranch as part of the National Park Service's American Latino Heritage Initiative.
- Preparation of a Reconnaissance Survey Report for the San Luis Valley and Sangre de Cristo Mountains for the purpose of identifying opportunities to preserve and interpret nationally significant American Latino heritage sites.
- Designation of the Old Spanish National Historic Trail under joint management of the National Park Service and Bureau of Land Management with preparation of a comprehensive management plan, study of high-value scenic and cultural landscapes along federally owned portions of the trail, and technical assistance for its preservation and interpretation.
- Technical assistance in the preparation of a trails, recreation, and open space plan for Costilla County by the National Park Service's Rivers, Trails & Conservation Assistance Program.
- Technical assistance by the National Park Service to New Mexico's Northern Rio Grande National



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The Corpus A. Gallegos Ranch is one of eleven Centennial Farms within the heritage area. (Photo by Christine Whitacre)

Heritage Area, located directly south of the Sangre de Cristo National Heritage Area, in conserving and interpreting a mosaic of cultures and history in the area, including that of the eight Native American pueblos and descendants of Spanish settlers.

Centennial Farms

The Colorado Centennial Farms program designates farms and ranches that have been owned and operated by the same family for 100 years or more. The program was established to honor the significant role that these families have had in settling and shaping Colorado. Centennial Farms receive a sign to display on their property, and each year Colorado's newest centennial farm and ranch families are honored during an awards ceremony held in late August at the Colorado State Fair in Pueblo.

Since the program's inception in 1986 through 2009, 375 farms and ranches have been recognized under the program, with more than 200 receiving Historic Structures Awards for continued use of at least four structures 50 years or older. Designated Centennial Farms, the majority of which were established between 1880 and 1895, are located in 61 of 64 counties. Within the heritage area, there are 11 Centennial Farms (see Figure 4-5). Established in 1851, the Ortega Farm in San Luis is Colorado's oldest designated Centennial Farm. Centennial Farms within the heritage area include:

- A. Prax Ortega Farm, Costilla (est. 1851)
- Corpus A. Gallegos Ranches, Costilla (est. 1860)
- Rio Culebra Ranch, Costilla (est. 1863)
- Stewart Ranch, Conejos (est. 1863)
- Gonzales Farm, Conejos (est. 1870)
- Maddux Ranch, Alamosa (est. 1874)
- Jones Ranch, Alamosa (est. 1884)

- Salazar Farm and Ranch, Conejos (est. 1888)
- Valdez Farm, Conejos (est. 1890)
- Atencio Farm, Costilla (est. 1894)
- Paul Peterson Ranch, Conejos (est. 1900)

Local Preservation Planning

Despite the significance of National and State Register designation, most preservation activity takes place at the community level. In fact, the majority of buildings and other types of resources that contribute to the historic character of the National Heritage Area's communities and landscapes are not listed or eligible for listing in the National Register. The degree to which historic resources are valued by local communities as essential components of community character is most often reflected in community planning processes and the degree to which private sector initiatives incorporate historic preservation values and concepts into their development projects.

Within the Sangre de Cristo National Heritage Area, many individuals recognize the importance of its heritage and are strong advocates for historic preservation. However, the degree to which governmental entities embrace historic preservation as key to community revitalization and quality of life is mixed. This section describes existing policies to support historic preservation; jurisdictions not included here do not (yet) have policies and incentives for preservation.

County comprehensive plans generally recognize the importance of preserving historic resources. The Conejos County Land Use Plan, for instance, includes historic and cultural resources as components on its environmental review checklist for new development and outlines a six-step process for resource protection. It recognizes state and nationally designated sites as well as the potential for landmarks of local interest. Among its goals are the following (quoted from the plan):

- Sites and structures listed on State and National Registers of Historic Places shall be included on the environmental checklist at the initial stages of a development project. Other landmarks of local interest shall also be included on the checklist. The development review process shall consider options for preserving and protecting these features and sites.
- Preservation of unique or distinctive natural features shall be considered in the design of development. As with other resources, open space areas shall be used to protect and preserve the special places of the county.
- Ridgelines shall be protected from development using a variety of tools which are fair to landowners.





The R & R Market in San Luis is the oldest continuously operating family business in Colorado.

- All buildings and structures shall be integrated with their natural surroundings. Building placement and height shall be designed to avoid blocking scenic views from public rights-of-way, historic byways, parks, and other public areas.
- Update Land Use Code with design guidelines that screen road cuts and structures, and sign regulations that protect scenic views along roadways in Conejos County.
- A county wide survey of historic and cultural resources should be initiated in conjunction with the Colorado Historical Society. This survey will serve to identify, catalog, and prioritize historic resources within Conejos County.
- Incorporate a historic preservation ordinance in the revised zoning regulations and form a certified local government to obtain State Historic Funding.
- Costilla County shall strive to diversify the economic base of Costilla County. Eco-tourism, the marketing of arts and crafts, and telecommunication - based businesses shall be promoted. Special effort will be made to attract new businesses that add value to agricultural products. Cottage industries that complement the area's natural and cultural attributes shall also be encouraged.

These and other stated policies provide a basis for additional preservation and community revitalization initiatives at the county and community levels. Current land use codes, however, do not yet offer the strong incentives or guidance in preserving historic resources and community character that could be developed from these policies.

Similarly, the Costilla County Comprehensive Plan states that the county will (quoted from the plan):

- Work with the Colorado Historical Society and/or others to identify sites for inclusion on the State and National Historic Register and provide incentives for the renovation of historic buildings and other structures.
- Update Land Use Code to include provisions that protect historic properties within Costilla County.
- Create "village center" guidelines, permitting commercial and residential uses to mingle in Chama, San Pablo, Mesita, San Francisco and San Acacio.

The City of Alamosa's approach to historic preservation provides a strong local model. It includes the creation of a Historic Preservation Advisory Committee, participation in History Colorado's Certified Local Government Program, and implementation of a Downtown Design Overlay within its zoning ordinance.

Alamosa's Historic Preservation Advisory Committee oversees the local designation of historic properties and a design review process for exterior changes to the 13 historic buildings that are currently designated locally. It also manages the city's participation as a Certified Local Government. As part of its responsibilities, the committee undertakes public educational activities, including publication of a local walking tour.

There is no local historic district in the city, however, and, beyond designation on the City of Alamosa historic register



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The exterior of the Concilio Superior building (1925) of the Sociedad Proteccion Mutua de Trabajadores Unidos in Antonito was preserved with the help of funds from Colorado's Historic Preservation Fund. Patterned after New Mexico mutual aid societies that protected the civil rights of members during industrialization of the Southwest, the SPMDTU (Society for the Mutual Protection of United Workers) was founded in 1900 in Antonito.

and the awarding of plaques to designated sites, there is no local incentive program to promote historic preservation.

The city's Downtown Design Overlay complements the role of the Historic Preservation Advisory Committee and provides a broader approach to preservation that has contributed to the successful revitalization initiatives that have been achieved in downtown Alamosa. Among its provisions, the overlay states that the city will "Encourage new development that complements the existing character and historic qualities of Downtown Alamosa, preserve the downtown's existing historic structures and buildings, and coordinate design to sustain and further encourage a cohesive downtown core."

The overlay lists design standards that are mandatory and for which exceptions can only be obtained through a zoning variance and guidelines that are not mandatory but are strongly recommended. Design review is undertaken at the staff level.

Planning processes similar to Alamosa's would be particularly appropriate as part of community revitalization programs in San Luis and Antonito. Historic preservation, revitalization, and design programs are not evident in other heritage area communities, though San Luis is well positioned because of its designated historic district. Alamosa and San Luis have benefited from investment in streetscape and infrastructure improvements that support community revitalization.

Preservation Issues

The key preservation issues and perceived threats to cultural resources identified by participants during the planning process for this management plan include:

- Some of the unique aspects of the region's heritage such as cemeteries, bridges, moradas, land grants, historic settlements, and agricultural traditions have critically important research and preservation needs.
- A thorough inventory of historic structures is needed.
- Many communities have empty buildings that are poorly maintained due to poor economic conditions. This neglect and deterioration eventually leads to loss of historic resources.
- There is need for better education and awareness of the benefits of preservation, as well as more funding support. Privately owned historic structures are often not appreciated or cared for appropriately. History Colorado's State Historical Fund could be tapped more broadly for support both in education and in preservation projects.
- In many instances there are inappropriate treatments to historic buildings; most, however, may be reversible with good technical assistance.
- There is need for a regional planning approach and land use tools that encourage and facilitate preservation (i.e., zoning and land use ordinances, historic district



designations, building codes, design guidelines, etc.), but people are not familiar with these tools and tend to be resistant to governmental regulation. Some residents are suspicious of government, especially above the local level.

- There is need for craftsmen experienced in preservation techniques and traditional building trades.
- Some local contractors have trouble meeting bonding requirements, which may result in contractors being brought in from outside the region.
- Some preservation construction techniques cost more. People and communities cannot afford excess costs. Where they may not cost more in actuality, the perception that preservation costs more is a barrier to considering preservation options, which sometimes at least have the virtue of being amenable to phased and low-intervention solutions (fixing windows instead of complete—and expensive—replacement, for example).
- Professional standards are needed for accuracy and documentation related to historical research, oral history, story-telling, and folklore.
- Local history is not taught in schools; state history does not recognize San Luis Valley history.
- There is a loss of cultural crafts, food traditions, herbal traditions, and religious traditions.
- Preservation of the local dialect is being lost; words are different; standard Spanish is taught in schools. The local dialect is not supported or acknowledged.

The latter three issues are so important in this particular National Heritage Area that an entire chapter in this management plan, Chapter 6, Conserving Community & Traditions, is devoted to them.

THE PLANNING FOUNDATION FOR PRESERVATION

A foundation and conceptual direction for historic preservation within the management plan is provided by the National Heritage Area's enabling legislation (see sidebar), goals that were developed by the heritage area's board and steering committee, and input from residents and stakeholders who participated in the planning process.

Heritage Area Goals for Preservation

Two of the National Heritage Area's primary goals relate to telling its stories and developing a vibrant heritage tourism sector in support of preservation, living traditions, and community revitalization. Within these two primary goals, three specific goals touch on preservation in terms of

The Heritage Area's Enabling Legislation

The preservation of historic resources is a central component of the Sangre de Cristo National Heritage Area's enabling legislation, Section 8001 of Public Law 111-11. Summarized in Chapter 1, the enabling legislation makes specific reference to preservation of the heritage area's unique resources and cultural legacy, including the following language drawn from Sec. 8001(c):

- Carrying out programs and projects that recognize, protect, and enhance important resource values within the heritage area;
- Increasing public awareness of, and appreciation for, natural, historical, scenic, and cultural resources of the Heritage Area;
- Protecting and restoring historic sites and buildings in the heritage area that are consistent with heritage area themes;
- Incorporate an integrated and cooperative approach for the protection, enhancement, and interpretation of the natural, cultural, historic, scenic, and recreational resources of the heritage area; and
- A description of actions that governments, private organizations, and individuals have agreed to take to protect the natural, historical and cultural resources of the heritage area.

physical structures, living heritage resources, and cultural identity (see sidebar on next page). Historic preservation activities support all three of these goals.

Direction for Preservation from the Planning Process

During workshops conducted as part of the planning process, ideas and options were considered for development of the heritage area. Participants identified historic preservation as one of the areas of greatest need. Much of the discussion emphasized the need to recognize and preserve the National Heritage Area's living cultural legacies and make them relevant to local residents. Concern was expressed that these legacies are not just evolving but are being lost through a local lack of concern that is reinforced by lack of economic opportunity. The central goal of placing the National Heritage Area's unique culture at the center of economic opportunity and daily life was expressed in a variety of ways. Under the topics of Culture and Community and Historic Preservation, ideas that would enhance cultural values were

- **Provide regional leadership in developing public appreciation, advocacy, technical information, and training to encourage local action:** The heritage area offers an opportunity to develop preservation leadership at the regional scale, where economies of scale and cross-jurisdictional relationships and technology transfer could prove highly beneficial. At the core of the heritage area's role are encouragement, support, and leadership for local governments and grassroots advocates for preservation initiatives within our communities. The heritage area must build public trust in preservation initiatives. The interpretation program described in this plan offers a "bully pulpit" to reach out to residents. The more authentic resources they can preserve, the more they can explain their stories within a meaningful context. A regionally based organization is well-positioned to develop close working relationships with such knowledgeable advisors as Colorado Preservation, Inc., History Colorado, and the National Trust for Historic Preservation on behalf of local partners. In addition, the heritage area can become the regional historic preservation advocate in the National Heritage Area.
- **Provide technical assistance and financial support:** The heritage area will coordinate and in some cases provide technical assistance and financial support for local preservation initiatives, including both community planning and specific projects. Technical assistance and funding for projects (feasibility studies, market analysis, building assessments, treatment plans) at an early stage can inject important information and momentum into the implementation process. A well-established competitive grants program can have a large impact in providing support for projects, encouraging their development, and providing visible signs of progress and investment in historic preservation. As of this writing, the first heritage-area matching grants drawn from early-action federal funding by the Board of Directors have been awarded to several local historic preservation projects.

CONNECTING WITH FEDERAL AND STATE INITIATIVES

As a part of the National Park Service "family," the Sangre de Cristo National Heritage Area is among the many federal initiatives being undertaken in the vicinity of the San Luis Valley and its adjacent mountains. With its Congressional authorization and support, local nonprofit organization, and partnership structure, the National Heritage Area is in a unique position to help bring federal expertise to local community and grassroots initiatives.

National Trust for Historic Preservation

The National Trust for Historic Preservation is a private, nonprofit membership organization dedicated to saving historic places and revitalizing America's communities. Founded in 1949, the Trust provides leadership, education, advocacy, and resources to protect the irreplaceable places that tell America's story. <http://www.preservationnation.org/about-us/regionaloffices/mountains-plains/>

History Colorado

History Colorado is a charitable organization and an agency of the State of Colorado under the Department of Higher Education. History Colorado offers the public access to cultural and heritage resources of Colorado, including statewide museums and special programs for individuals and families; collection stewardship of Colorado's historic treasures; educational resources for schools, students, and teachers; and services related to preservation, archaeology and history.

History Colorado's statewide activities support tourism, historic preservation, education, and research. Its Office of Archaeology and Historic Preservation (OAHP) serves as the State Historic Preservation Office and administers federal and state preservation programs. These include the National Register of Historic Places, Colorado State Register of Historic Properties, Certified Local Government Program, Preservation Tax Credits, Section 106 compliance, and State Historical Fund grants for preservation and related survey and education programs. <http://www.historycolorado.org/>

The National Heritage Area will keep abreast of the federal initiatives being undertaken in and around the valley. It will serve as a clearinghouse to local communities and residents for federal projects that relate to the heritage area's mission and goals. Heritage area staff will provide information on relevant initiatives, understand the processes associated with the initiatives, and communicate with the point of contact for each endeavor. Information on relevant initiatives may be provided as a resource on the heritage area website with links to the federal websites where more information is available.

ACTION: Stay informed about federal initiatives being undertaken in and around the San Luis Valley relating to the heritage area's mission and

Colorado Historical Foundation

The Colorado Historical Foundation is a private, nonprofit organization that was established in 1965 to support history and preservation projects. While much of its effort goes toward pursuing projects of special interest to History Colorado, the Foundation regularly assumes supporting roles for other entities charged with the preservation of history. In addition to these collaborative efforts, the Foundation carries out numerous preservation-related projects on its own initiative, including the new historic preservation Revolving Loan Fund for Colorado and an active statewide preservation easements program. <http://www.cohf.org/>

Colorado Preservation, Inc.

Colorado Preservation, Inc. is the private nonprofit, statewide historic preservation organization that provides assistance in historic preservation to Colorado communities through a statewide network of information, education, training, expertise, and advocacy. <http://www.coloradopreservation.org/>

goals. Provide information to local communities and residents and facilitate communication where appropriate.

The National Heritage Area will help bring various federal initiatives together in the interest of local communities and residents. For instance, the Bureau of Land Management may be undertaking archeological investigations at a historic site within the lands that it manages, while the National Park Service is preparing a National Historic Landmark nomination for a significant landscape or site elsewhere. The National Heritage Area can help relate these separate initiatives, make them available and relevant to local interests, and serve as an intermediary with local residents in order to gain their interest and support.

ACTION: Work with federal agencies to relate separate initiatives associated with heritage area interests and to make them available and relevant to local communities and residents.

The heritage area's enabling legislation authorizes the National Park Service (NPS) to provide technical assistance to the National Heritage Area, which can be realized in a variety of ways. The NPS Intermountain Regional Office

and Great Sand Dunes National Park are already deeply involved with and supportive of the heritage area initiative. In addition, employees of many of the other federal agencies associated with the valley, such as the U.S. Forest Service, Bureau of Land Management, and U.S. Fish and Wildlife Service, are local residents and active in local affairs.

National Heritage Area staff and partners will consult on a regular basis with NPS representatives and local federal employees on ways that federal agencies can undertake projects and provide technical assistance and support for heritage area and community goals. The heritage area can be both the entity that seeks and receives such support and the conduit to local partners.

ACTION: Actively seek ways for federal agencies to undertake projects and provide technical assistance and support for heritage area and community goals.

Related Federal Initiatives

Several federal initiatives are of specific importance to the National Heritage Area and its mission and are described in the following subsections.

American Latino Heritage Initiative

In 2011, the National Park Service introduced the American Latino Heritage Initiative to preserve and interpret historic places associated with the nation's Hispanic and Latino history. In partnership with the National Park Foundation's American Latino Heritage Fund, the initiative has undertaken a series of projects, including an American Latino Heritage Theme Study, the designation of American Latino landmarks and historic sites, nationwide youth summits, and an online American Latino travel itinerary featuring national parks and historic sites.

The American Latino Heritage Theme Study seeks to elevate the national dialogue on the role of American Latinos in the development of the nation. Led by the National Park Service and a team of Latino scholars, the theme study will play a vital role in helping to identify and evaluate locations relevant to Latino contributions and of historical significance for the National Register of Historic Places and for National Historic Landmark designation. Among the sites researched as potential National Historic Landmarks as part of the initiative are the Trujillo Homesteads and the Sangre de Cristo Land Grant Historic District. As mentioned earlier in this chapter, the Trujillo Homesteads National Historic Landmark was announced in January 2012.

The National Heritage Area will be a proactive participant in the American Latino Heritage Initiative. Representing one of the nation's most interesting and significant historic



The Trujillo Homesteads are an early Latino settlement in Colorado's Alamosa County designated as a National Historic Landmark in January 2012. The site holds "a high potential to yield archeological information addressing nationally significant research questions about ethnicity and race on the western frontier," according to the U.S. Department of the Interior. The designation was made as part of that agency's efforts to expand "the story of the American Latino" within the National Park System.

Hispano settlements and communities, the heritage area can contribute directly to the initiative's goals and benefit from its projects.

ACTION: Actively participate in the American Latino Heritage Initiative. Construct appropriate heritage area projects to be consistent with its goals and to align with its criteria for support.

Reconnaissance Survey Report

Associated with the American Latino Heritage Initiative, the NPS Intermountain Regional Office prepared a Reconnaissance Survey Report for the San Luis Valley and Sangre de Cristo Mountains to identify opportunities for the preservation and interpretation of nationally significant American Latino heritage sites. Among its recommendations is that Congress authorize preparation of 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 for protection of these resources. The study would explore alternatives for preservation, interpretation, and visitor experience, including the possibility of stronger programming and affiliation with the National Heritage Area.

Aside from the Special Resource Study, the Reconnaissance Survey Report recommends working with the Sangre de Cristo and Northern Rio Grande National Heritage Areas to develop tours that allow visitors to explore the routes

traveled by early Latino explorers and settlers in southern Colorado and northern New Mexico. Additionally, the report recommends that the NPS provide financial and technical assistance to the two heritage areas to assist local communities and private organizations in inventory, preservation, interpretation, and education initiatives. The Sangre de Cristo National Heritage Area will coordinate with, support, and assist the National Park Service in realizing its recommendations.

ACTION: Coordinate with, support, and assist the National Park Service in realizing recommendations included in its *San Luis Valley and Central Sangre de Cristo Mountains Reconnaissance Survey Report (Working Draft)*.

Old Spanish Trail

The National Park Service and Bureau of Land Management are preparing a comprehensive management plan for the Old Spanish National Historic Trail, branches of which trace the east and west sides of the San Luis Valley. In addition, studies are being prepared of high-value scenic and cultural landscapes along federally owned portions of the trail. The comprehensive management plan will lay the groundwork for federal assistance with preservation and interpretation. The information being developed through the scenic and cultural landscape studies is valuable not only to identify and protect sites but to understand the history of the period of trail use.



This dramatic and rare double-pen two-story log barn survives at the entrance to the Rio Grande National Forest in northern Conejos County.

Area's history through which research information and initiatives can be shared and coordinated.

ACTION: Assemble a bibliography of research studies, publications, and information that can be accessed through the heritage area's website with links to digitally available studies and information on where other studies can be found.

ACTION: Working with research advisors, establish a research program for the National Heritage Area, identifying research topics, gaps in existing knowledge, research questions, and guidance for research studies that would most benefit the heritage area and its communities.

ACTION: Seek programmatic and funding support for research initiatives on the National Heritage Area's history.

ACTION: Encourage, facilitate, coordinate, and support research initiatives being undertaken by researchers on the National Heritage Area's history. Consult with federal and state agencies on research being undertaken or that could be undertaken on the federal and state levels. Consult with local researchers on initiatives they would be interested in undertaking. Provide guidance and support for research in accordance with priorities established in the heritage area's research program.

Most historic preservation activities are begun through the identification and inventory of historic resources. History Colorado's Office of Archeology and Historic Preservation

(OAHP) manages the statewide inventory and database of historic resources in Colorado. It is important for local resource inventories to be undertaken as part of the statewide database to take advantage of its professional methodology and to assure official recognition. As discussed earlier in the chapter and in Appendix B, more than 2,300 historic buildings and sites have been inventoried within the National Heritage Area. Of these, 37 have been listed on the National Register of Historic Places, and 16 have been determined eligible for the register but not yet officially listed. OAHP's online database of historic resources, known as Compass, is available to qualified researchers.

The National Heritage Area will organize the creation of a comprehensive heritage area-wide historic resource inventory in collaboration with Alamosa, Conejos, and Costilla counties; towns; federal agencies; and other interested and qualified partners, such as Adams State University. Beginning with information available from OAHP, the locally led historic resource inventory will verify and update existing survey data, add new data using OAHP survey forms and methodology, add new photographic and other information, and compile data using the San Luis Valley GIS database. Historic resources will be available as a distinct GIS layer so that detailed historic resource information may be correlated to and displayed with other GIS data layers such as parcel numbers, natural resources, utilities, etc.

Every building over 50 years of age should be inventoried. Surveys may be compiled over time using trained volunteers from each county and community under the guidance of heritage-area and county staff. Areas of most significance and need should be targeted for first attention. The updated

the National Trust for Historic Preservation, CDOT, private foundations, and others.

ACTION: Encourage and assist local communities and organizations in identifying and organizing programmatic assistance available at the state and national levels.

Community Partnerships

As a regional preservation leader, the National Heritage Area will develop working relationships with community leaders as they establish policies and undertake planning and review processes for new development. Balanced, professional approaches that are respectful of private property rights and different points of view, yet keep the best interests of the community in mind, will be essential. Local heritage area partners should be regular attendees at planning commission and commissioner meetings. Heritage area staff will maintain an ongoing awareness of projects and issues that are coming before community leaders so that the appropriate level of input can be provided as early in planning and review processes as possible.

ACTION: Develop working relationships with community leaders regarding planning and review processes that impact historic resources.

ACTION: Work with local heritage area partners who are able to attend community planning meetings and participate in the planning process.

ACTION: Maintain an ongoing awareness of historic preservation-related projects and issues that are coming before community leaders.

Good planning tools inform good decision-making. The heritage area will develop a program to provide planning tools and technical assistance to counties and towns related to historic preservation and community character. In addition to providing its own expertise and assistance through staff and partners, the National Heritage Area will seek resources, funding, and support from nonprofit, statewide, and national organizations to this end. In undertaking its preservation programming, the heritage area and its partners will coordinate with the State Preservation Plan as developed by History Colorado's Office of Archeology and Historic Preservation (OAHP; see sidebar on the following page).

The historic resource inventory discussed above is a critical first step. Planning tools such as design guidelines, planning charrettes, Main Street concepts, model ordinances, best practices, and successful examples from other places can be helpful in providing guidance to what is possible and

State Historical Fund

The State Historical Fund was created in 1990 by constitutional amendment allowing limited gaming within the state. The amendment directs that a portion of gaming tax revenues be used for historic preservation throughout the state. Funds are distributed through a competitive grant program managed by History Colorado. All projects must demonstrate strong public benefit and community support. Grants vary in size from a few hundred dollars to amounts in excess of \$200,000.

The State Historical Fund assists in a wide variety of preservation projects including restoration and rehabilitation of historic buildings, architectural assessments, archeological excavations, designation and interpretation of historic places, preservation planning studies, and educational and training programs. Important projects within the San Luis Valley have benefited tremendously from the State Historical Fund, with over one million dollars in support of historic preservation projects in the City of Alamosa alone since 1998. <http://www.historycolorado.org/oahp/state-historical-fund>

appropriate. Additionally, the heritage area will coordinate a program that provides technical assistance and training to communities, especially with respect to planning policy and project planning at the concept stage. The assistance of informed, professional planners and designers will help community leaders to identify options that might not otherwise come to light.

ACTION: Seek funding and programmatic assistance from nonprofit, statewide, and national organizations to provide planning resources, training, and assistance to local communities directly or through the National Heritage Area.

ACTION: Create a program to assist communities in developing planning tools that will provide guidance for good decision-making with respect to historic preservation and community character.

ACTION: Provide technical assistance to communities for planning initiatives and particular projects where appropriate.

ACTION: Coordinate preservation programming with OAHP's State Preservation Plan.

The heritage area will encourage communities to consider and adopt planning processes that strengthen communities



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The State Historic Preservation Plan

Every five years History Colorado's Office of Archeology and Historic Preservation (OAHP) updates its statewide preservation plan as a requirement for participation in the federal government's preservation program as outlined in the National Historic Preservation Act of 1966 (16 USC 470). The mandate specifies that the plan have a statewide focus, contain analysis of the current state of preservation efforts, address all types of historic resources, and coordinate with broader planning efforts.

The State Preservation Plan, titled *The Power and Heritage of Place*, is organized around six goals devised to address these public priorities through statewide, regional, and local preservation efforts (<http://www.historycolorado.org/archaeologists/state-preservation-plan>). The plan's goals, objectives, and strategies are relevant to the priorities of the Sangre de Cristo National Heritage Area and are highlighted below:

- **GOAL A: Preserving the Places that Matter:** *The ongoing identification, documentation, evaluation, protection, and interpretation of Colorado's irreplaceable historic and cultural resources.* Strategies include polling communities as to how to facilitate reconnaissance-level surveys; identifying underrepresented and threatened resources, identifying and documenting new historic contexts; surveying rural communities and cultural landscapes; gathering oral histories; and examining ways to promote designation of eligible resources already surveyed.
- **GOAL B: Strengthening and Connecting the Colorado Preservation Network:** *Building the capacity of preservation partners and networks statewide to nurture local leaders and leverage assets.* Strategies include creating new and strengthening existing local preservation advocacy organizations; establishing mentor relationships through local leaders; assisting communities with no or inactive preservation programs; identifying non-traditional partners, such as economic development groups, downtown associations, and service organizations; and allying with conservation partners in broadening place-based preservation efforts.
- **GOAL C: Shaping the Preservation Message:** *The promotion and messaging of historic preservation's mission and vision to all citizens.* Strategies include demystifying elements of the historic preservation process that may be daunting to local advocates; taking advantage of construction of the new History Colorado Center to promote education and outreach related to historic preservation; and generating additional publicity for local preservation initiatives.
- **GOAL D: Publicizing the Benefits of Preservation:** *Documenting and sharing of the benefits of historic preservation.* Objectives include advancing heritage tourism efforts by linking historic preservation and heritage tourism's roles in planning and land use at the state and municipal levels and increasing awareness among local decision makers regarding heritage tourism as an economic development and revitalization tool.
- **GOAL E: Weaving Preservation Throughout Education:** *The education of students and citizens of all ages about their shared heritage.* Objectives include creating programs to engage youth in understanding and appreciating cultural and historic resources and developing integrated curricula related to historic preservation (i.e. developing an annual historic preservation theme for educational programs statewide to promote breadth of diverse activities; modeling History Colorado's www.coloradofieldtrip.org initiative and Colorado Preservation, Inc.'s Youth Summit to provide experiential opportunities and pilot programs to school-age children throughout the state; and teaching oral history techniques at the middle-school level).
- **GOAL F: Advancing Preservation Practices:** *The provision of historic preservation technical outreach to assist in defining, describing, and preserving Colorado's historic and cultural resources.* Objectives include identifying and increasing traditional building trades and training opportunities such as strengthening the capacity of regional craftspeople capable of rehabilitating historic components; leveraging the State Historical Fund to train craftspeople in the Secretary of the Interior's *Standards for the Treatment of Historic Properties*; and creating and maintaining a directory of craftspeople.



and enhance community character. The use of design standards, design overlay districts, and local historic districts as part of zoning and land use ordinances are techniques that encourage property owners and developers to recognize and work with desired local character. They have a proven record in helping to raise property values and encourage new investment. While some communities are hesitant to adopt processes with which they are unfamiliar, gentle persuasion and the successful results that have been achieved in other similar places can help convince them to try new ideas.

ACTION: Encourage communities to consider and adopt planning processes and techniques that strengthen communities and enhance community character.

Perhaps the most important planning tool the heritage area can assist communities with is the development of local preservation and cultural resource plans. Each community participating in the heritage area program will be encouraged to prepare a preservation plan customized to its resources, interests, and capabilities. The National Heritage Area will assist communities in preparing and implementing such plans. Preservation planning may be incorporated into the revitalization strategies discussed in Chapter 9. Preservation plans will be based upon best practice models to be identified by the heritage area and should include:

- Background review and context;
- Review of existing resources;
- Existing conditions and issues;
- Community goals;
- Preservation strategies, recommendations, and actions; and
- Implementation plan.

The heritage area will use an incentive-based approach to community planning and historic preservation. The support and programming outlined above will be offered to communities as incentives but will also come with criteria and requirements for the communities. The National Heritage Area will explore national models of incentive-based programs that would be applicable within its boundaries.

ACTION: Encourage and assist counties and local communities with preparation and implementation of preservation and cultural resource plans.

ACTION: Explore national models of incentive-based programs that promote and facilitate historic preservation and strengthening of community character.



The vernacular architecture and settlement patterns of the National Heritage Area's Culebra River villages in Costilla County, including San Luis, are well-recognized and have been documented in a National Register multiple property context study and related surveys and studies. Pictured is the St. Francis of Assisi Mission church of the village of San Francisco. Note the miniature of the building at left, which congregants carry in traditional local processions.

Finally, the National Heritage Area partnership will encourage and support a network of preservation advocates within local communities, with heritage area board and staff members themselves serving as active preservation advocates as appropriate. The heritage area's Board of Directors will regularly address preservation issues that arise and decide what positions and what actions, if any, to take. Whether by board, staff, or partners, preservation advocacy must always be professional and respectful of local community perspectives and differing points of view.

ACTION: Encourage and support a network of preservation advocates within local communities.

ACTION: Heritage area board and staff will be active as preservation advocates under policies and positions determined by the Sangre de Cristo National Heritage Area's Board of Directors.

PROVIDING TECHNICAL ASSISTANCE AND FINANCIAL SUPPORT FOR PROJECTS

Most of the recommendations and actions outlined above relate to planning being undertaken by local communities and government entities. Most preservation impacts, however, are felt through individual projects that involve historic buildings and other resources and are initiated by

CHAPTER 5 › CONSERVATION & RECREATION



Lush wetlands provide year-round habitat for songbirds, water birds, coyotes, deer and other wildlife at the Alamosa National Wildlife Refuge. Starting in 1962, a series of water works were created here to restore some of the wetlands that were common throughout the valley when it was first settled.

INTRODUCTION

Natural resources are inextricably linked to the significance of the Sangre de Cristo National Heritage Area. This beautiful and bountiful landscape, much of it protected, serves as the foundation for the region's agricultural economy and its tourism and recreational activities. Whether it is the region's water, soils, wetlands, forest, or dunes, all of these resources interact within a living cultural landscape that continues to evolve over time. This Chapter provides an overview of the natural resource conservation, land stewardship, and recreation programs within the National Heritage Area, and the types of public and private organizations involved in their management. It also describes the challenges associated with resource conservation, and makes recommendations for new and ongoing resource stewardship efforts.

THE PLANNING FOUNDATION FOR CONSERVATION AND RECREATION

The National Heritage Area's enabling legislation, the goals developed as we planned for the heritage area, and the scenarios that outlined our strategies form our foundation for planning. Aspects of these documents as they relate to conservation and recreation goals are noted below.

Primary Goal 1 developed for the National Heritage Area relates to conservation and recreation (see sidebar). It emphasizes the development of a vibrant heritage tourism sector that relies upon the conservation of natural resources and recreational development.

From feedback provided in stakeholder workshops conducted on behalf of this management plan, it is clear that several key issues are of particular interest and concern to heritage area residents. Most are related to the fact that while public agencies and nonprofit organization are doing a good job conserving and protecting natural resources, there is a lack of consolidated information on the wide variety of recreational opportunities available, and a lack of clarity as to the boundaries of public lands and the types of recreational activities permitted within them.

STRATEGIC OBJECTIVES FOR CONSERVATION AND RECREATION

The heritage area's approach related to these issues should be to support and raise public awareness for what other organizations and government agencies are already doing to preserve land, water, and other natural resources, as well as to help communicate what recreational programs and facilities already exist through coordinated marketing



Special designations apply to several assemblages, which guide the use and management of BLM lands. These include

Primary Goal 1: Support development of a vibrant heritage tourism sector that stimulates preservation, economic development, and community revitalization. In particular:



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The Rio Grande Natural Area was established by the Rio Grande Natural Area Act in 2006 in order to conserve, restore, and protect natural, historic, cultural, scientific, scenic, wildlife, and recreational resources of the natural area. Stretching 33 miles, its boundaries include the Rio Grande, from the southern boundary of the Alamosa National Wildlife Refuge to the New Mexico state line, plus lands extending one quarter of a mile on either side of the river bank. The BLM manages 22 miles of the Natural Area on the Conejos County side and up to the high water mark on the Costilla side. Planning is underway to develop complementary management plans for both federal and non-federal lands (though management recommendations are voluntary for private landowners). Development of the RGNA's management plans is advised by a nine-member Commission appointed by the Secretary of the Interior (<http://www.rgxcd.org/page24.html>), which is working with the BLM to develop a plan for the area that incorporates outreach and recommendations for private lands as well as the BLM.

seven Areas of Critical Environmental Concern (areas where special management attention is needed to protect and prevent irreparable damage to important resources), three Special Recreation Management Areas where outdoor recreation is a high priority (the Rio Grande Corridor, Zapata Falls, and Blanca Wetlands), and the Rio Grande Natural Area, for which the Rio Grande Natural Area Commission is developing a plan to work with private landowners and the BLM for working together to enhance and protect the river corridor.

State lands managed by the Colorado Department of Natural Resources comprise an additional 4.5 percent (156 square miles) of the heritage area. These include the San Luis Lakes State Park, which has well-developed swimming, fishing, and picnic facilities, and 13 State Wildlife Areas (SWAs) managed by the Colorado Parks and Wildlife. Comprising more than 22,000 acres, SWAs occupy the niche of providing wildlife-related recreation. In addition, the Colorado Parks and Wildlife manages 11 State Trust Lands (STL) lease areas and one State Fishing Unit (SFU) within the heritage area, which total more than 78,000 acres; the largest is the La Jara Reservoir with more than 36,000 acres. Through a partnership between the

Parks and Wildlife and the State Land Board, public access is provided to these lands for a specified time during the year for hunting, fishing, and other wildlife-related activities. These lands may also have several lease activities occurring on them during the year, which may include farming, livestock grazing, mining, and logging.

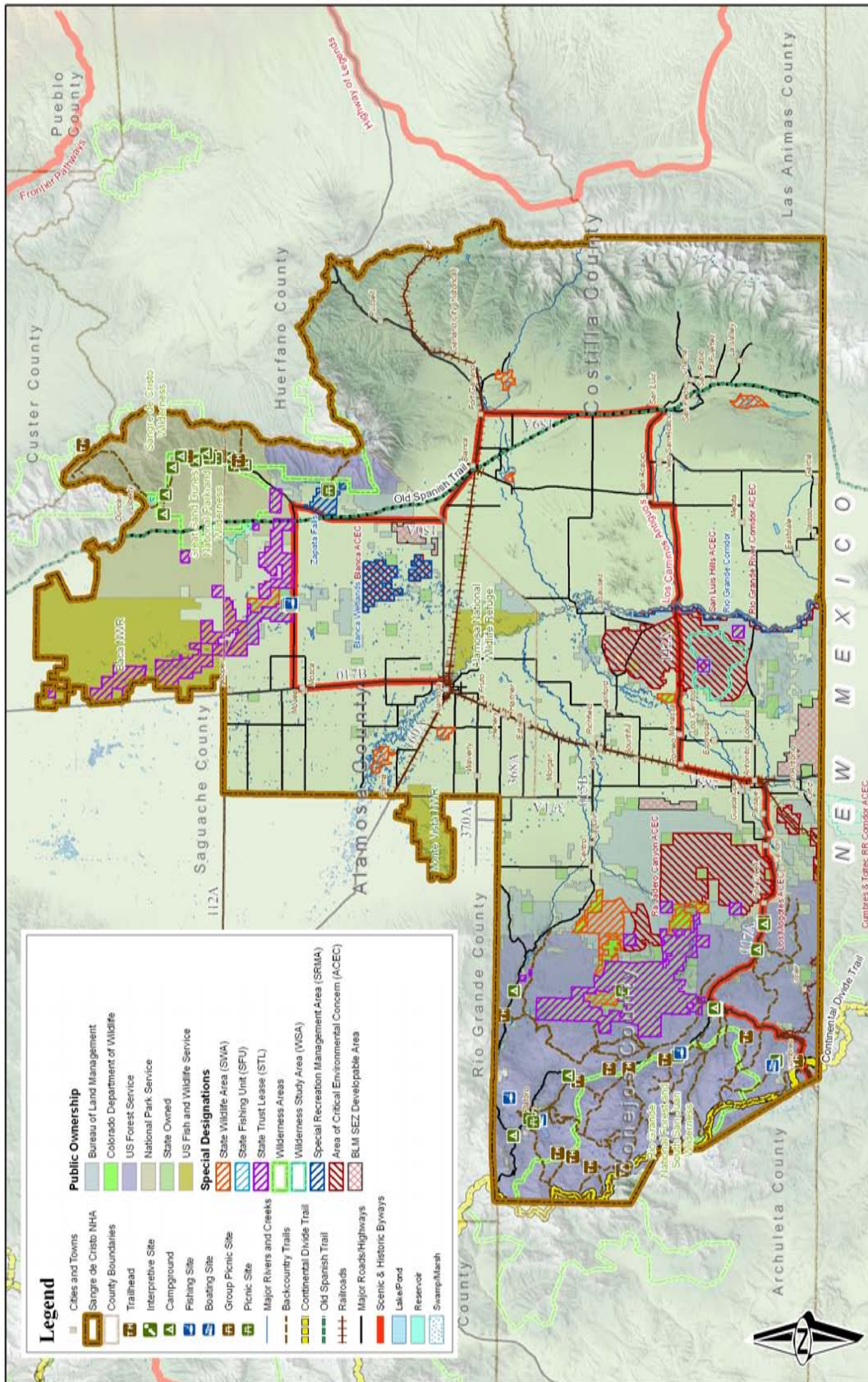
A number of municipal and county recreational initiatives and resources also complement these state and federal lands. The largest municipal parks within the heritage area include Cole Park and the Alamosa Wildlife Refuge, both located within Alamosa County along the Rio Grande. Recently, the City of Alamosa also purchased a historic ranch on its urban edge that is now partly accessible for public recreation. The city is planning greater accessibility through the construction of a western pedestrian bridge crossing near Adams State College. Costilla County, which lacks the large assemblages of public land found within Conejos and Alamosa counties, has developed a major county-wide plan for trails, recreation, and open space with assistance from the National Park Service's Rivers, Trails and Conservation Assistance (RTCA) program.



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Map Prepared For: Sangre de Cristo National Heritage Area, Colorado
 Map Prepared By: Heritage Strategies, LLC
 in association with Progressive Urban Management Associates (PUMA) and The National Trust for Historic Preservation's Heritage Tourism Program
HERITAGE strategies

Conservation Lands & Recreational Amenities

Data Sources: Bureau of Land Management;
 U.S. Forest Service; Colorado Department of
 Wildlife; National Geographic Illustrated Trails Map

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Figure 5-1: Conservation Lands & Recreational Amenities within the Sangre de Cristo National Heritage Area.



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Interpretive overlook at the Great Sand Dunes National Park.

Within the publicly owned lands described in this section, visitors can participate in a wide variety of recreational activities, including hiking, camping, biking, climbing, boating, picnicking, fishing, hunting, bird watching, and photography. In some areas, the use of the motorized recreational vehicles, such as snowmobiles and all-terrain vehicles (ATVs) is permitted. In some limited cases, such as within the Great Sand Dunes National Park and Preserve, guided tours and special programs provide opportunities for visitors to learn about these resources through a more structured educational experience.

Federal public agencies participating in this process are justly proud of their collaboration, which is encouraged under the Department of the Interior's "Service First" policy but not always well implemented in other locations where the lands managed by the Bureau of Land Management, the U.S. Forest Service, the U. S. Fish and Wildlife Service, and the National Park Service are found in such complex proximity. This has enabled them to share staff for public outreach and education – but even so, with constrained governmental budgets, they are hampered in serving the public's thirst for access and education. They must first tend to managing the vast public lands under their care. Volunteers have met some of the need – for example, tending visitor centers at the Monte Vista and Alamosa wildlife refuges on weekends during spring, summer, and fall; otherwise, these facilities are closed.

Even with exemplary collaboration among federal agencies, the number of different agencies responsible for managing these vast and diverse lands for their own specific purposes makes it difficult to perceive a "big picture" view of agency initiatives, conservation lands, and their associated recreational opportunities. This difficulty is even greater for visitors who are unfamiliar with the region and its resources.

The Great Sand Dunes National Park and Preserve

In addition to preserving and interpreting the animals, plants, and ecosystems of the Great Sand Dunes National Park and Preserve, the National Park Service also interprets the early cultural history of the San Luis Valley and the Great Sand Dunes area. Topics include prehistoric hunters and gatherers, the more recent Ute, Apache, and Navajo cultural connections to the region, and the evolution of settlement, use, and development of surrounding lands. The Mosca Pass Trail is a 3.5-mile trail that winds through aspen and evergreens to the summit of Mosca Pass in the Sangre de Cristo Mountains. It is interpreted as the entrance to the valley for nomadic hunters, Spanish soldiers, homesteaders, and traders carrying goods bound for Plains Indian tribes. The shorter Montville Trail features a half-mile loop that parallels Mosca Creek and leads past the remnants of a historic toll station. The National Park Service also offers free education programs for school and other groups by reservation, as well as regularly scheduled interpretive programs in warmer months (<http://www.nps.gov/grsa/index.htm>).

In addition to these public agencies, there are several nonprofit conservation education and legislative advocacy organizations that also promote resource stewardship and environmental planning within the heritage area. Among others, these include the Nature Conservancy, the San Luis Valley Ecosystem Council, and the Rio Grande Natural Area Commission (see sidebars).

A recent initiative is the idea of creating a new reserve, yet to be defined, that would encompass much of the Sangre de Cristo range in Costilla County below Mount Blanca. The concept is defined in a working draft of a reconnaissance study by the National Park Service, dated December 2011, and includes a range of possibilities that overlap with heritage area goals.

The heritage area can partner with and support the stewardship, recreation, and land conservation initiatives led by these agencies and organizations. It can also encourage their continuing collaboration on "big picture" approaches and cooperative programming, and serve as a supporting resource on developing opportunities, facilities, and best practices.

ACTION: Collaborate closely with conservation and land stewardship organizations throughout the National Heritage Area. Be informed and involved with their conservation and stewardship initiatives and partner with them to provide support where possible.



cranes along with large numbers of migrating waterfowl use the refuge as a major stopping point. This migration is one of the San Luis Valley's greatest spectacles and is celebrated every spring in early March at the Monte Vista Crane Festival. A self-guided driving trail with some wayside exhibits and wildlife viewing areas offer visitors an opportunity to learn about the refuge's wetlands and many wild inhabitants.

The **Baca National Wildlife Refuge** contains approximately 85,000 acres comprising desert shrublands, grasslands, wet meadows, playa wetlands, and riparian areas. Fed primarily by melting mountain snow, numerous streams flow across the refuge providing an abundance of life in an otherwise arid landscape. The Refuge is home to a large number of wildlife and plant species. In addition to the plant and animal resources contained on the refuge, the area also is rich in historic and cultural resource sites, some of which date over 12,000 years ago. The Refuge abuts lands owned or controlled by other conservation entities including The Nature Conservancy (TNC), the National Park Service (NPS), and the Colorado State Land Board. This complex of lands, totaling more than 500,000 acres, contains one of the largest and most diverse assemblages of wetland habitats remaining in Colorado. The Baca National Wildlife Refuge is currently closed to public access. Environmental assessments are currently ongoing in response to oil and gas exploration claims by Lexam Explorations, which owns subsurface mineral rights below a portion of the property (<http://www.fws.gov/alamosa/BacaNWR.html>).

ACTION: Coordinate with federal and state agencies managing public lands and the Adams State College outdoor recreation program on recreational opportunities and programming within the heritage area. Serve as a supporting resource on developing opportunities, enhancing facilities, and implementing best practices.

As stated in Chapter 7, Interpretation, the valley's landscape is the setting and context for all of its interpretive themes. The region's rugged landscapes are particularly well suited to interpreting the theme entitled "A High Desert Valley," which focuses on the heritage area's unique natural history



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The South San Juan Wilderness Area overlays a portion of the Rio Grande National Forest.

Wilderness Areas and Wilderness Study Areas

Because all Wilderness Areas are designated by law for preservation in their natural condition, they are particularly well suited to interpreting the natural and prehistoric history of the region. For instance, the 158,790-acre **South San Juan Wilderness Area**, which overlays a portion of the Rio Grande National Forest, was designated by Congress in 1980. It represents millions of years of volcanic activity followed by glacial carving. Typified by steep slopes above broad U-shaped valleys, its imposing terrain contains high peaks and cliffs, as well as jagged pinnacles and ragged ridges. Elevations rise as high as 13,300 feet. The Continental Divide crosses through this wilderness area as it passes in and out of Conejos County. Thirty-two lakes, most of them formed by glacial activity, hold much of the area's moisture and drain into turbulent creeks. The Conejos and Alamosa rivers have their headwaters here. Forest ecosystems range from lodgepole pine to aspen, which transition to Engelmann spruce and subalpine fir before rising to alpine tundra (www.wilderness.net).

The **Sangre de Cristo Wilderness Area**, which includes both National Forest and National Park Service property, was designated by Congress in 1993. It comprises more than 220,803 acres. Within Alamosa County, it protects the western face of the Sangre de Cristo Mountains south of the Great Sand Dunes National Park and Preserve, as well as Zapata Ridge and the headwaters of Zapata Creek.

The **San Luis Hills Wilderness Study Area** protects a geologically unique landform of the southern San Luis Valley – the San Luis Hills – which rise over 1,000 feet above the valley floor. They are also ecologically unique as they contain the only high desert biome dominated by desert shrub and grass species remaining under consideration for wilderness designation in the San Luis Valley.

and resources. Likewise, “Land of the Blue Sky People” relates to Ute Indian associations with the San Luis Valley, and human prehistoric use and reliance upon its plants, animals, water, and geology. National Wilderness Areas, Wilderness Study Areas, and the Rio Grande Natural Area are particularly relevant to these themes as they are mandated by law to be preserved in their natural condition. The three designated Wilderness Areas within the heritage area are the South San Juan Wilderness Area, the Sangre de Cristo Wilderness Area, and the Great Sand Dunes Wilderness Area, which borders the Sangre de Cristo Wilderness Area on the west and is entirely within the bounds of the Great Sand Dunes National Park and Preserve (see sidebar for more information).

Wilderness Study Areas (WSA), which are lands under consideration for addition to the National Landscape Conservation System, include the San Luis Hills Area WSA in the southern portion of the heritage area, the Great Sand Dunes WSA adjacent to the existing Great Sand Dunes Wilderness Area, and the Papa Keal WSA south of the Great Sand Dunes National Park. Until Congress makes a final determination on adding these WSAs to the National Wilderness Preservation System, the federal government will continue to manage these areas to preserve their suitability for designation as wilderness. All these lands help make it possible to understand how Native Americans (especially the Tewa, Hopi, Navajo, Jicarilla, and Ute) and early settlers would have seen the landscape, and relied upon it for hunting and fishing for food, fur, and skins.

The Rio Grande Headwaters Land Trust and others have worked successfully for many years with property owners to protect private lands voluntarily in the entire watershed through conservation easements. These lands, along with the National Wildlife Refuges and State Wildlife Areas and other lands protected by The Nature Conservancy, protect significant habitat along the westernmost edge of the nation's Central Flyway, with more to come in voluntary partnership with private landowners thanks to recent conservation planning for the refuges. The state of Colorado recently issued a significantly improved version of a statewide birding guide with two birding trails (Sandhill and Blanca) located within the heritage area (<http://www.coloradobirdingtrail.com>). Although most notable for sandhill cranes, the region possesses a wide variety of birdlife, wildlife, and vegetation with an abundance of rare and endangered species, thanks to a wide range of ecological niches within one geographic region, which can be interpreted through “A High Desert Valley.”

The development of early trails, roads, railroads, mineral exploration, and water control facilities, which relate to “Interwoven Peoples and Traditions,” provide equal



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Blanca wetlands. (courtesy BLM, photograph by Caleb Cotton).

**Blanca Wetlands Special Recreation Management
Area and Area of Critical Environmental Concern**

Blanca Wetlands consists of 10,000 acres managed by the Bureau of Land Management (BLM). The area is part of a wetlands network of playa lakes, ponds, marshes, and wet meadows. It is all that remains of a wetlands ecosystem that once covered the desert scrub within the closed basin of the San Luis Valley.

Today, many of the historic wetlands are dry because of increased, competing demands for both surface and groundwater. The BLM and its partners have made strides in preserving and managing the wetlands environment at Blanca Wetlands to provide rich and diverse habitats for wildlife and a haven for people. Several miles of trails weave between the wetlands and provide excellent wildlife observation opportunities.

Approximately 8,598 acres of the Blanca Wetlands is managed as an Area of Critical Environmental Concern (ACEC) because of for its recreation and wetland values, including playa and marsh habitats containing large populations of water birds, amphibians, macro invertebrates, and 13 threatened, endangered and sensitive species.

The BLM is currently studying the possible expansion of the ACEC boundary to allow for large-scale management practices across ownership boundaries that would allow for natural ecological processes and provide greater management flexibility to meet the purposes of the ACEC. BLM has also identified a need to acquire and irrigate key parcels for connectivity from Blanca Wetlands to the north to allow less mobile species the ability to disperse.

Beyond simply promoting existing recreational facilities, however, the heritage area can also work with conservation partners to further promote the careful development of emerging recreational opportunities, such as those being targeted for development within Special Recreation Management Areas (SRMAs). Within the heritage area the BLM manages approximately 16,667 acres of its land as SRMAs – a designation intended to intensify management of areas where outdoor recreation is a high priority. This designation helps direct recreation program priorities toward areas with high resource values, elevated public concern, or significant amounts of recreational activity. Areas with a SRMA designation can be expected to see investments in recreation facilities and visitor services aimed at reducing resource damage and mitigating user conflicts.

Existing designations within the heritage area include the Rio Grande Special Recreation Management Area, the Zapata Falls Special Recreation Management Area, and the Blanca Wetlands Special Recreation Management Area. The Blanca Wetlands SRMA, which already has an extensive trail network, provides abundant opportunities to view a highly diverse wetland ecosystem. Initiatives are underway to expand the boundaries of federal protection through conservation easements. Recreational opportunities at the Zapata Falls SRMA have recently been expanded to provide a developed camp site, a picnic area, primitive camp sites, and a four-mile hiking trail to Zapata Lake (located within the Sangre de Cristo National Wilderness Area). The Rio Grande SRMA is currently striving to balance recreational use and demand with the protection of sensitive natural resources.

Recreational clubs active in the San Luis Valley and other organizations, such as the Friends of the Great Sand Dunes National Park, could be encouraged to collaborate with local outfitters and guides and programs of the Colorado Parks and Wildlife to present special opportunities to experience the backcountry. Planning for public access must take account of the special experiences of solitude and quiet that are available now and seek to prevent overcrowding.

The issues identified during management planning – notably a lack of consolidated information on the wide variety of recreational opportunities available and a lack of clarity as to the boundaries of public lands and the types of recreational activities permitted within them – suggest a vigorous effort is needed to address visitors' (and residents') access to information. The simple federal "public lands information centers" (in reality these are offices housing BLM and USFS staff) outside La Jara and Monte Vista and the equally modest visitor centers at the Monte Vista and Alamosa national wildlife refuges do not match the quality of the resources themselves. The refuge visitor centers, moreover, are as out of the way as the refuges themselves, so that they do



Interpretive signs along the Sand Sheet Loop Trail at the Great Sand Dunes National Park and Preserve.

not offer useful locations for the long-term expansion that might be possible.

Improving the current state of affairs requires further study, and could take varying forms and phases. Developing a carefully orchestrated suite of communications materials would provide an opportunity to assess needs and build dialogue among the public agencies, nonprofit organizations, and the National Heritage Area about meeting those needs. Modern “apps,” websites, and other digital approaches would also be useful, although given the difficulties with fully providing access to digital technology in the heritage area, this phase may not be possible for a few more years.

A full-blown visitor center with orientation exhibits and educational facilities could ultimately prove useful. Such a facility should be located well away from the national park, which currently serves this purpose in the absence of a facility more broadly addressing recreational access and natural resources across the valley. It would preferably be located not with the resources themselves – avoiding risk of adverse environmental impacts – but in a well-sited commercial area, so that the economic benefits from such an investment could be maximized. An example of such a center, sited in such a way, can be found in Moab, Utah, near several national parks (see sidebar).

ACTION: Work with federal and state public agencies, local governments, and other nonprofits to help establish improved information about

City of Moab Information Site (Example)

The City of Moab is located along the Colorado River and near several of Utah’s most important public lands, including Arches National Park, Canyonlands National Park, and Dead Horse Point State Park. It also serves as the junction point for three state scenic byways. Serving as the primary gateway community to all these attractions, the City of Moab draws thousands of visitors each year from all over the world in search of unique outdoor recreational experiences. Several federal land-managing agencies sponsored the construction of the Moab visitor center with the local tourism and visitor bureau. The facility is located off federal lands and in the center of town, where its economic impact and access to visitors is greatest.

The Moab visitor center and its official online tourism information site provide a comprehensive overview of visitor services and available recreational activities. In addition to featured information on the parks, it also includes suggested sites and itineraries for rafting, mountain biking, hiking, driving tours, bird watching, etc. It also features upcoming programs and events, as well as links to local guides and outfitters. A comprehensive collection of online brochures are also available to guide visitors to local sites and provide them with themed trail maps (hiking, biking, horseback riding, etc.), self-guided auto tour routes, and other nearby excursions. (<http://www.discovermoab.com>)

The Continental Divide National Scenic Trail

The Continental Divide National Scenic Trail, established in 1978, is a 3,100-mile trail that follows the Continental Divide along the Rocky Mountains and traverses five U.S. states = Montana, Idaho, Wyoming, Colorado, and New Mexico. Called the “King of Trails,” it is the longest and most challenging long-distance trail within the National Trails System. Within the heritage area, the trail passes through the South San Juan Wilderness and San Juan Mountains within western Conejos County.

The Nature Conservancy and the Medano Zapata Ranch

The Nature Conservancy's ownership of the Medano Zapata Ranch conserves one of the largest cattle ranches in Colorado and provides unique recreation and interpretation opportunities. The Zapata Ranch site represents the history of land ownership and use as it changed from Hispano sheep ranching to Anglo cattle ranching. Today the 103,000-acre bison and guest ranch is managed through a partnership with the Duke and Janet Phillips Family – a third-generation ranching family.

The site includes the historic Zapata ranch headquarters building and bunkhouse. Both log structures have been remodeled to incorporate an indoor dining area and lodging for ranch guests. An old barn has also been converted to an education center and meeting room. The Nature Conservancy offers working cattle ranch vacations, interpretive tours, horseback riding, photography workshops, and guided hikes. An interpretive trail with waysides provides information about ranch lands and is open to the public along State Highway 150.



The Medano Zapata Ranch.

access to public lands to inform visitors of available recreational resources and programs throughout the heritage area.

ACTION: Assess the feasibility of establishing a well-appointed orientation center focusing on public lands, natural resources and the cultural landscape, environmental education, and recreational opportunities in the San Luis Valley.

ACTION: Work with partners to develop and maintain a comprehensive map and listing of publicly accessible lands and recreational sites and amenities. Ensure that this information is available in print form and electronically via the heritage area's website.

ACTION: Develop a corps of local guides who can lead visitors on backcountry hikes and other outings of varying lengths and degrees of difficulty. Consider permitting requirements each agency may have different requirements depending compensation for guide services, participation fees, risk and duty of care, public advertising, and other special resource considerations.

ACTION: Work with partners to develop a local guide training program, with particular focus on recruiting young people.

ACTION: Promote existing recreational opportunities and events, including a listing of guides, local outfitters, campgrounds, and other small recreation-related businesses.

ENCOURAGE PUBLIC ACCESS THROUGH RECREATION-RELATED BUSINESS DEVELOPMENT

Sustaining, enhancing, and promoting outdoor recreation are important activities in developing a vibrant heritage tourism sector within the National Heritage Area, one of the goals cited at the beginning of this chapter. The heritage area can play a leadership role in encouraging the development of recreation-related businesses and eco-tourism entrepreneurship, by:

- Organizing meetings with public conservation and land stewardship agencies, nonprofit education and advocacy organizations, existing eco-tourism business owners, and recreation clubs where participants can help to identify existing and future visitor recreation service needs and opportunities; and
- Sponsoring partners' workshops specifically targeted to the eco-tourism and recreation-related business

industry, such as providing examples of model business plans, offering training on business plan development, providing targeted eco-tourism marketing research, and examining small-business loans and financing options.

The San Luis Valley Small Business Development Center (SBDC) is ideally situated to provide the background research and small-business development assistance to aspiring entrepreneurs.

A possible model for one type of program to support recreation-related business development is the Colorado Creative Industries Summit 2012, a kind of exposition and conference or trade show that pulled together artist-entrepreneurs, owners of creative sector businesses, nonprofit cultural workers, and emerging “creatives” to explore the central theme, “Cultivating Common Ground.” The first day consisted of several small discussion groups that addressed core questions around the theme of ‘common ground.’ The second day of the summit consisted of presentations by successful entrepreneurial creatives, as well as professional development sessions. Live music, special performances, and networking opportunities were built into the event. (<http://www.coloarts.state.co.us/programs/summit/index.html>) In the National Heritage Area’s case, a recreation expo could also include programs for the public to learn about what the National Heritage Area has to offer in the way of recreation. Such an expo might focus only on recreation, or it could also include the arts and agriculture, two other sectors with high potential for economic development (addressed in Chapter 6, Conserving Community & Traditions).

ACTION: Encourage partners to offer small-business development training, workshops, and/or conferences to local residents interested in eco-tourism and recreation-related entrepreneurship.

ACTION: Promote recreational and eco-tourism opportunities through heritage area marketing materials and promotional literature.

ACTION: Seek collaborative opportunities with eco-tourism initiatives offered by organizations, clubs, and private providers.

SUPPORT PLANNING AND DEVELOPMENT OF LOCAL AND REGIONAL RECREATIONAL TRAIL NETWORKS

While hundreds of miles of trails abound in the heritage area, most are located far from communities. While these provide opportunities for viewing the natural history and splendor of the region, their relatively remote locations

The San Luis Valley Small Business Development Center

As part of the larger Colorado Small Business Development Center (SBDC) Network, the San Luis Valley SBDC is dedicated to helping small businesses achieve their goals by providing free and confidential counseling and various training programs. The SBDC combines information and resources from federal, state, and local governments with those of the educational system and the private sector to meet the specialized and complex needs of the small business community. Regulatory, management, financial, and marketing experts work in partnership to provide entrepreneurs with crucial information that can mean the difference between success and failure.

The SLV SBDC serves all six counties within the valley, including Alamosa, Conejos, Costilla, Mineral, Rio Grande, and Saguache Counties. It provides free one-on-one counseling services in the areas of business research and marketing, new business feasibility analysis, business plan preparation, finance packaging, and other topics crucial to small business success. Periodically, the SBDC also offers workshops and seminars for business owners (<http://www.coloradosbdc.org>).

make access difficult for visitors who are unfamiliar with the valley or elderly visitors who do not have the capability to meet the physical challenges associated with wilderness trails. Parents with young children also are less inclined to venture into remote areas.

Those that are located within and near communities offer easily accessible recreational opportunities, such as those within Alamosa’s Cole Park, but are self-contained within the park’s boundaries and do not connect to a larger network. The same is true of the other easily accessible trails within the heritage area, including the two-mile trail that runs along the Rio Grande within the Alamosa National Wildlife Refuge and the paved trails found within the San Luis Lakes State Park.

Investments made in both local and regional trail networks can provide greater outdoor recreational opportunities to visitors and local residents. Some work toward such linkages is already underway. For instance, Costilla County is currently in the process of undertaking a “Trails, Recreation, and Open Space Master Plan” study, which is being funded by grants from the National Parks Service Rivers, Trails and Conservation Assistance Program (RTCA) and by Great Outdoors Colorado (GOCO). Among other objectives, this plan is intended to create a blueprint for a multi-use trail system to connect Costilla County’s cultural

As water is the most critical resource within the heritage area, water conservation has gained ever-increasing focus over the past several decades. This focus has occasioned

The Rio Grande Interbasin Roundtable (RGRT) was established in 2006 through HB 05-1177 as one of nine basin roundtables in each of the river basins in Colorado and in the Denver metro area. The roundtables were created to facilitate continued discussions within and between basins on water management issues, and to encourage locally driven collaborative solutions to water supply challenges. Comprised of local community members, some of whom are knowledgeable of water matters and others who are be introduced to the issues through the roundtable process, the RGRT has considered the issues facing the Rio Grande Basin, including Rio Grande Compact Compliance, drawdown of aquifers, reservoirs that are not able to store at their designed capacities, continuing drought conditions, and the possible effects of climate change.

Conejos, Costilla County, San Luis Valley, and Trinchera. Conservancy districts are divisions of local government that construct, pay for, and operate water projects. Colorado law established in 2004 seeks adequate recharge of the aquifer and establishes the basis for the formation of groundwater management subdistricts (see sidebar).

There are also several local and regional advocacy organizations involved in promoting watershed restoration. In addition to the Colorado Rio Grande Restoration Foundation, which oversees the long-term implementation of the Strategic Plan, these include the Alamosa River Foundation, the Colorado Acequia Association, the Colorado Foundation for Water Education, the Rio Grande Basin Round Table, the Rio Grande Headwaters Land Trust, the San Luis Valley Ecosystem Council, and the San Luis Valley Water Protection Coalition. The nonprofit Colorado Field School and Rio Grande Watershed Conservation and Education Initiative both focus on educating residents, students, and the general public on natural resource issues, especially water conservation.

Within this rich “infrastructure” for governmental, landowner, and citizen action, the heritage area can play a supportive role in promoting watershed restoration efforts and educational initiatives. Where feasible and appropriate, it may also play a leadership role in coordinating interpretation of water resources within the broader context of the region’s cultural heritage. As discussed in the preceding section, opportunities also exist for the heritage area to promote the development of water-oriented recreational opportunities – both physical and programmatic – to include water and river tourism-related business development.

ACTION: Work with federal and state public agencies, local governments, and nonprofit organizations to promote the goals and objectives of the Rio Grande Watershed Restoration Strategic Plan.

ACTION: Work with partners to promote education programs and demonstration projects that are designed to teach local residents and visitors about the critical role that water plays in sustaining the culture and economy of the heritage area.

ACTION: Ensure that interpretive projects convey the importance and intricacy of the Rio Grande Basin’s hydrologic system.

ACTION: Promote the vision of the Rio Grande corridor as a regional recreational resource.

Groundwater Management Subdistricts

The goal of groundwater management subdistricts is to restore the water balance in the SLV and restore the aquifer levels to a sustainable level, in part through providing farmers with a financial incentive to take a certain amount of land out of agricultural production within each subdistrict so that the groundwater can be recharged. If 51 percent of the landowners owning at least 51 percent of the land within a proposed subdistrict request formation of the district through a petition process, landowners will be required to pay a flat fee as a member of the district.

Additional fees are based on usage of water compared to the surface water supplied to the system for any piece of ground. Lands with no surface rights pay the most, while lands with adequate surface water for their needs pay the least. Farmers who intentionally take land out of production will be compensated through fees paid into the subdistrict in addition to compensation from other programs, such as the federal Conservation Reserve Enhancement Program (Heide, 16).

Owners of “surface water credits” who wish to sell their credits to other members may also do so. The Rio Grande Water Conservation District manages the groundwater management subdistricts.

To date, only one subdistrict within the San Luis Valley (Subdistrict No. 1, located north of the Rio Grande River near Monte Vista) has been recognized as a legal entity. Five other subdistricts have yet to be recognized.

ACTION: Work with partner agencies and organizations, as well as tourism-related businesses, to promote and enhance awareness of existing water-oriented recreation opportunities (fishing, boating, swimming, birding, etc.).

ACTION: In accordance with recommendations found in 5.7, above, work with partners to help develop small eco-tourism business development opportunities that focus on water and river-oriented recreation.

MONITOR SOLAR ENERGY ZONE DEVELOPMENT INITIATIVES

Within the past several years, much interest has been focused on the San Luis Valley’s potential for producing renewable energy. In a report published in 2008, the



Due to the expansiveness and sensitivity of the views within the heritage area, it is critical that solar energy development not impact the visual integrity of the cultural landscape.

Antonito Southeast

Located just to the southeast of Antonito in Conejos County, the proposed Antonito Southeast SEZ contains 9,712 acres. Potential adverse impacts identified in the Draft Solar PEIS are summarized as follows:

The Cumbres & Toltec Area of Environmental Concern (ACEC) could be moderately affected by development within the SEZ, and there is potential that the scenic train ride experience could be diminished for some visitors. Wilderness characteristics within the San Antonio Wilderness Study Area (WSA) in New Mexico could be impaired. Potential impact on use of the Los Caminos Antiguos Scenic Byway is not known. The SEZ is located within the designated Sangre de Cristo National Heritage Area. The SEZ has the potential to adversely affect the West Fork of the North Branch of the Old Spanish Trail” (Supplement to the Draft Solar PEIS C-79, October 2011).

To reduce the visual resource impacts of solar development within this area, SEZ-specific visual resource mitigation requirements have been recommended by the EIS. On the western side of the SEZ that was labeled to meet VRM Class II-consistent objectives in the Draft Solar PEIS, all forms of development will be limited to 10 ft or under, and the technology will be restricted to either photovoltaic technologies of less than 10 ft, or technologies with comparable or lower height and reflectivity. Within the area of the SEZ that was labeled to meet VRM Class III-consistent objectives in the Draft Solar PEIS, the solar development will be restricted to either PV technologies of less than 10 ft or technologies with comparable or lower height and reflectivity (Supplement to the Draft Solar PEIS C-83, October 2011; http://solareis.anl.gov/documents/supp/Appendix_C.pdf)

Transmission Lines and Substations

While the specific solar design standards recommended in the Supplemental Draft EIS study are designed to mitigate negative impacts to visual resources, it should be noted that the Solar PEIS included only a generic analysis of the environmental impacts of construction and operation of transmission lines and substations (Section 5 of the Draft Solar PEIS). This analysis was based upon construction of transmission lines from the individual proposed SEZs to the nearest existing transmission line based on the assumption that existing lines could be upgraded. In some cases, however, such as the Antonito Southeast SEZ, a new four-mile transmission line outside the SEZ would be needed. In other cases, upgrades of existing transmission lines would be required to bring electricity from the proposed SEZ to load centers (321). As such, the Supplement to the Draft Solar PEIS recommends that a revised transmission analysis is needed to better quantify impacts in the Final Solar PEIS for those SEZs being carried forward in the analysis (321). (http://solareis.anl.gov/documents/supp/Appendix_C.pdf).

ACTION: Monitor the status of energy development, to include future transmission lines and substations, and their potential impacts on the National Heritage Area's cultural landscape. Be prepared to comment knowledgeably about development, impacts, and mitigation.