

# CHAPTER 1.

## Valles Caldera National Preserve Land Use History

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### Overview

The land use history of the Valles Caldera National Preserve (VCNP) extends back over thousands of years. Few known archaeological properties in the Valles Caldera date to the Paleoindian period (10000/9500–5500 B.C.). These finds include the recent discovery, during ongoing archaeological studies (Dr. Bob Parmeter, personal communication, VCNP, Los Alamos, 2005), of several spear points that associate with soils dated at 11,000 years before present. In addition, there is wide distribution of Jémez obsidian across the northern Southwest from archaeological sites dating to the late Pleistocene and the early Holocene. These patterns document that hunters of now-extinct large game animals, such as mammoth (*Mammuthus jeffersonii*) and a kind of bison (*Bison antiquus*), were the first people to visit the calderas.

A variety of evidence attests that many culturally diverse peoples used the Valles Caldera over the nearly eight millennia subsequent to the Paleoindian period. Archaeologists use artifacts and other durable traces to construct a history of land use by Archaic period hunters and gatherers and pre-Columbian Pueblo Indians, who are among the forebears of the people of Jémez Pueblo and other communities. Researchers cite the hunting of game, the gathering of plant resources, and the collection of obsidian for the manufacture of chipped stone tools as the main reasons for the short-term, warm-season use of the locale. Spanish colonial documents (1540–1821) report the periodic presence of Navajo and Hispanic groups in the Valles Caldera. These accounts characteristically describe the Navajos as impediments to the seasonal use of the property's rich grasslands by the colonists' flocks and herds. Navajo war parties periodically raided Hispanic and Pueblo settlements near the Valles Caldera. The Hispanics and Pueblos answered with punitive military forays.

During the Mexican Period (1821–1846), Hispanic settlement moved closer to the Valles Caldera, although this high altitude setting was not to see year-round habitation for nearly another century. An occasional Anglo-American trapper worked the rivers and ponds of the caldera.

Soldiers and settlers in the U.S. Territorial Period (1846–1912) mention Apaches and Utes in the Valles Caldera. From the 1850s to the 1880s, the U.S. Army fought the nomadic tribes of the Southwest and forced them to settle on reservations. Anglos and Hispanics began large-scale—although seasonal—commercial use of the caldera. The resolution

of the Indian problem transformed the Valles Caldera from unclaimed mountainous wilderness to a recognized private land grant. In 1860 the U.S. Congress authorized the heirs of Luis María Cabeza de Baca to select alternative lands, including what became known as the Baca Location No. 1, in exchange for termination of all rights to their grandfather's 1821 grant on the Gallinas River in northeastern New Mexico. The New Mexico Surveyor General completed the survey of the 99,289-acre (40,180-ha) Baca Location No. 1 (Baca Location) in 1876. The land use history of the Valles Caldera became a series of actions by known private individuals and business interests. This pattern continued until the acquisition of the property by the United States from the James Patrick Dunigan companies in 2000. The thousands of years of land use before 1876 left comparatively few lasting traces. In contrast, the exploitation of the Valles Caldera for commercial ranching, timber development, mineral extraction, and geothermal exploration from 1876 to the present has deeply marked the physical appearance and historical ecology of this locality. It also has profoundly shaped public perceptions of the nature of the landscape before and after the arrival of Anglo-Americans in the nineteenth century.

This land use history deals mainly with the economic development of the locality over the 124 years of intense use and development. We provide a regional context in which the caldera's users—from the first legal owners, the Baca heirs, to the last private owners, the James Patrick Dunigan companies—acted during their respective tenures.

To focus the land use history of the Valles Caldera during this period of its most intense use, we examine the technological structure and social organization of people's activities on the lands. Building on these findings, we describe the impacts of their actions on the physical environment. With the help of written documents from the late 1800s onward, especially legal records concerning the disposition or adjudication of the tract's land, timber, and mineral rights, we are also able to consider some of the motivations of key actors in making the decisions that they did.

To make this land use history more comprehensive, we will also examine some of the vernacular (*qua* common, indigenous) uses of the Valles Caldera by neighboring Native American and Hispanic communities. These peoples interacted with this tract, not as wilderness, but as an essential part of their respective communities' landscapes. Use of the written record has limits. There are no documentary records

before European colonization. Written accounts are biased as to the land use activities that are considered worthy of mention, however. Traditional users, the Pueblos in particular, are sensitive about revealing some land use practices. The physical effects of traditional uses have been slight. For all these reasons, the identities of most individual users are unknown. Nevertheless, their intimate relationship with the Valles Caldera survives in the oral traditions and histories of many communities. In some cases, the land use relationships that people established with this place in time immemorial are essential for sustaining the identity of their communities today. This discussion, therefore, also considers these associations.

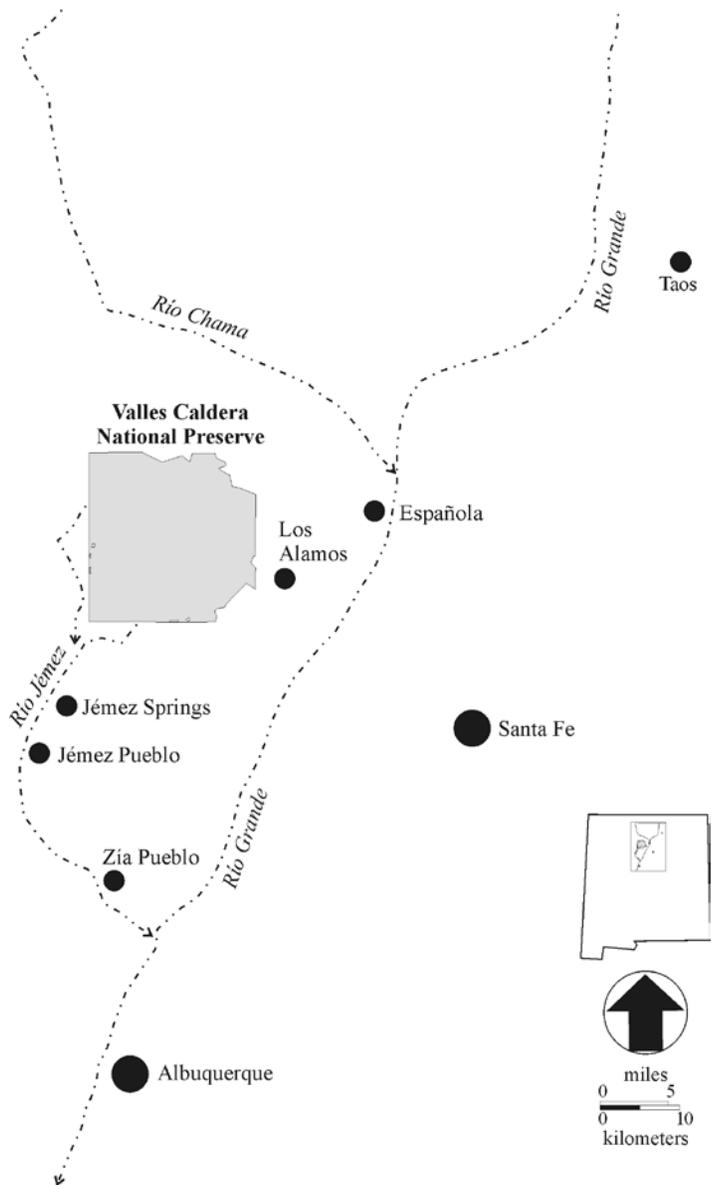
## Study Area

The VCNP is an 88,900-acre (35,560-ha) tract located high in the Jemez Mountains just 5 miles (8 km) west of Los Alamos—the birthplace of the Atomic Age—in north-central New Mexico (fig. 1.1). Acquired in 2000 with the passage of the Valles Caldera Preservation Act by Congress, the property encompasses major portions (89.5%) of the land held in private ownership as the Baca Location since 1860. (Of the other 10,389 acres [4,455 ha] of the original land grant, 5,343 acres [2,137 ha] were transferred to private interests before 2000 and were outside the scope of the congressional act. Santa Clara Pueblo was authorized by the law to buy the remaining 5,046 acres [2,018 ha] at the northeast corner of the Baca Location that are the headwaters of the Santa Clara Creek.) Consequently, the land use history of the VCNP is linked inextricably to the political and social environment of the old land grant.

The VCNP encompasses most of the 12- to 15-mile wide (19.2- to 24-km wide) bowl-like hollow formed by the collapse of a pair of great volcanic domes following explosive eruptions that date to about 1.6 and 1.2 million years ago. The second volcanic episode, which created the Valles Caldera, is superimposed on the earlier hollow, the Toledo Caldera (see **Martin 2003:4–6**).

The base elevation of the Valles Caldera exceeds 8,000 feet (2,439 m) and is some 3,000 feet (915 m) below the level of the lava-dome mountains forming the caldera’s rim (fig. 1.2). The highest of these summits, most commonly known today by its Spanish name *Cerro Redondo* (Round Hill), rises to an elevation of 11,254 feet (3,431 m) and is one of the highest summits in the Jemez Mountain Range. This peak is also the headwaters of the Río Jemez, which flows past the Pueblos of Jemez, Zia, and Santa Ana and the Hispanic communities of Jemez Springs, San Ysidro, and Bernalillo around the south margin of the Jemez Mountains on its way to the Río Grande (fig. 1.1). The locality is fed by runoff, seeps, and springs, and drained by many streams, including the East Fork Jemez River, Redondo Creek, and San Antonio Creek.

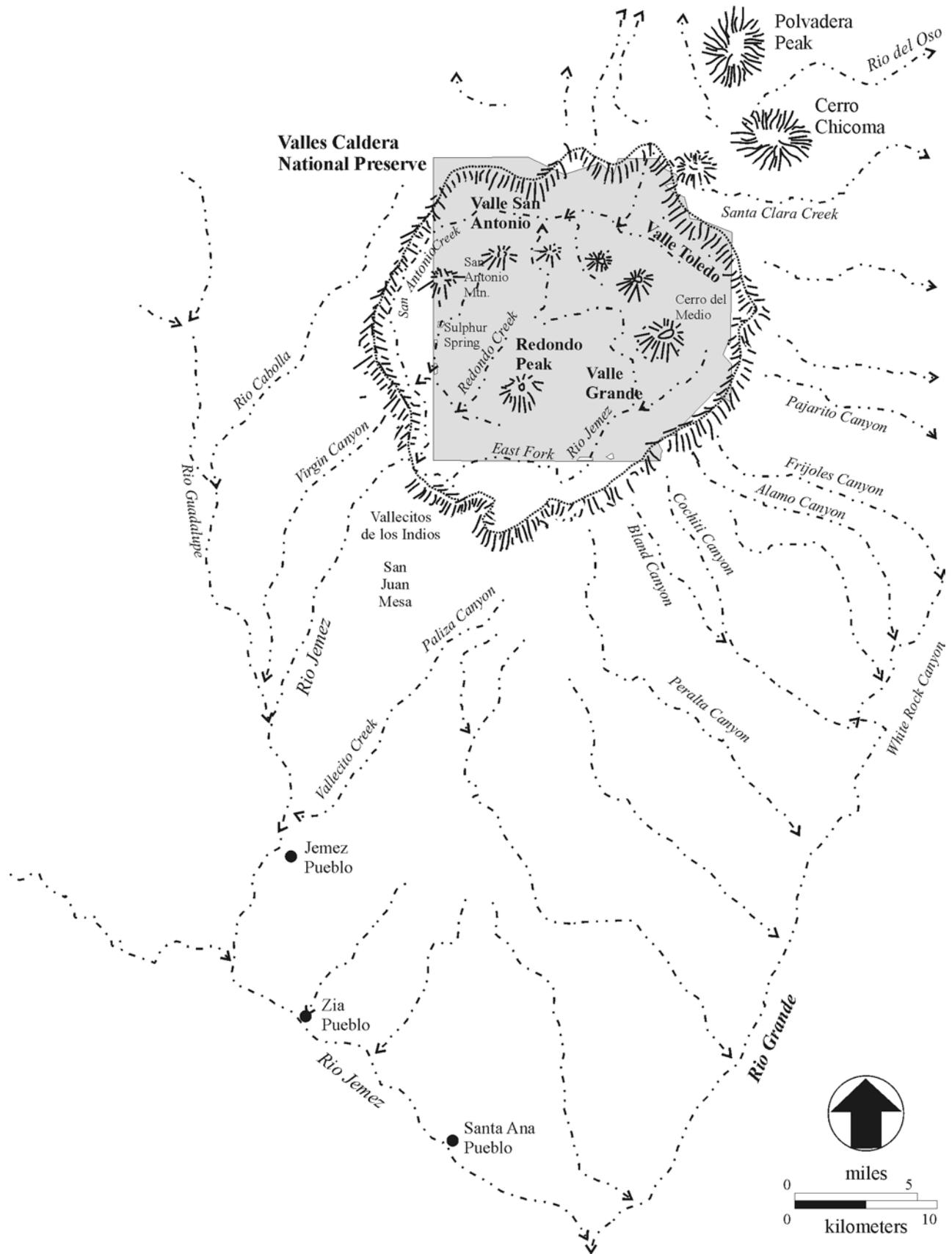
The Valles Caldera is famous for its scenic beauty, geological features, and diversity of flora and fauna. The physical environment ranges from broad open meadows to



1.1—Valles Caldera National Preserve location.

mountains heavily forested with coniferous trees, creating a unique viewshed unmatched in the Southwest. Besides its calderas and lava-dome peaks, the VCNP’s geothermal hot springs and sulfurous gas vents attract attention (**Martin 2003; USDA Forest Service 1993**). The great topographic relief of the setting contributes to its ecological diversity, including more than 500 identified plant taxa (Dr. Bob Parmeter, personal communication, VCNP, Los Alamos, 2005). Seventeen Federal- or State-listed endangered or threatened species, including the Jemez Mountains Salamander (*Plethodon neomexicanus*), northern goshawk (*Accipiter gentiles*), peregrine falcon (*Falco peregrinus*), and bald eagle (*Haliaeetus leucocephalus*), occur in the VCNP (**USDA Forest Service 1993**).

Below elevations of 8,500 feet (2,600 m), plants and animals of the Transition Life Zone predominate (**Bailey 1913**).



1.2—Valles Caldera National Preserve study area (adapted from **Weslowski 1981**: fig. 10-1).

Major plant species include ponderosa pine (*Pinus ponderosa*), piñon (*Pinus edulis*), juniper (*Juniperus communis* and *Juniperus scopulorum*), mountain mahogany (*Cercocarpus montanus*), serviceberry (*Amelanchier alnifolia*), blue curly grama (*Bouteloua gracilis*), Indian rice grass (*Oryzopsis spp.*), and sand dropseed (*Sporobolus crytandrus*). The Transition Life Zone supports mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), various squirrels (*Sciurus sp.*, *Tamiasciurus sp.*, and *Spermophilus sp.*), prairie dog (*Cynomys gunnisoni*), chipmunks (*Neotamias sp.*), raccoon (*Procyon lotor*), black-tailed jackrabbit (*Lepus californicus*), cottontail (*Sylvilagus nuttalli*), woodrat (*Neotoma mexicana*), mice (*Microtus sp.* and *Peromyscus sp.*), weasel (*Mustela frenata* and *Mustela erminea*), beaver (*Castor canadensis*), badger (*Taxidea taxus*), black bear (*Ursus americanus*), and mountain lion (*Puma concolor*). Local birds include grouse (*Dendragapus obscurus*), turkey (*Meleagris gallopavo*), various hawks (*Accipiter sp.*) and owls (*Otus sp.*, *Bubo sp.*, *Aegolius sp.*, *Glaucidium sp.*, and *Asio sp.*), robin (*Turdus migratorius*), wren (*Troglodytes aedon*), woodpeckers (*Picoides sp.* and *Melanerpes sp.*), nighthawk (*Chordeiles minor*), hummingbirds (*Selasphorus sp.*), white-throated swift (*Aeronautes saxaialis*), sparrows (*Pooecetes sp.* and *Spizella sp.*), warblers (*Vermivora sp.*, *Dendroica sp.*, and *Oporornis sp.*), chickadee (*Parus gambeli*), and golden (*Aquila chrysaetos*) and bald (*Haliaeetus leucocephalus*) eagles.

The Canadian Life Zone rises above the Transition habitat on slopes between 8,500 feet (2,600 m) and 11,000/12,000 feet (3,354/3,659 m) in elevation (Bailey 1913). Consequently, this life zone covers the rest of the VCNP. The principal trees are Colorado blue spruce (*Picea pungens*), Engelmann spruce (*Picea engelmannii*), white fir (*Abies concolor*), Douglas-fir (*Pseudotsuga menziesii*), aspen (*Populus tremuloides*), Rocky mountain maple (*Acer glabrum*), alder (*Alnus sp.*), and currant (*Ribes sp.*). Notable herbaceous plants include cinquefoil (*Potentilla sp.*), columbine (*Aquilegia sp.*), and goldenrod (*Solidago sp.*). Several useful grasses are wheatgrass (*Agropyron sp.*) and fescue (*Festuca sp.*). Elk (*Cervus canadensis*), mule deer, black bear, lynx, weasels, squirrels, chipmunks, and many mice species persist in these higher elevations. This life zone also supports various shrews (*Sorex sp.*). This habitat provides homes for various grouse, woodpeckers, hummingbirds, sparrows, and warblers. Other major bird species include northern goshawk (*Accipiter gentiles*), jay (*Cyanocitta sp.* and *Gymnorhinus sp.*), dark-eyed junco (*Junco hyemalis*), several kinglet species (*Regulus sp.*), and mountain bluebird (*Sialia currucoides*).

To many laypersons, the VCNP appears pristine. With relatively few obtrusive buildings and other infrastructure to clutter the viewshed, the property offers the casual visitor

... the impression of a large, scenic mountain landscape with little evidence of human presence. This evokes a strong emotional impression derived from the property's atmosphere of solitude and undeveloped character. (USDA Forest Service 1993:8)

Yet this impression overlooks visible reminders of intensive sheep grazing, cattle ranching, timbering, and mineral and geothermal exploration and development on the tract between the late 1800s and the early 1970s. These activities have increased the density and composition of forest cover, shifted the demographic structure of tree populations to a markedly lower mean age, and reduced the frequency and structure of lower canopy grasses and forbes (e.g., see Allen 1989; USDA Forest Service 1993:15–16). Nor does this impression acknowledge that the historical ecology of the VCNP includes a human presence that extends back 8,000 years or even longer, possibly to the end of the Pleistocene.

## Goals and Methods

At the request of Dr. Carol Raish (Research Social Scientist and Project Coordinator, Rocky Mountain Research Station, USDA Forest Service, Albuquerque, NM), the Río Grande Foundation for Communities and Cultural Landscapes (Río Grande Foundation) made a proposal in the fourth quarter of Fiscal Year 2002 for a land use history of the VCNP. As stipulated in the Joint Venture Agreement between the USDA Forest Service and the Río Grande Foundation (No. 02-JV-11221601-265 [RGF 119]), the purpose of this undertaking was to document the interactions between culturally diverse peoples and this striking physical environment over time.

The study focuses on the cultural-historical environment of the 88,900-acre (35,560-ha) preserve over the past four centuries of Spanish, Mexican, and U.S. governance. The scope of work also includes the preparation of an archaeological review of human use and occupation before the Spanish colonization of the New Mexican territory in 1598. This review establishes the cultural context of traditional Native American land use practices and associations, creates a timeline that identifies changing patterns in the technology and organization of the use of the VCNP, and explains the essential social and cultural contexts of patterns of economic activity extending far back in time.

Accordingly, the study provides a record of the economic, social, and ideational relationships that culturally diverse Native American (e.g., Pueblo, Navajo, Apache, and Ute), Hispanic, and Anglo-American peoples have maintained with the Valles Caldera. The work includes a review and synthesis of available published and unpublished historical, ethnohistorical, and ethnographic literature about the human occupation of the area now contained within the VCNP. The documents include historical maps, texts, letters, diaries, business records, photographs, land and mineral patents, and court testimony. Table 1.1 identifies a list of local and regional archives visited in the course of the study.

In addition to these archival sources, Craig Martin, an historian and ecologist who lives in White Rock, NM, generously shared his research materials. Martin (2003) also provided copies of his book *Valle Grande: A History of the Baca Location No. 1*, published in late 2003. Although the book was not available until late in our work, it became an

**Table 1.1.** List of Archival Resources.

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**University of New Mexico, Albuquerque**

Zimmerman (General) Library  
Center for Southwest Research, Zimmerman (General) Library  
Government Publications, Zimmerman (General) Library  
Spanish Colonial Research Center, Zimmerman (General) Library

**State of New Mexico**

Museum of New Mexico, Santa Fe  
Laboratory of Anthropology  
Museum of Indian Arts and Culture  
Museum of New Mexico, Santa Fe  
New Mexico History Library, Santa Fe  
New Mexico State Records Center and Archives, Santa Fe  
Southwest Room, New Mexico State Library, Santa Fe

**U.S. Government**

National Archives, Rocky Mountain Region, Denver  
National Park Service Library, Intermountain Support Office, Santa Fe  
Valles Caldera National Preserve, Los Alamos

**Other**

Los Alamos Historical Society, Los Alamos

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important resource for this study. It identifies additional archival resources worthy of inclusion in this study. It also presents important information about key individuals, including Luis María Cabeza de Baca, his grandsons Francisco Tomás and Tomás Dolores Baca, and entrepreneurs Mariano Sabine Otero, James Greenwood Whitney, and Joel Parker Whitney. Frank Bond and Patrick Dunigan, the owners and developers of the Baca Location during the nineteenth and twentieth centuries, are other key historical figures. Martin's book is the best source for this information about historic persons, since much of it is outside the scope of the present study.

Because **Martin (2003)** shared so much information about the economic and social history of the Baca Location, this study should devote greater effort to issues that are outside the scope of Martin's book, such as land title, the changing intensity of industrial timbering, and patterns of vernacular land use by neighboring traditional Native American and Hispanic communities.

The quality and quantity of available documentary information made it necessary for this land use history to emphasize the material aspects of land use, such as hunting, gathering, mineral collecting, ranching, timbering, and geothermal exploration. Two important case files that have not previously been analyzed assisted our work. The discovery of the case file of the 1893–1899 Baca Location partition suit (*Whitney v. Otero*) in the State Records Center and Archives, Santa Fe, NM, as well as the retrieval of the extensive records of *Baca Land and Cattle Co. v. NM Timber, Inc. (Baca Co. v. NM Timber, Inc. 1967)* allowed more comprehensive review of the land grant's complicated title history than had been possible previously. *The Baca Co. v. NM Timber, Inc., (1967)* records had been misfiled under an incorrect number in the National Archives, Rocky Mountain Region, Denver, CO.

Throughout this study the central issue is the nature and intensity of human impacts on the physical environment. The study attempts to determine the technological structure of land

use activities, the social organization framing them, the identities of associated communities and major actors over the VCNP's human history, and the timelines of diverse peoples' relationships with the lands now within the VCNP. With this presentation of a cultural-historical framework of VCNP land use, land managers and researchers should be better prepared to assess the historical ecology of the property. This information is relevant not only to the critical assessment of how past human activities have altered the physical ecology, including the biological structure of plant and animal communities in this seemingly pristine physical environment, but is useful as well for evaluating potential impacts of present and future land use practices on the historical ecology of the Preserve. These practices include old, culturally significant vernacular land uses carried on by the people of traditionally associated communities.

The Río Grande Foundation adopted a cultural landscape approach for this study. We have examined how communities created economic, social, and ideational associations with the VCNP. Such cultural knowledge is relevant because it documents how traditionally associated peoples use the VCNP to sustain the economy and important social and cultural traditions within their respective communities.

Central to this approach is the premise that communities interweave meaning, space, and time to form the fabric of their landscapes. With the passage of time, the intimacy of experience, and the sharing of memories, a community's geographical space becomes a place of valued meaning. As each generation lives its life and bestows meaning on its surroundings, landscapes come to represent both mirrors and memories of each community's living history. Moreover, the landscape is a powerful medium through which land-based communities create and sustain their cultural identities.

Because this project depends mainly on the existing documentary record, references to any particular group's social and ideational relationships with the VCNP are usually sparse. In

addition, the cultural meaning of reported observations cannot be comprehensively understood without supporting systematic ethnographic study based on interactive consultation and dialogue. A program of ethnographic investigation, however, is outside the scope of the present research. The Río Grande Foundation did not consult with affiliated traditional communities, families, or business enterprises. Such a phase of study remains to be done.

This study should give VCNP administrators and agents the cultural-historical background needed to develop management plans that acknowledge traditional associations with the Preserve. This study also explains how some traditional communities maintain important social and ideational associations with the VCNP that go beyond economic relationships. This background helps demonstrate why traditional land use practices that may not be visible on the ground today warrant respect and consideration in planning. The study is also intended to give managers additional background for structuring and acting on consultations with affiliated communities.

The authors of this study are Dr. Kurt F. Anschuetz and Thomas Merlan. Both investigators have experience in conducting research into the land use histories of traditional and historical community groups in northern New Mexico. Thomas Merlan is a consulting historian, and familiar with the major documentary archives in the Southwest. Dr. Anschuetz is an archaeologist and anthropologist, and in his role as Program Director, Río Grande Foundation, he further served as the project's Principal Investigator.

## Preliminary Identification of Associated Traditional Native American Communities

In the course of this study, Anschuetz and Merlan encountered documentary evidence identifying a large number of culturally diverse, traditional Native American communities that possess either a demonstrable or a probable cultural-historical relationship with the locality. The association of these communities with the VCNP is often neither readily visible archaeologically nor reported outside specialized ethnographic or ethnohistorical accounts.

In addition to the communities mentioned in documentary accounts as possessing direct or indirect associations with the Valles Caldera, there are several other Native American groups that likely maintain a relationship with the VCNP. We have listed these communities at the end of this discussion and stated the basis on which we infer their association with the Valles Caldera.

The following account neither states nor evaluates any community's specific claim of traditional association. It is intended to introduce each of these Native American communities through a brief summary of relevant documentary evidence.

In the early twentieth century, U.S. Surveyor William Boone Douglass recognized (and looted) the shrine on top of

Redondo Peak during his restorative cadastral survey of the Baca Location's boundaries. In a subsequent publication of his observations of the shrine, **Douglass (1917:358)** reports that the Río Grande Pueblos of Jémez, Cochití, Santo Domingo, Zía, Sandia, San Ildefonso, San Juan, and Santa Clara make ritual pilgrimages to Redondo Peak. His account, therefore, stands as the first substantive statement of the traditional association of Native American peoples with the lands contained within the VCNP.

Decades later, Florence Hawley Ellis restated Douglass' list of associated communities. She added the Río Grande Pueblos of Santa Ana, San Felipe, Nambé, Pojoaque, and Tesuque to the list of Native American communities that make pilgrimages to the shrine on top of Redondo Peak (**Ellis 1956, 1974:157**). She further implied that the Navajo visited the shrines on its summit.

Relying heavily on materials generated by land claims litigation by the **Indian Claims Commission (ICC) (1974)** in the late 1940s and early 1950s, **Nancy J. Akins (1993)** addresses traditional use areas of aboriginal groups in New Mexico. She states that for several reasons, "The boundaries identified in the ICC cases are not always equivalent to an aboriginal or traditional use area" (**Akins 1993:4**). The Federal statute required Native American land claims to be based on exclusive use and occupancy of a given area at the time the United States assumed political sovereignty over the Southwest in 1848. Given the inherent limitations of information compiled for land claims cases, Akins considers only shrines and ancestral villages as traditional cultural properties associated with a community's aboriginal use areas.

In this overview, **Akins (1993)** discusses traditional Native American associations across the State of New Mexico. She identifies the Baca Location as entirely within the aboriginal lands of Jémez Pueblo and lists shrines in and near the Baca Location important to the Pueblo (including *Wa-ve-ma* [a.k.a. Redondo Peak]) (**Akins 1993:62–69**).

Inspection of **Akins' (1993)** compiled map information reveals that the following Indian communities included the Valles Caldera locality within their far-reaching aboriginal territories: Jicarilla Apache, (**1993:70–77**), Navajo (**1993:107–113**), San Ildefonso Pueblo (**1993:126–131**), San Juan Pueblo (**1993: 132–138**), Santa Ana Pueblo (**1993:139–141**), Santa Clara Pueblo (**1993:145–148**), Santo Domingo Pueblo (**1993: 150–153**), Tesuque Pueblo (**1993:163–165**), Ute (**1993:168–174**), and Zía Pueblo (**1993:181–186**).

**David M. Brugge (1983)** offers insights into the association of the Navajo with the VCNP in his excellent summary of early Navajo history. His illustration "Approximate Navajo settlement areas" (**Brugge 1983:fig. 1**) shows the Valles Caldera portion of the Jémez Mountains to the east of the core of the settled Navajo territory. This observation does not necessarily preclude temporary Navajo use of the VCNP, however.

In fact, numerous documentary accounts place the Navajo in the VCNP in the eighteenth and nineteenth centuries as interlopers who passed through the locality to raid Pueblo and

Hispanic settlements along the flanks of the Jémez Mountains (e.g., Bishop Crespo, in **Adams 1954:98; McNitt 1972**).

**Frederick W. Sleight (1950)** follows **Washington Matthews (1897)** and places the Navajo within the boundaries of the VCNP for purposes other than raiding. In his comprehensive review of 34 contradictory documentary sources, and his supplementary original fieldwork to determine the geographic locations of the principal four Navajo mountains of direction, Sleight concludes that Pelado Peak is *Sisnádjini*, the Holy Mountain of the East. Regardless of the debate over the geographic identification of *Sisnádjini*, **Douglass (1917:344–357)** reports that Navajo traveling west of the Jémez Mountains visited the shrine on the top of Cerro Chicoma just outside the northeast corner of the Baca Location. Based on this, it is likely that Navajos would have made ritual pilgrimages to the top of Redondo Peak.

Although the evidence compiled by the **ICC (1974)**; see also **Akins 1993**) places the Jicarilla Apache and the Ute in the Valles Caldera, the technological structure and social organization of their occupations of this locality are little known. Although she does not discuss the Jicarilla occupation of the Valles Caldera specifically, **Veronica E. Tiller (1992:15)** illustrates the location of an undefined “permanent site” west of Los Alamos in the vicinity of the VCNP in a map titled “Aboriginal Sites and Early Settlements” **Donald Callaway and others (1986)** identify the Muache and Capote as the principal Ute bands that traveled seasonally into New Mexico’s mountains, with the Muache reaching as far south as Santa Fe. Their map showing the geographic expanse of early nineteenth-century Ute territory, however, does not show the full extent of the people’s occupation of New Mexico (**Callaway et al. 1986:fig. 1**). **James Jefferson and others (1972:xi)**, **Charles S. Marsh (1982:3, 18–19)**, and **Frances Leon Swadesh (1974:47)** similarly place Ute bands in north-central New Mexico.

The Hopi Tribe of northeastern Arizona currently consults with Federal agencies about the protection and disposition of cultural resources on lands east of the Jémez Mountains (e.g., Leigh J. Kuwanwisiwma, Director, Cultural Preservation Office, letter to Gilbert Vigil, Forest Supervisor, Carson National Forest, USDA Forest Service, March 20, 2000). The Hopi Tribe’s affiliations with these lands are based, in part, on oral traditions that trace clan movements far back in time. In addition, some of the Tewa-Hopi clan leaders from the Pueblo of Hano on the Hopi Mesas variously trace their emigration to the Hopi Buttes from the old village of Tsawari (LA36)<sup>1.1</sup> in the Santa Cruz Valley during late pre-Columbian Pueblo times (Yava 1978:27–28, 44–45) and from the Abiquiu area at the time of the Pueblo Revolt (Poling-Kempes 1997:19–20).

Anthropologists have documented an ethnogeography for the Pueblo of Zuni of west-central New Mexico. This account includes at least four sites in or near the Valles Caldera (**Ferguson and Hart 1985:map 15—Traditional Zuni Hunting Area [site 31]**, **map 16—Traditional Zuni Plant Collection Area [sites 31 and 93]**, and **map 18—Traditional Zuni Religious Use Area [sites 31, 48, 93, and 94]**). There are

Zuni sites on the east side of the Jémez Mountains in proximity to the Río Grande Valley as well.

Although this is not documented directly in available literature, it is likely that the Río Grande Pueblos of Taos, Picuris, and Isleta recognized the Valles Caldera as an important place on their landscape. The Jémez Mountains are visible from the immediate vicinity of each of these Pueblos. In addition, Taos Pueblo traditionally makes pilgrimages to Cerro Chicoma next to the Baca Location (**Douglass 1917:344–357**). We found no information either directly or indirectly associating the Pueblos of Ácoma and Laguna with the VCNP. Given the proximity of these communities to the Río Grande, the observation that their expansive aboriginal homes (**ICC 1974**) extend toward the Jémez Mountains, and their close cultural-historical relationships with Zía and the other southern Río Grande Pueblos, it seems likely that future ethnographic consultation would establish their affiliation with the Valles Caldera.<sup>1.1</sup>

## Report Organization

In addition to this introduction, this report includes eight chapters and three appendices.

Chapter 2 presents an archaeological reconstruction of lower Río Grande Valley culture history from time immemorial, beginning with the Paleoindian period in the late Pleistocene and continuing until A.D. 1600 following the establishment of the Spanish colony of New Mexico. The discussion recounts changing patterns of hunting, gathering, and mineral collection in the VCNP. This summary of surviving archaeological traces provides a cultural-historical framework that establishes the peripheral place that the VCNP has always occupied with respect to major centers of residential settlement and areas of intensive economic land use.

Chapter 3 gives a synopsis of lower Río Grande Valley history since the mid-sixteenth-century Spanish *entradas* into New Mexico. This discussion traces broad patterns of documentary history having to do with the changing intensity of land use in the VCNP by Spanish Colonists, Hispanics, and Anglo-Americans over time. This sketch illustrates how the Valles Caldera remained peripheral to major residential centers, while its cycle of intensive economic land use was dependent on greatly expanded regional population levels.

Chapter 4 offers a summary of Baca Location history. It traces the genesis of the Baca Land Grant from its

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<sup>1.1</sup> “LA36” is the identification number assigned to the archaeological remnants of the village of Tsawari. The prefix LA refers to the Laboratory of Anthropology, which is part of the Museum of New Mexico, who created this master numbering system in the 1920s for the inventory of every archaeological site documented within the State of New Mexico. Today, the information files for all known archaeological sites within the state are maintained at the Laboratory of Anthropology in Santa Fe by the Archaeological Records Management Section of the Historic Preservation Division in cooperation with the Museum of New Mexico.

beginnings as a grant to Luis María Cabeza de Baca and his family in eastern New Mexico in 1821. The narrative follows the Congressional action in 1860 that substituted five equal-sized alternative tracts or locations (Baca Locations No. 1, 2, 3, 4, and 5) for the original grant. This chapter next explains the economic and political machinations of the 1893–1899 partition suit, which resulted in the transfer of title to the Baca Location No. 1 to individuals unrelated to the Baca family. From this point, the discussion follows the sale of the property to the Redondo Development Company, explaining how Redondo leveraged the assets of the Location, separating the tract's timber and mineral rights from its land rights in 1918. The discussion then generally reviews the use of the property by various ranching interests, including the Bond family, the King family, James Patrick Dunigan, and a succession of logging businesses. This overview, in turn, provides background for examinations of the VCNP's ranching (chapter 6) and timbering (chapter 7) histories.

Chapter 5 reviews the evidence of plant gathering, game hunting, mineral collecting, and agriculture within the Valles Caldera. The discussion focuses mainly on vernacular Native American and Hispanic practices. It recounts a short-lived and ill-fated commercial hay-cutting venture in the mid-nineteenth century. The narrative also considers Anglo-American hunting and trapping as business enterprises and reports brief episodes of agricultural use. Nevertheless, this chapter emphasizes the ways in which the area's traditional land-based, Native American and Hispanic communities used the VCNP's rich botanical assemblage for food, medicines, and other economic or recreational purposes. (Given its cultural sensitivity, in-depth examination of ritual plant use is inappropriate and is not included.) The study finds that of the more than 500 native plant species identified in the VCNP, 350 taxa were used, or are likely to have been used, by Native American and Hispanic communities that maintain associations with this place.

Chapter 6 addresses the VCNP's ranching history since Spanish colonization. The narrative introduces the *partido* system that organized the sheep herding industry in New Mexico from the early 1700s to World War II and examines the various factors that kept herding and ranching in the Valles Caldera at a comparatively low level until the late nineteenth century. The discussion then traces the development and use of the property's rangeland by the Bonds (1918-1963) and by the tract's last private owners, James Patrick Dunigan and his estate (1963-2000).

Chapter 7 gives the history of industrial timbering in the VCNP. It examines why commercial logging operations did not enter the property until 1935, although Redondo Development Company and other business interests had actively traded its timber rights since 1918. In addition to the economic environment that conditioned timbering, the narrative summarizes the changing technological structure and social organization of timbering over time. The discussion highlights how the public concerns over the growing physical and ecological impacts on the Valles Caldera in the late 1950s, and the acquisition of the property by James Patrick Dunigan, were among the reasons for the most intensive and destructive

logging cycle. The confrontation between Dunigan, a developer and rancher with environmental interests, and T. P. Gallagher, Jr., the long-term owner of New Mexico Timber, Inc., who tried to maximize his logging profits under terms of his purchase of the Baca Location's timber rights, gives invaluable insights into competing land use values within a broader social context.

Chapter 8 reviews the history of mining and geothermal exploration in the Valles Caldera. The hope of striking gold and silver was a motive in Spanish colonization of New Mexico. This chapter focuses on Mariano Sabine Otero's short-lived sulphur mining operations at the beginning of the 1900s, and the interest in geothermal development in the VCNP that is now more than four decades old.

Chapter 9 helps develop the thesis that Valles Caldera is a multi-layered ethnographic landscape with which people of culturally diverse communities—Native American, Hispanic, and Anglo-American—maintain meaningful relationships for their own purposes as part of a dynamic cultural process. The discussion should lead to a fuller understanding of the social and ideational contexts underlying the traditional land use activities in the VCNP that predominated before 1860, but have persisted since then without attracting public attention. The narrative outlines the world view and landscape themes that generally inform and organize how traditional communities associate and interact with the VCNP. The discussion then considers several prominent landscape elements, including mountains, water, caves, volcanoes, calderas, lava rock, shrines, trails, plants, and minerals, that have helped organize and give meaning to the land use activities of communities traditionally associated with this location.

Following a concluding discussion (chapter 10), appendix I consists of an annotated bibliography of the major references used in writing this report. Entries often include materials not directly cited in the text. Instead, we offer citations and observations that provide supplemental contexts for many issues that we identify in the main body of the report.

Appendix II introduces an anthropological landscape approach. It builds from the premise that landscape is the physical and conceptual interaction of nature and culture, rather than the sum of material modifications. The discussion should help cultural resource managers to understand how people of traditional and historical communities in the region construct and sustain close associations with the VCNP. The narrative helps explain how a community's relationships with particular places and landscape features may embody traditions important to communities for sustaining their cultural identities.

Appendix III contributes to the understanding of landscape as a dynamic cultural process. The premise of this discussion is that people actively contribute to conditions that warrant the restructuring and reorganization of their interactions with their physical settings, with other members of their communities, and with residents of other communities. Land and cultural resource managers may find this section useful in considering how people of traditional and historical communities construct and sustain affiliations with the VCNP. The structure and organization of a group's interactions with a place might change, yet continue a traditional relationship.

## Formatting Note

Citations identified in **bold font** in chapter text identify reference materials included in the annotated bibliography (appendix I).

## Indexing note

Appendix I, the annotated bibliography, is not fully indexed. The index lists only the name of the author—or, in case of multiple authors, the senior author—of the annotated entries. Upon finding topics of interest in the text of the main body of the volume, the reader can easily identify which bibliographic entries that they might also wish to examine through the use of the bold font formatting convention.

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