

Valles Caldera Trust

Master Plan for Interpretation Statement:

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Reviewed and edited by Dennis Trujillo on 11/29/05

This Master Plan for Interpretation was developed to assist the Trust in considering the major themes, messages, and interpretive components associated with the Valles Caldera National Preserve. In addition, this plan presents the interpretive messages of the Preserve, and explores how and where they could be presented.

By using a plan for interpretation, the Trust is seeking to affect the hearts, minds and behavior of the Preserve's visitors, without affecting the cultural, ecological and aesthetic integrity of the Preserve's landscape.

This plan is to be used as a tool, to secure experiential and interpretive continuity across the Preserve's landscape and through its programs. This Master Plan for Interpretation follows the format and content of many interpretive plans, its development prior to the initiation of comprehensive planning will allow the Trust to consider the effects as well as opportunities of all activities and programs on interpretive themes. This plan will be especially useful in planning transportation and the development of facilities and services.



valles caldena NATIONAL preserve

MASTER PLAN for INTERPRETATION

June 2005

ALDRICHPEARS ASSOCIATES + Bufo Inc. + Studio Hanson / Roberts
interpretive planning & design



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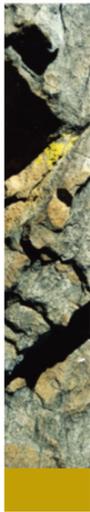


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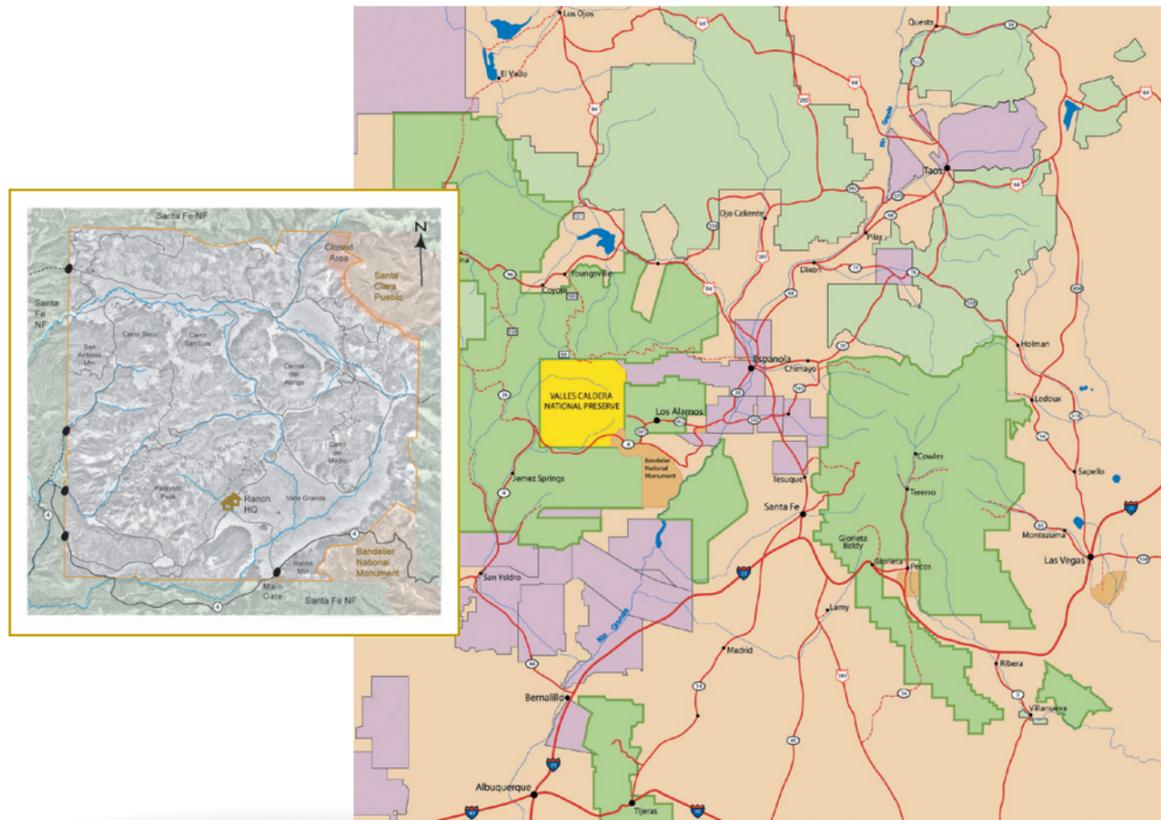
Big thanks to Tracy Hephner for the use of her photos on the cover and section bars, as well as her beautiful illustrations displayed throughout this document.



Valles Caldera National Preserve

MASTER PLAN for INTERPRETATION

1.0 INTRODUCTION

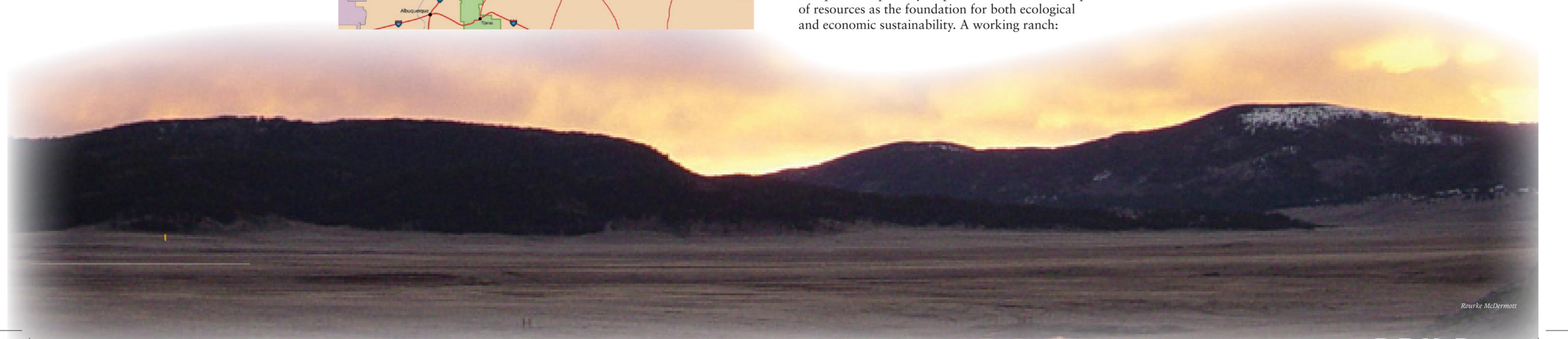


The National Association for Interpretation defines Interpretation as “...a communication process that forges emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource.” In order to achieve these connections this Master Plan for Interpretation establishes the major themes, messages, and the approximate scope and relative locations of program elements and interpretive components associated with the Valles Caldera National Preserve. Paraphrased, the goals of interpretive planning are to minimize site impact and maximize impact on the hearts, minds and behavior of the Preserve’s users. Balancing these two goals guides the development of strategies that are intended to enhance the Preserve experience. While maximizing the impact on visitors’ thoughts, feelings and behaviors, mechanisms must be avoided that would have a negative effect on the site’s ecological, aesthetic and perceptual integrity.

Valles Caldera National Preserve (VCNP) is a unique site with a unique mandate. It is an experiment in land management; this master plan is part of this experiment. Two factors distinguish VCNP from virtually all other public lands: it is operated as a working ranch and it has a goal of financial self-sufficiency. This master plan also addresses these factors. A working ranch is defined as an operation that places its primary emphasis on the stewardship of resources as the foundation for both ecological and economic sustainability. A working ranch:

- Runs a sustainable level of livestock, adjusting numbers as necessary;
- Makes resources available for other revenue-generating activities such as bird watching, hunting, fishing and other low-impact recreational activities;
- Applies adaptive management on a day-to-day basis to ensure resource protection; and
- Monitors the impact of ranch activities.

A process was followed in developing this plan, which included: the direct participation of the Board members and staff of the Valles Caldera Trust through interviews, workshops and document reviews; extensive site visits; research into the published and unpublished information available on the Preserve and adjacent areas; tours of regional attractions, parks and national forests; interviews with neighboring land managers and State tourism officials; interviews with recreational users of the Preserve and area residents; and attendance at a public review of the Valles Caldera National Preserve Draft Framework and Strategic Guidance for Comprehensive Management—the key document that guided the planners. Documentation of the workshops, literature reviews and contacts are included in an appendix to this plan.



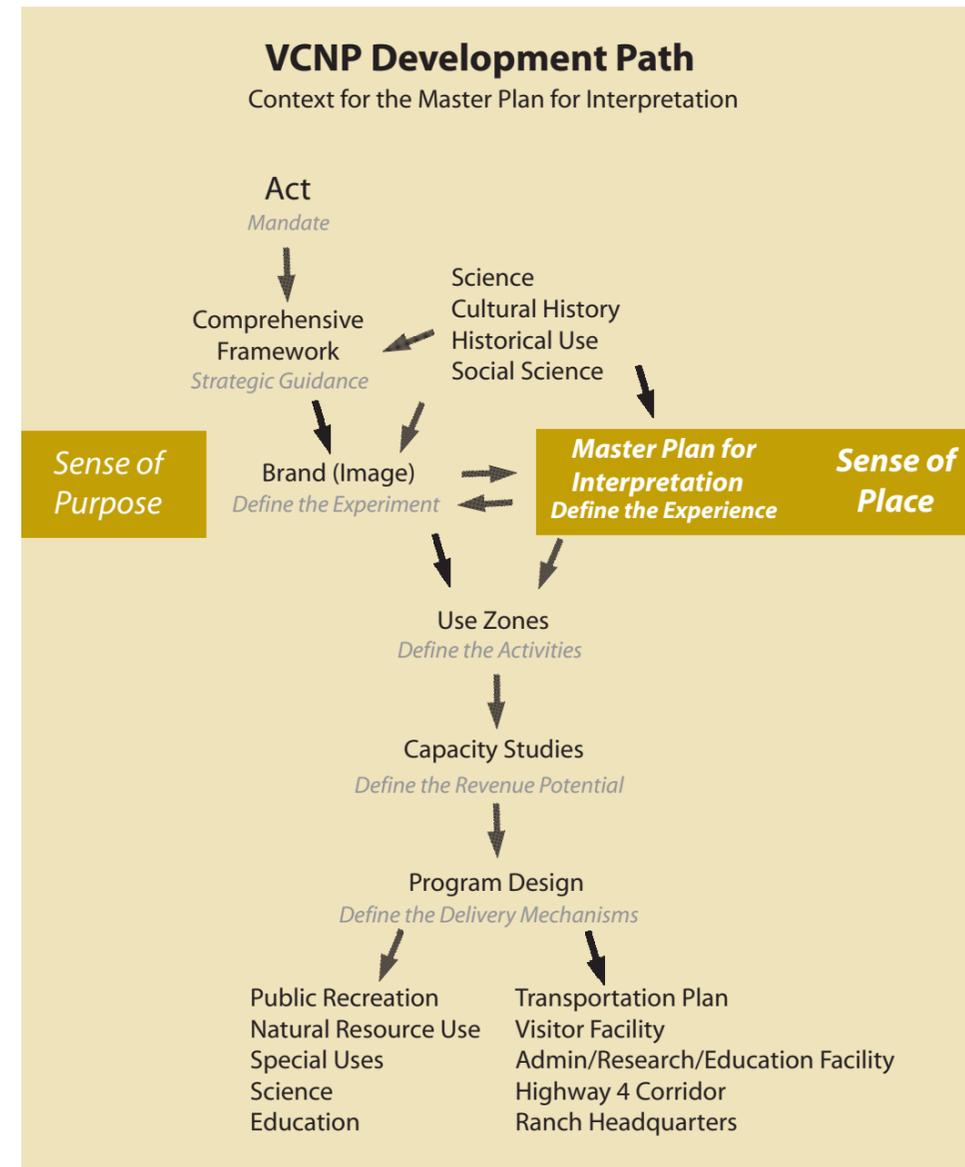


1.1 Purpose of this Document

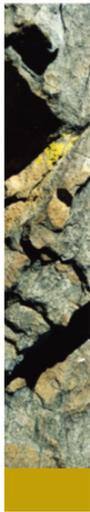
This document is for in-house use. An important focus is on the broad interpretive messages, and how and where they should be told. While this master plan follows the format and content of many interpretive plans, it also has a unique role in the management of VCNP.

This is the first major planning document to be produced for the Preserve. As such, it will guide other planning processes on the Preserve, including management, transportation, facility and service development. This document is the foundation for discussing options and consulting with the public. In addition, the plan:

- Guides interpretive decisions by identifying challenges and providing a filter for determining the appropriateness of management actions based on interpretive resources and sustainability, e.g., location of a weather station based on optimizing interpretive opportunities;
- Broadens and deepens our understanding of the audience—a critically important component of interpretive planning;
- Evaluates interpretive media and techniques, identifies those that are the best fit for the Preserve, and guides the implementation of specific programs and media;
- Addresses the working ranch management model and goal of financial self-sufficiency—with specific recommendations provided under a separate cover.



(source: VCNP Staff)



VALLES CALDERA NATIONAL PRESERVE

MASTER PLAN for INTERPRETATION



1.2 Purposes and Goals of the Preserve

The purposes of the Preserve, as outlined in the Valles Caldera National Preserve Act, are “to protect and preserve the scientific, scenic, geologic, watershed, fish, wildlife, historic, cultural, and recreational values of the Preserve, and to provide for multiple use and sustained yield of renewable resources within the Preserve.” Inherent in these purposes is the need for sustainability of these values, and the desire that the Preserve become a model for sustainable multi-use land management.

The Valles Caldera Trust upholds the Act through management principles that guide the operation of the Preserve as a working ranch, the protection of cultural resources and traditions, the Trust’s commitment to involve the public in decisions affecting the Preserve, and the pursuit of financial self-sufficiency.

A central goal of managing the Preserve is to increase the resilience and integrity of the Preserve’s ecological systems. Restoration efforts include streams and fisheries, grasslands, forests, native wildlife, dirt roads and overall aesthetic integrity. The Trust will operate the working ranch in a manner that sustains range resources, and public recreational needs in balance with use by native wildlife and their habitat needs. The Trust wants to ensure a high level of watershed stability throughout the Preserve—to conserve the soils and attain proper functioning of its streams and watercourses.

1.3 Context for Interpretation

Valles Caldera National Preserve is a working ranch, a historic site, a natural treasure and a place for recreation. As a result of the unique nature of its guiding Act, it provides the rare opportunity to explore better ways to manage public lands for multiple purposes. Interpretation of the site must therefore address the past, the present and the future. This opportunity presents challenges as well. To achieve its goals, interpretation must integrate natural and cultural conservation with recreation and economic uses of the land through the filter of the ranching ethic.

The Preserve also sets a challenge for interpretation that is rare in Federal lands, that is, interpretation and education must contribute to the economic viability of the Preserve.



Los Alamos Historical Society



Rourke McDermott

1.4 Definition of Terms

Interpretation is not the only communication process occurring on the Preserve. Within this plan, three different terms are used to describe the range of communications activities.

INFORMATION

Information is often sought out in a free-choice manner—the user actively solicits information. It is generally informal in presentation and is most often linked directly to decision-making, i.e., “What can I do? Where am I? What will it cost?” Information commonly has an audience of individuals or small groups and can be effective both first-hand, e.g., a sign at entrance, or remotely, e.g., website. Information is also linked directly to agency communications and marketing; for this plan’s purposes, information is largely confined to elements that directly complement education and interpretation.

EDUCATION

Most definitions of education include the word “knowledge.” The goal for educational communications is to promote the acquisition of knowledge through learning and instruction. Education is usually structured and undertaken in formal groups to achieve knowledge-based objectives. The success of education is relatively easy to assess because test results can measure an individual’s ability to memorize facts and figures. While many techniques are applied to education, like interpretation, it is most effective as a first-hand activity.

INTERPRETATION

Interpretation is informal in practice and may take place with audiences from one to many. It is sometimes defined as free-choice learning, but knowledge is only one of the objectives together with emotional connections and behavioral outcomes. Because of interpretation’s attitudinal and action-based objectives, it can be hard to measure effectiveness. For example, behavioral change may not exhibit itself until long after the interpretative experience. Not only is interpretation most effective when first-hand, it needs to be related directly to the nature of a particular site or object. “Sense of Place” is frequently cited as the ultimate interpretive goal.

In all of these communication processes, the primary focus is on the features of the Preserve and the values they represent to residents and visitors. The first step in developing interpretation is to determine which stories provide interpretive audiences with this sense of place, and establish that Valles Caldera is like no other.



Rourke McDermott



Don J. Usher



Valles Caldera National Preserve

MASTER PLAN for INTERPRETATION

2.0 RESOURCES for INTERPRETATION



Interpretation is about stories to be shared. Stories are always linked to features. This section documents these natural and cultural features to form the interpretive resources of the Preserve.

2.1 Biophysical Features

Some of the biophysical features that lend themselves most easily to interpretation include:

- **Caldera Formation**
 - Valles Caldera contains one of the best examples of a caldera formation in the world and provided important evidence for the theory of plate tectonics.
 - Volcanic activity created many dominant geologic features in and near the Preserve.
 - It is one of only three active calderas in the United States.
 - Redondo Peak is a resurgent dome formed just after the initial collapse of the caldera.
 - Obsidian formed as a result of intense, early volcanic eruptions that took place in the caldera.
- **Geothermal Springs**
 - These natural geothermal springs in the Preserve create unusual, diverse ecological communities.
- **Grasslands**
 - The Preserve's montane grasslands are one of the largest in the Southern Rocky Mountain Ecoregion.
- **Forests**
 - Over 60% of the forest has been previously logged.
 - Ponderosa pine stands near the current headquarters are over 300 years old.
- **Rare Plants**
 - The Preserve contains rare plant species of New Mexico.
 - Sapello Canyon larkspur is endemic to the Jemez, Sangre de Cristo and Sandia Mountains.
 - The only known occurrence of bog birch in New Mexico is found in the Preserve.
- **Freshwater Habitats**
 - Hot springs, cold-water springs, acid pools, bogs and two major mountain stream watersheds are located within the Preserve.
 - Alamo Bog is a "fen" fed by warm underground springs, which supports the bog birch, water sedge and club moss association found nowhere else in New Mexico.
- **Species Diversity**
 - Over 550 species of plants occur in the Preserve, including 20 species of noxious weeds.
 - Over 107 bird species use the Preserve at various times during the year; many use the preserve for breeding.
 - Sixty-three (63) species of butterflies are known to inhabit the Preserve.
 - The Preserve is the core breeding ground and nursery for the Jemez Mountains elk population.
 - Black bear, mountain lion and bobcat are rarely seen, but their populations are presumed to be viable.
 - Smaller mammals found on the Preserve include pikas and Gunnison's prairie dogs.
 - Native fish, like the Rio Grande cutthroat trout, have been displaced by brown and rainbow trout.
 - The Jemez Mountain salamander is endemic to the Jemez Mountains.
 - New species have been found, such as the Caldera caddisfly.

2.2 Cultural Heritage Features

Valles Caldera has its own cultural stories and plays an important role in many regional stories:

- **Spiritual Connections to the Valles Caldera and Jemez Mountains**

- These landscape features have special spiritual meaning to the Pueblos.
- Redondo Peak is sacred in the Jemez Pueblo and Zia Pueblo traditions.
- Many Rio Grande Pueblo communities maintain links to areas within the Preserve.
- The Utes, the Navajo and the Jicarilla Apache also have ties to the area.

- **Obsidian Quarries**

- This rock was used for tool making and attracted early hunters to the area who established three main quarries within the Valles Caldera.

- **Hunting History**

- Pueblo, Hispanic and Anglo-European groups hunted elk, deer, bear, turkey, grouse, mountain lion and other game animals in the caldera. Anglo-Europeans introduced recreational hunting, which continues to an important activity.

Los Alamos Historical Society



2.3 History as a Working Ranch

The Preserve is often referred to locally and regionally as “The Baca” reflecting its origin as private land. The term is used in this document to refer to the regional perception of this land as a long-standing, private ranch with deep routes in the community.

Land Grant History

- The Preserve was once the Baca Location No. 1, and was privately owned from 1860 to 2000.

Sheep Ranching

- The caldera’s grasslands attracted Hispanic shepherds and sheep ranchers, some of whom left names and dates carved on aspen trees.
- The Jemez Pueblo also grazed flocks of sheep in the Valles Caldera.
- Ranching was the main activity that connected the Hispanic people to the Valles Caldera.
- The sheep industry’s growth in the late 1800s and 1900s has influenced today’s native plant composition on the Preserve.

Cattle Grazing

- Cattle grazing replaced sheep grazing in the caldera after World War II—cattle are still grazed in the caldera today.

Harvesting the Forest

- Past logging operations from 1946 through to the mid-1970s, removed most old-growth stands.
- Between 1963 and 1971, New Mexico Timber cleared more than 1,000 miles of road.

Geothermal Exploration

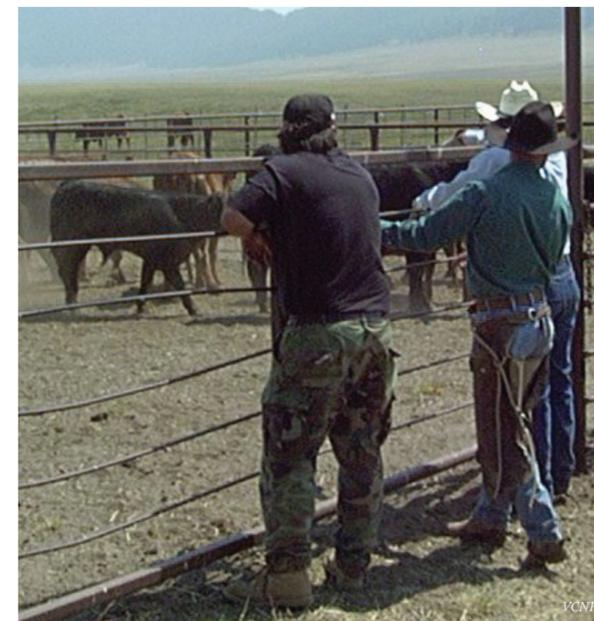
- Remnant well sites and buildings once used for geothermal exploration still exist in the Preserve.

Ranching Facilities

- Ranching structures and facilities can be found throughout the Preserve. Most are concentrated in the headquarters area and some are still in use.

Movie Sets

- Hollywood built movie sets in the Preserve that capitalized on the caldera’s beautiful vistas.





Valles Caldera National Preserve

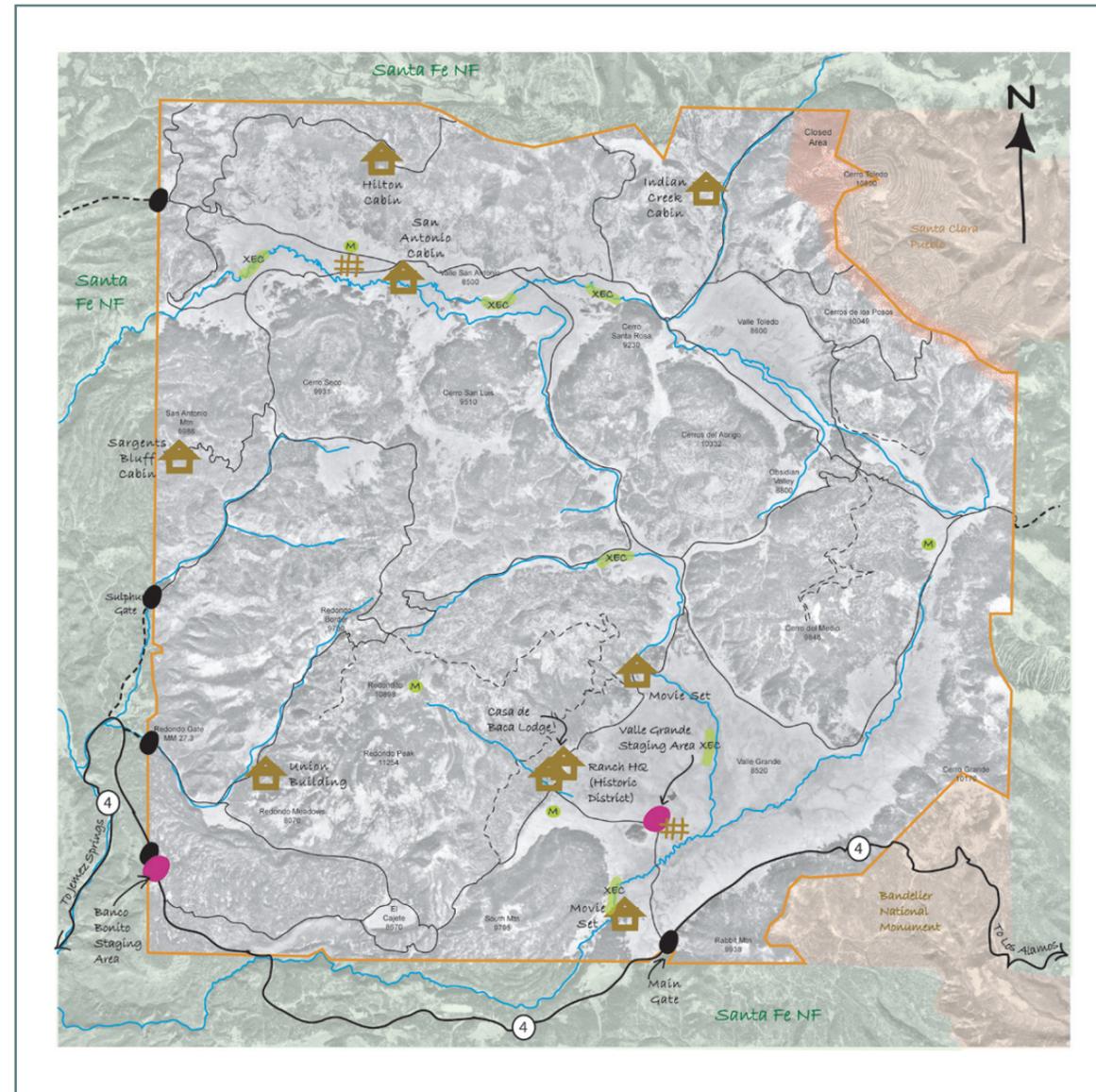
MASTER PLAN for INTERPRETATION

Legend

- Key Entry Areas
- Entry Roads - Other
- State Hwy 4
- Open Roads
- Staging Area
- Major Streams/Rivers
- Corral/Scales
- Current Buildings

Science & Research Polygons

- M = Meteorological Station
- XEC = Research elk/cow exclosures across streams (m = 6)*
(*okay for education & tours, not fishing or hiking right through study areas)



2.4 Site Analysis

The Trust has comprehensive information on the Preserve's cultural and physical resources and their locations. This analysis addresses existing constraints and opportunities, and current and proposed interpretation-related uses of the site.

Figure 1: 2003/2004 Resource Uses on Site

Currently, the valles may be used for grazing or for scientific research. Sections of forest are currently preserved intact with some thinning to improve forest health and reduce fire hazards. Timber harvesting may be part of future resource use. Scientific data collection and studies may take place anywhere on the site and may change annually. Elk calving and bald eagle wintering areas are subject to seasonal closures. The most prominent historic site is the Ranch Headquarters. Redondo Peak above 10,000 feet is an important spiritual area for Pueblo people. Motorized access is restricted above this elevation.

Figure 2: Other Potential Interpretive Resources

As a result of several tours of the site, areas of interest have been identified for interpretation. These include areas such as the Los Indios area which combines timber harvest and milling artefacts, historical cabins, good birding, and the opportunity for one way tours; the existing geothermal area along Redondo Creek which provide opportunities for overnight experiences – individuals using the exploration pads, groups using the bunkhouse; specific natural and cultural features; and some impressive and interpretively valuable views.

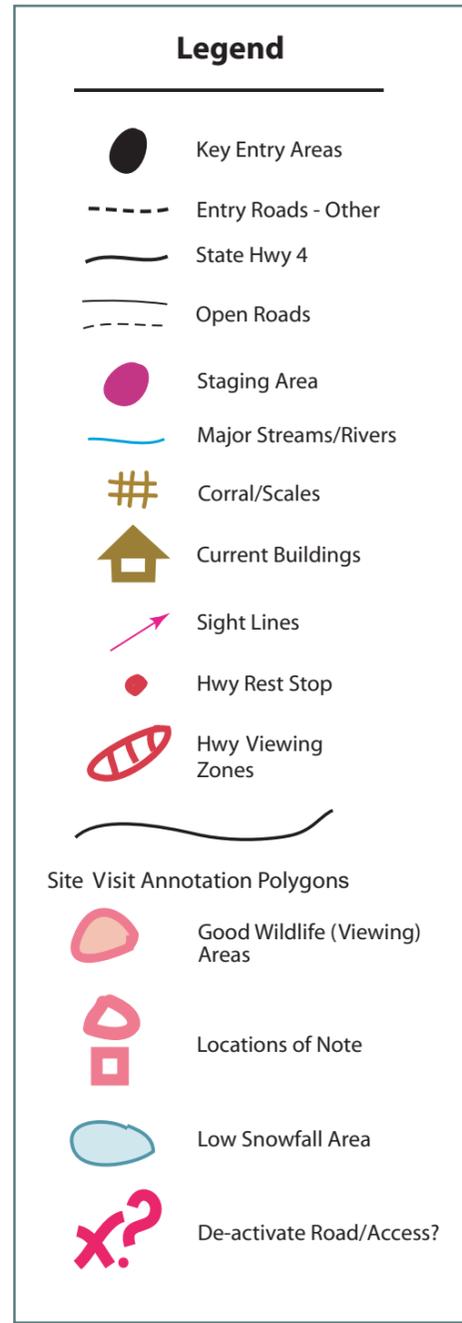
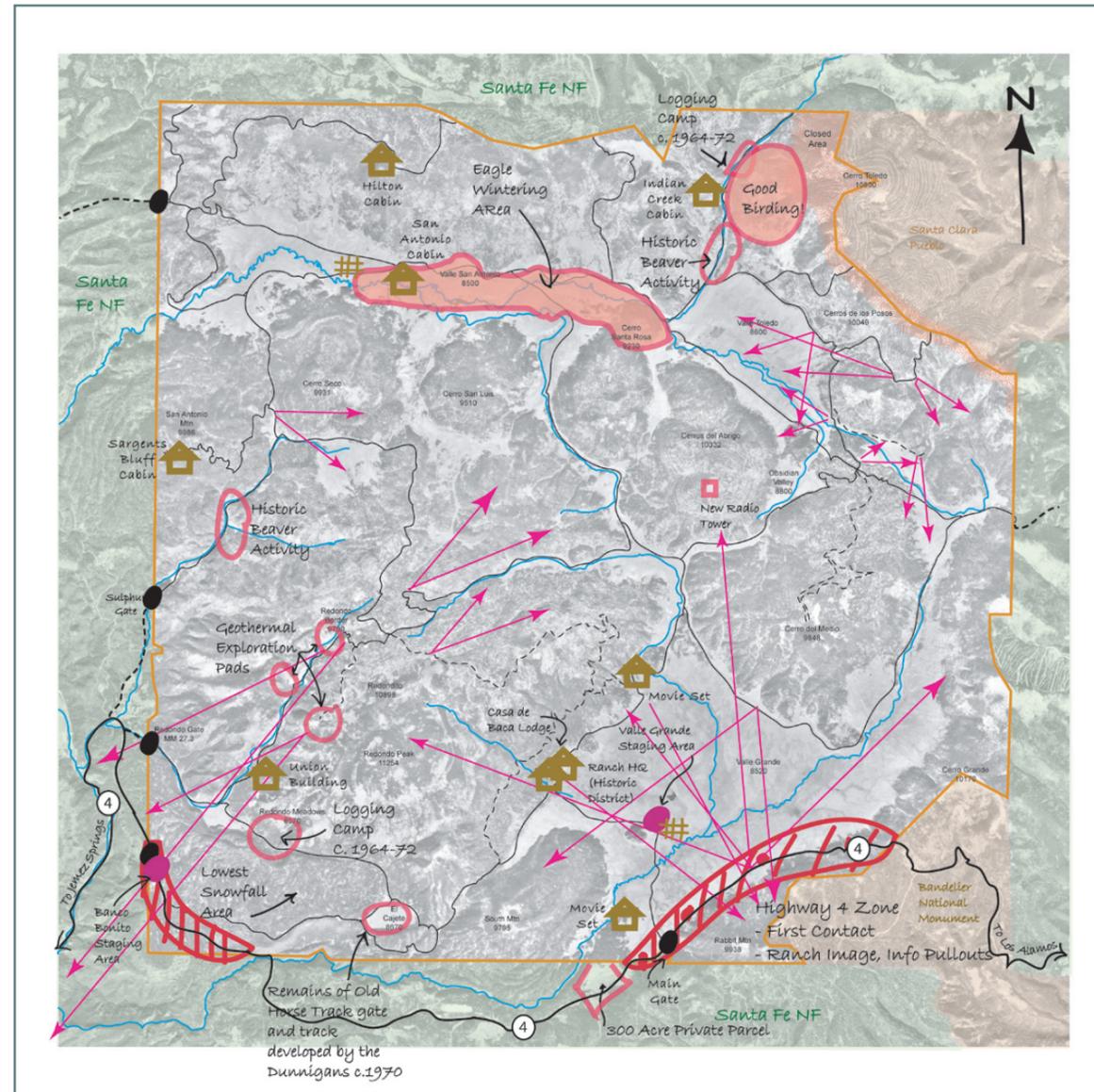
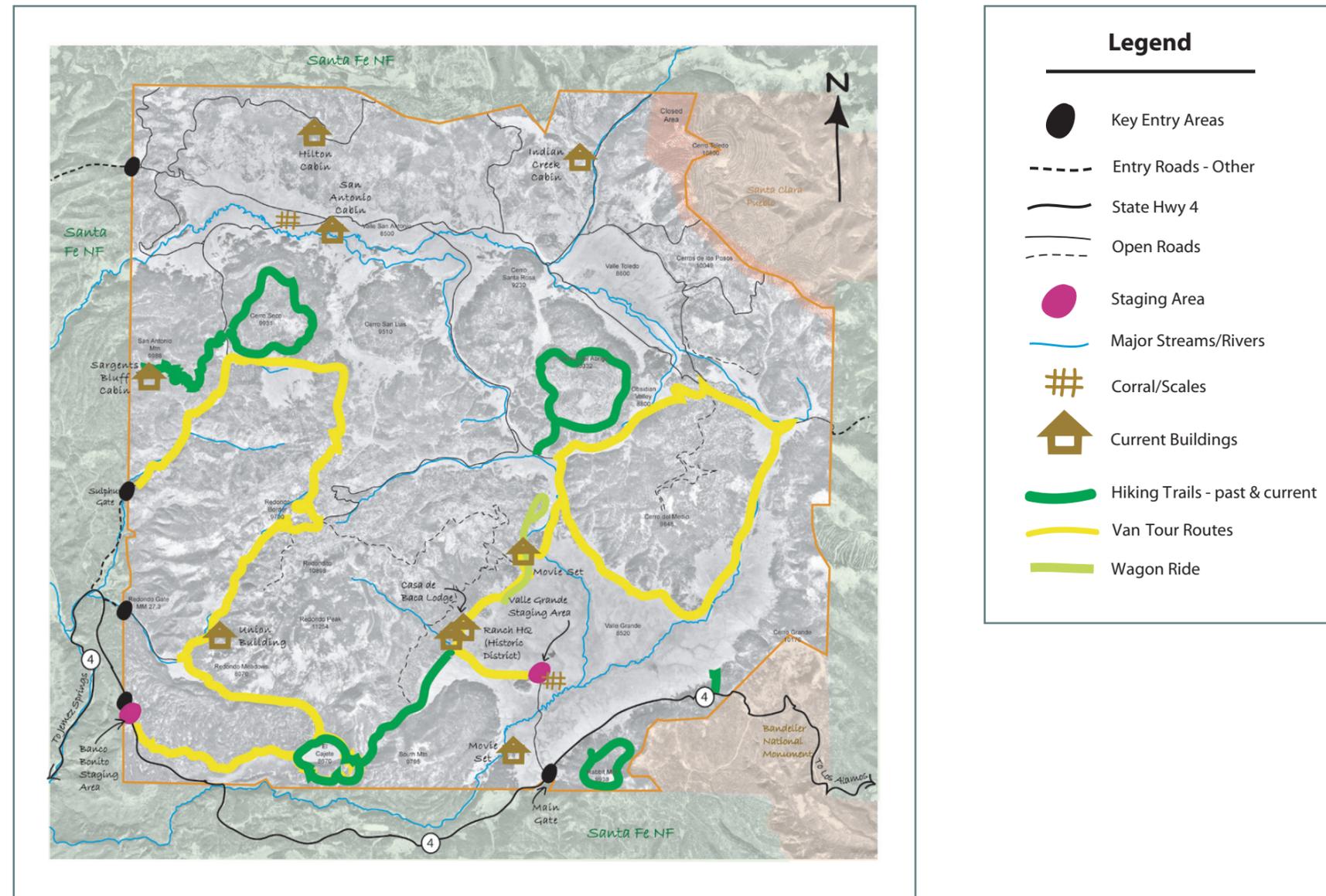


Figure 4: 2003/2004 Hiking, Van Tours and Wagon Rides

Hiking and van tours are popular and the elk viewing van tours, in particular, generate significant revenue and substantial attendance. Hiking suffers from the limited trails available and would benefit from longer, more challenging hikes. The potential also exists for overnight accommodation for hikers. Van tours are scheduled every week in the main season. In addition, there are "specialized" tours that are generally led by experts in their field (geology, photography, etc.), which are scheduled occasionally over the summer. Van tours are currently the least expensive and easiest way for visitors to receive interpretation regarding the entire site and its reason for existence.





VALLES CALDERA NATIONAL PRESERVE

MASTER PLAN for INTERPRETATION

Legend

-  Key Entry Areas
-  Entry Roads - Other
-  State Hwy 4
-  Open Roads
-  Staging Area
-  Major Streams/Rivers
-  Corral/Scales
-  Current Buildings
-  Cross-Country Ski Routes
-  Mountain Bike Special Event Routes
-  Equestrian Trails
-  Sleigh Ride

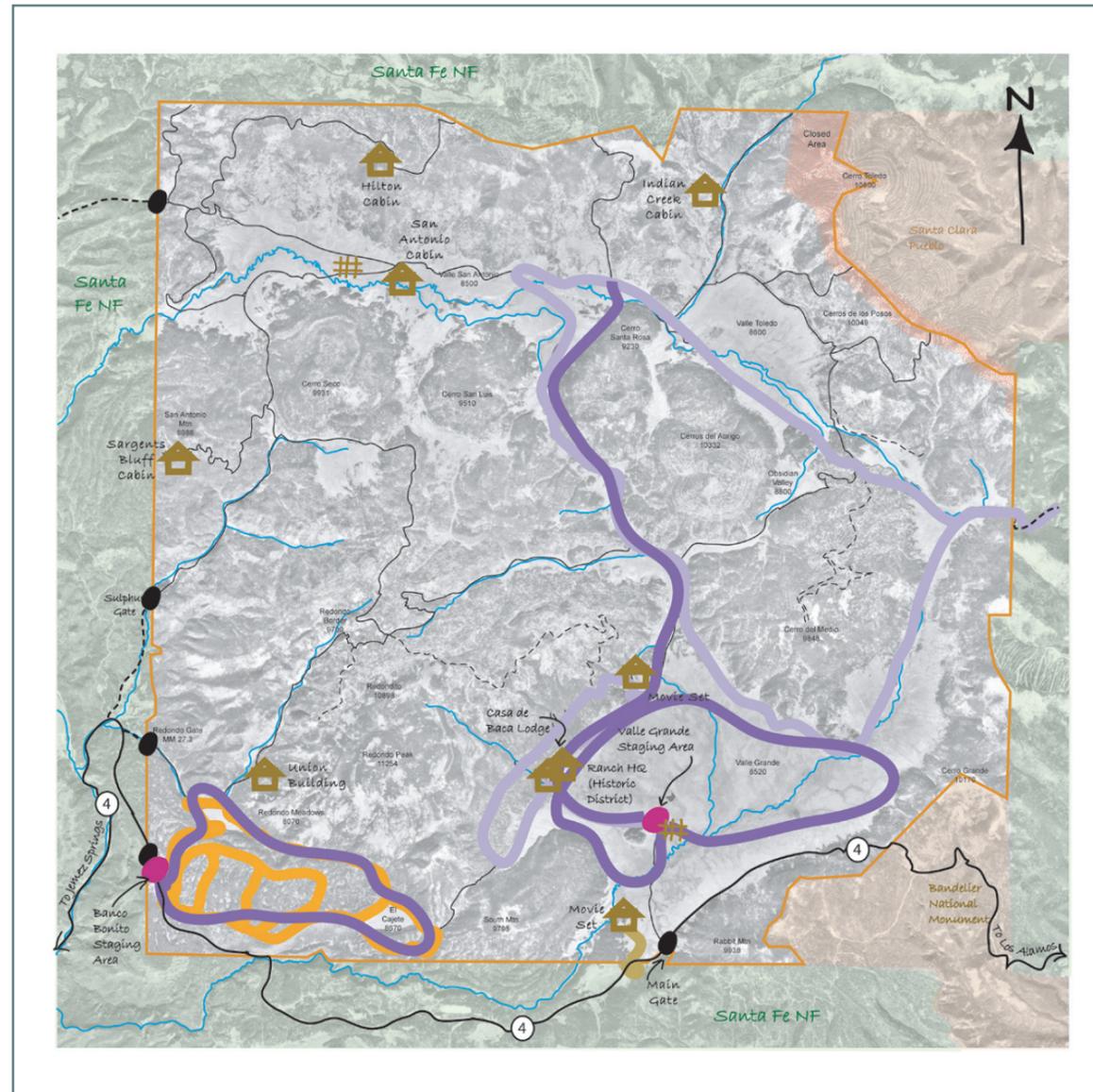
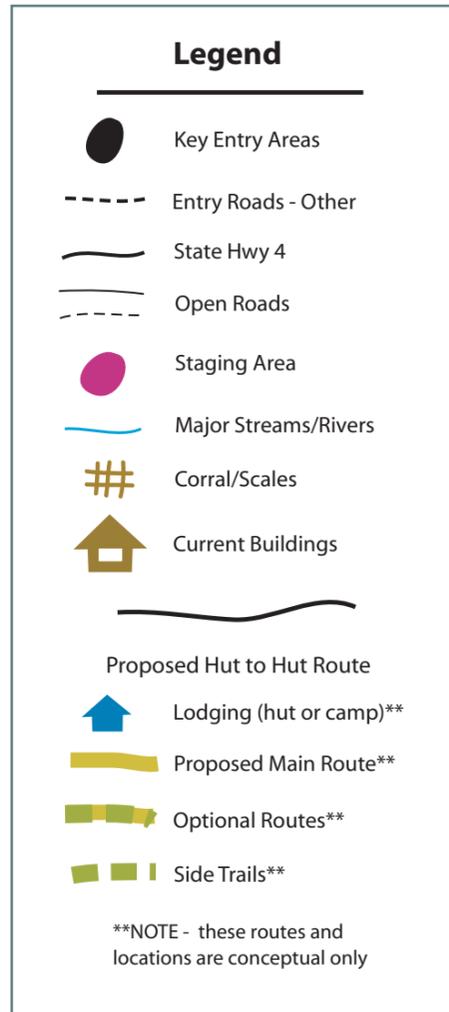
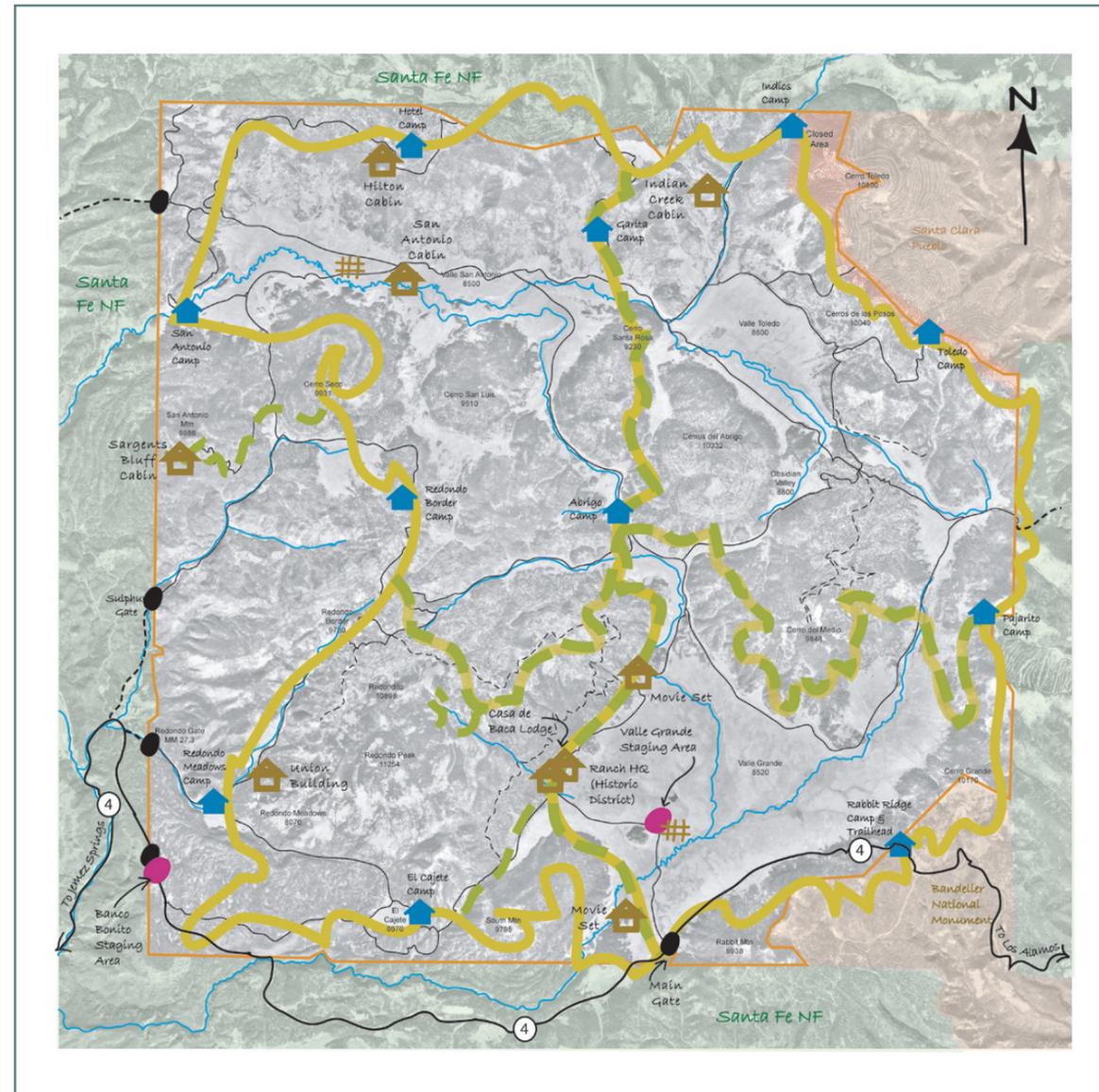


Figure 5: 2003/2004 Horse-riding, Skiing, Biking and Sleigh Rides

Horseback riding and biking were test activities in 2004. Horse touring was offered in the southwestern Banco Bonito area and confined to the roads in that area. At the behest of local cyclists, the Trust conducted a test “bike touring” day offering two routes in the eastern portion of the Preserve. All bike travel was confined to existing, selected roads. The bikers were supervised and had to travel in a group. Cross-country skiing on the Valle Grande will be offered this winter, snow permitting.

Figure 6: Potential Recreation Activities – Multi-Day

A new class of activities is being considered and evaluated for implementation. These offer overnight experiences, and could include hut-to-hut skiing, and equestrian or hiking programs which would offer longer trails. The scale of the “huts” and the final trail locations are to be determined.





Valles Caldera National Preserve

MASTER PLAN for INTERPRETATION

Legend

- Key Entry Areas
- Entry Roads - Other
- State Hwy 4
- Open Roads
- Staging Area
- Major Streams/Rivers
- Current Buildings
- Possible Equestrian Trails
- Possible Van Tour Route
- Possible Hiking Trails

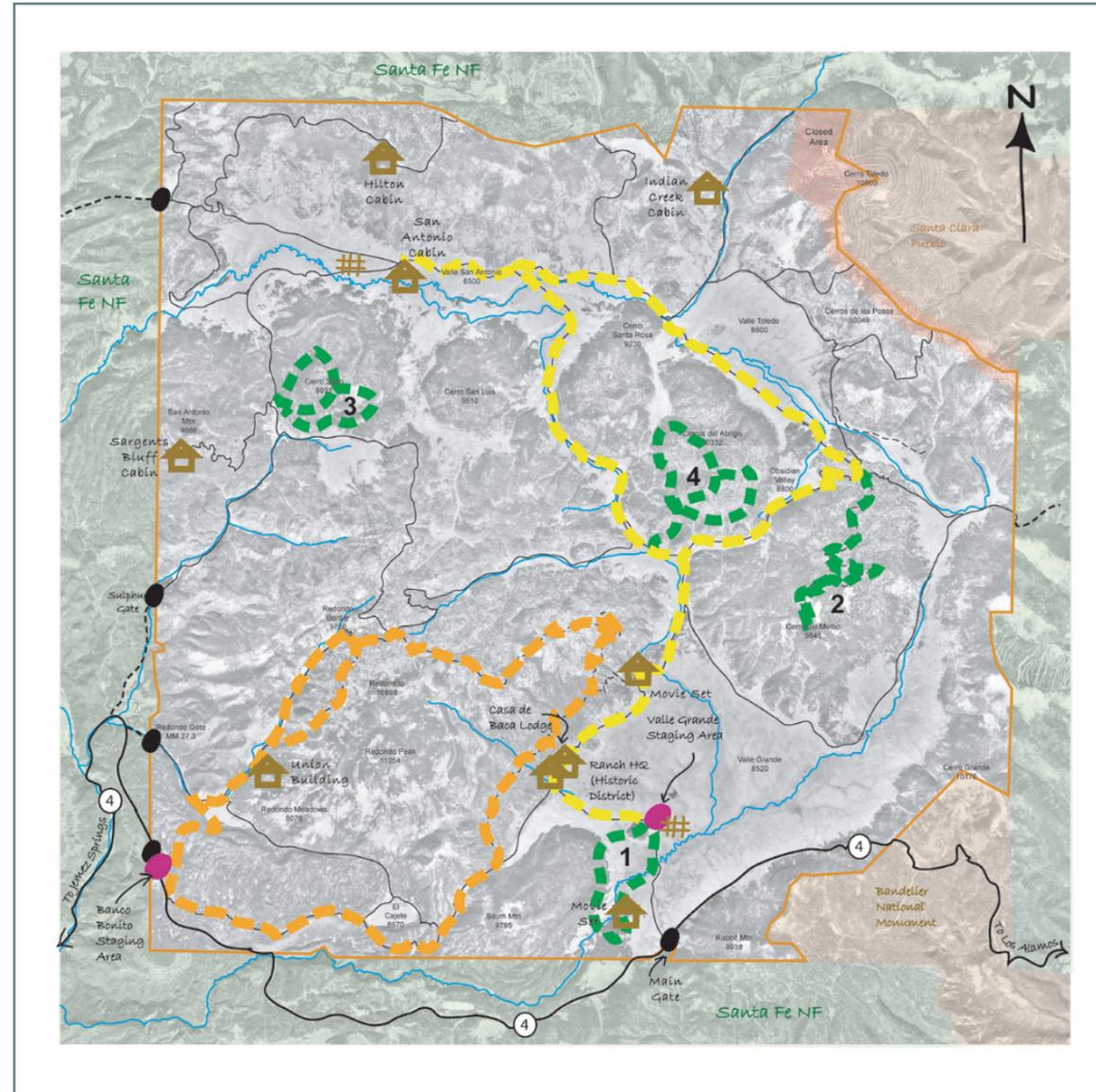


Figure 7: Potential Recreation Activities – Additional Trails and Tours

The trails and routes marked on this map were recommended as potential recreation and interpretation opportunities for additional hiking, van tours and horseback riding in the VCNP.

Hiking: The Hidden Valley hike (1) would tell a great wetland story. Cerro del Medio (2) would be an overnight trip to the top that provides excellent views of the Valles with the opportunity to provide additional interpretation of the Preserve. Cerro Seco (3) and Cerros del Abrigo (4) currently provide hiking opportunities, but these do not include circle routes or access to the top for views, etc. The trails marked on this map are possible alternate trail locations.

Van Tour: This van tour would highlight San Antonio Cabin (cultural history, geology, hydrology) and Obsidian Valley (geology, cultural history). Some of the tours may already take in parts or all of this route, but it should be noted as a key interpretation opportunity.

Equestrian: These options could provide longer trips with potential options for an overnight stay. The circle tour provides excellent opportunities to tell stories about the geology, hydrology, natural and cultural history of the VCNP.

2.5 Capacity Analysis

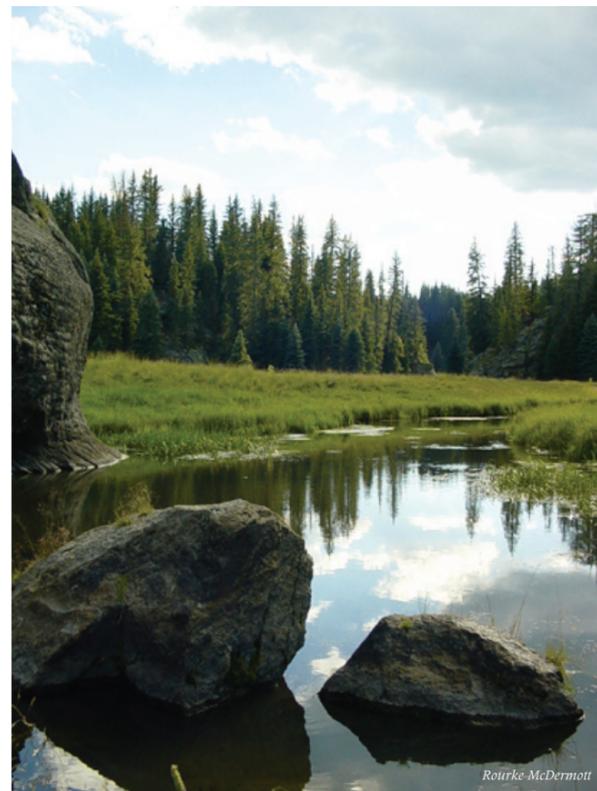
We have reviewed the literature on capacity in order to determine potential limits to use in the Preserve. The majority of these studies have focused on backcountry and wilderness areas in National Parks or National Forests. Resource and social impacts of recreation use constitute long-standing issues in the field of park and wilderness management, and these issues are often addressed within the context of carrying capacity. Some agencies have proposed zoning options (e.g., pristine, primitive): the 1985 backcountry encounters have often been identified at 12 parties per day (e.g., Zion National Park and many others) with limits to party size of 12 in a backcountry or wilderness campsites (e.g., North Cascade National Parks and many others).

The reasons for these limits are to ensure that visitors will have a chance to experience a natural landscape without causing unacceptable environmental damage. Typical criteria for public land include:

- Natural conditions and processes will be largely undisturbed by people. Culturally significant resources also may be maintained.
- Routes and paths may be defined and maintained if necessary to prevent resource damage; no other visitor facilities will be provided.
- Visitors can camp throughout the zone, although in some cases, camping sites will be designated to protect resources.
- Opportunities for a high degree of solitude will be provided throughout the zone.
- Use of these areas will be limited.

Rationalizing specific numbers has been a challenge. David N. Cole, Research Biologist at the Aldo Leopold Wilderness Research Institute, summarizes the inherent challenge succinctly:

Science has been tremendously helpful to management...however, at the core of the carrying capacity issue are value-based decisions about what ought to be and managers still struggle with these decisions. Science is less equipped to contribute to decisions about values. The rate of future progress on the carrying capacity issue will be determined more by the willingness of managers to make value judgments than by the ability of science to build a factual foundation. Science can contribute by developing varied sources of information about societal needs and values.



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Others, such as Robert E. Manning and Steven R. Lawson from the School of Natural Resources at University of Vermont, have defined the inherent conflicts between the “values of science” and the “science of values”:

It is clear from the literature that management of carrying capacity involves matters of both science and values, and that both of these elements must be integrated into “informed judgements” on the part of park and wilderness managers. That is, managers must ultimately make value-based judgements about the maximum acceptable levels of visitor-caused impacts to the resource base and the quality of the visitor experience. However, such judgements should be informed to the extent possible by scientific data on the relationships between visitor use and resulting impacts, and the degree to which park and wilderness visitors and other interest groups judge such impacts to be acceptable. Such information represents the “values of science” to managing carrying capacity in parks and wilderness.





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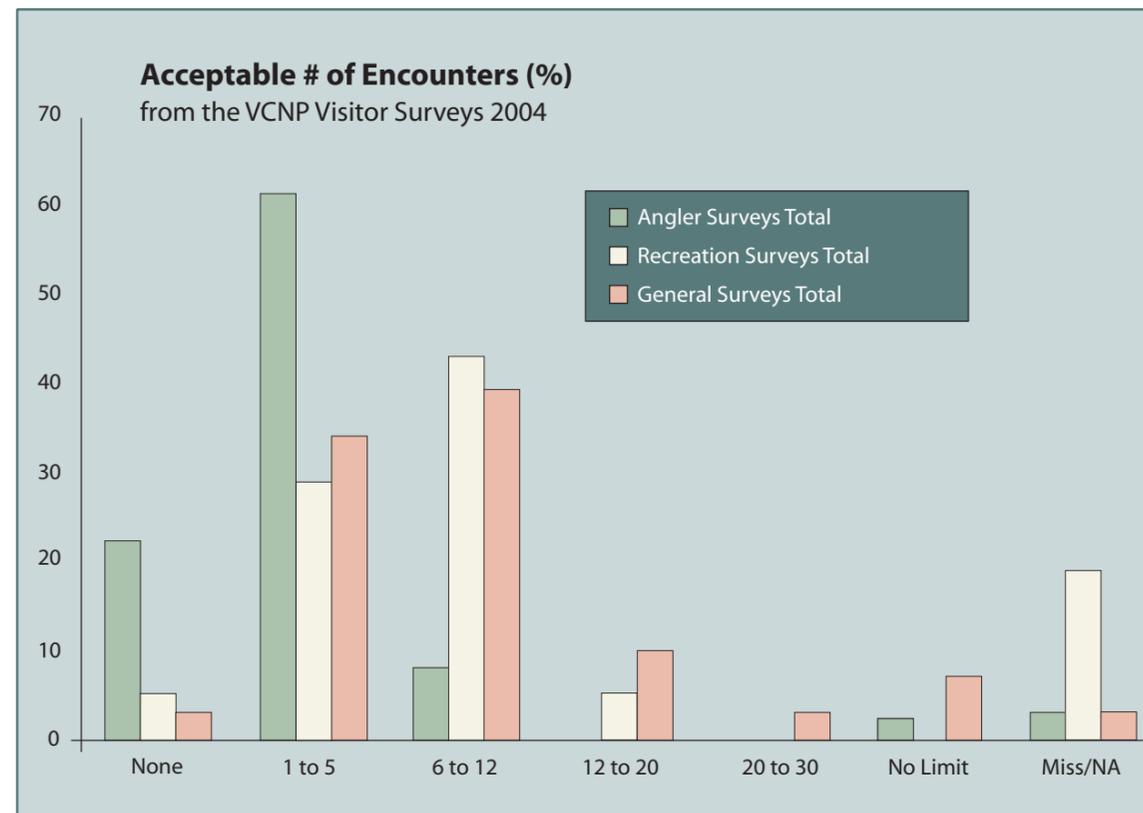
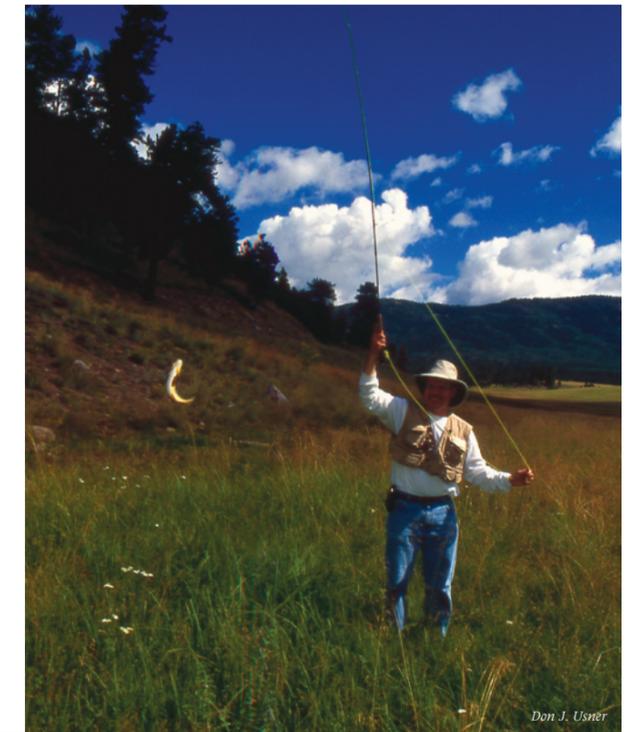
2.0 RESOURCES for INTERPRETATION

Implications for Carrying Capacity in the Preserve

Only some conclusions can be drawn from the existing public lands studies and policies because, as always, VCNP is in a unique situation. The Preserve is not pristine, primitive or any other wilderness designation. Visitor use and experience can be determined by the Trust, as, of course, can be the decision to include carrying capacity as part of the "bold experiment". A sampling of user surveys (n=99) suggests that existing recreation users value the relative privacy of their experiences.

These numbers reflect the interests and values of those currently using the site. Because most activities are marketed as essentially exclusive, private experiences, it is not surprising that relative solitude is seen as desirable by those choosing these activities. Representatives and individuals from the Los Alamos area, expressed the desire for less control regarding access so that they could enter the Preserve on their own schedule. Conversations with other communities, e.g., Jemez Springs and Ponderosa, resulted in fewer concerns about "solitude" and more about access to the historic ranch district and more social events.

Most, if not all, of these concerns can be met in the Preserve with the right management model. These are discussed more specifically in the Challenges and Strategies portion of the plan but are summarized here. The range of experiences and the numbers of visitors participating can be managed by a combination of zoning and scheduling, as can environmental impacts. Any new experiences offered should continue to be tested as one-of-a-kind until an assessment of the impacts can be determined.





Don J. Usner



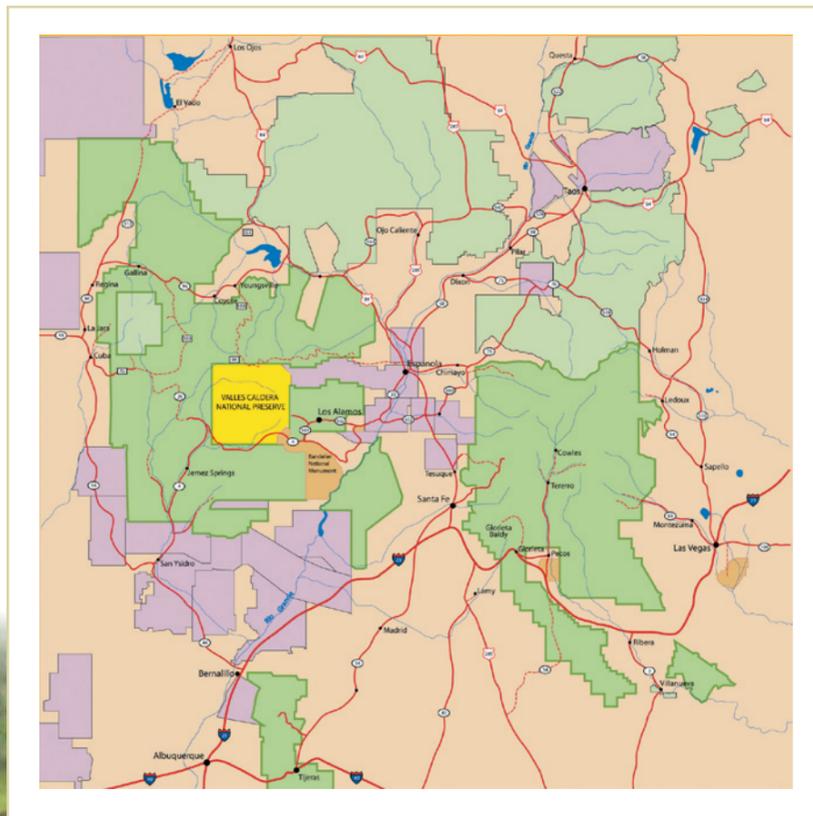
Valles Caldera National Preserve

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3.0 AUDIENCE EVALUATION

3.1 Context and Access

Valles Caldera lies within two-hours' drive of the main urban centers of Albuquerque and Sante Fe, and proximate to the route commonly taken by those visiting the Four Corners area. The Preserve is centrally located in the Jemez Mountains, and is almost completely surrounded by a National Forest and a National Monument—both of which offer hiking and camping opportunities and, depending on the area, fishing and interpretation. Nearby facilities with interpretive centers include Bandelier National Monument, Walatowa Visitor Center and Jemez State Monument.



3.2 Potential Audience

Information summarized in this section is based on documentation collected by, or from, VCNP staff and Internet searches on recreation and tourism activities in the Northern New Mexico region, with an emphasis on the immediate area within a day's drive of the Preserve—specifically Los Alamos, Albuquerque, Santa Fe and surrounding communities and pueblos.

Reference materials and websites

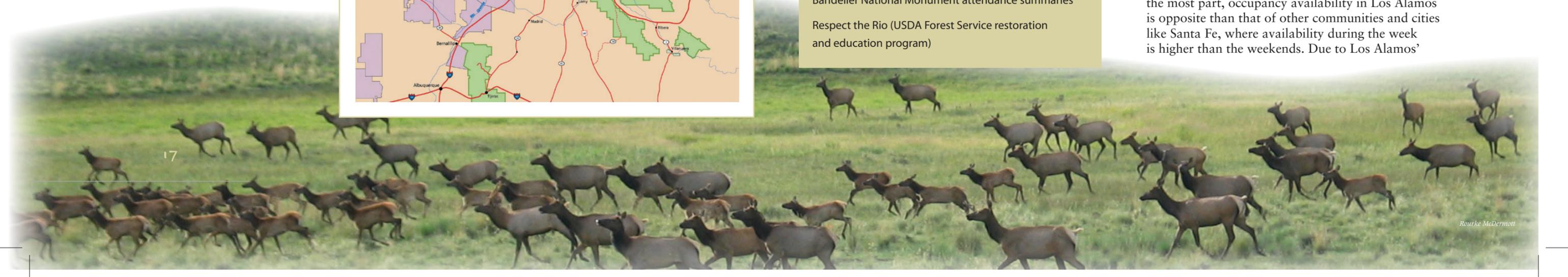
- Los Alamos Market Analysis June 2000
- 2003 New Mexico Scenic Byway Economic Impact Study and background documents
- New Mexico Visitor Guide
- New Mexico Tourism Department Web Site – attractions, events, recreation opportunities, etc.
- Valles Caldera National Preserve Web Site and Draft Framework document
- New Mexico State Comprehensive Outdoor Recreation Plan 1996-2001
- Regional attendance summaries for attractions (2002/03)
- Visitor Use Estimates for Santa Fe National Forest
- Walatowa Visitor Center Visitor Counts 2002
- Bandelier National Monument attendance summaries
- Respect the Rio (USDA Forest Service restoration and education program)

Public-oriented, recreation-based activities were introduced on the Preserve in 2003. During the 2004 season birding programs, fly-fishing seminars, self-guided and guided hikes, and equestrian rides were all part of the interpretive programming available on-site. Annual elk hunts and fishing lotteries are recreation-based activities also taking place on the Preserve. Managed seasonal cattle grazing, biophysical studies and research, and impact assessments are non-visitor based (i.e., visitors are not actively participating in) activities taking place on the Preserve at this time. All of the above have been met with very positive feedback.

The VCNP is situated on the Jemez Mountain Trail Scenic Byway (Hwy 4) that runs from its junction on US 550 (coming from Albuquerque) to Los Alamos. Hwy 4 has impressive historical and physical features and attractions, along with national and state forest campgrounds, which help draw visitors and encourage longer stays; this in turn could increase community tax bases. The Preserve's proximity to Bandelier National Monument is a benefit that should be taken advantage of due to its high visitation—by both individual travellers and bus tours.

One of the few drawbacks to increasing the volume and length of visitation on the Byway is the lack of roofed accommodation in Los Alamos and Hwy 4 communities. As of 2004 there are fewer than 200 rooms available to travellers along this route.

Los Alamos is starting to take advantage of its tourism marketability (2000 Market Analysis). For the most part, occupancy availability in Los Alamos is opposite than that of other communities and cities like Santa Fe, where availability during the week is higher than the weekends. Due to Los Alamos'



current business-driven visitation status, room availability is higher on weekends. Both Bandelier National Monument and VCNP are within short drives from Los Alamos, which could be used as a base for multi-day trips and adventures by travellers. Española and Pojoaque should also be considered as marketing partners for visitors. Both communities are within day-trip distances of the Preserve and both have, and continue to expand, fixed-roof accommodations and services, such as restaurants, tours and shopping.

While camping is a very popular activity for holiday travellers, it has been noted in almost every survey ever taken that, on average, travellers whose main interest is in historic and cultural sites tend to have a higher income base. They spend more, are more inclined to stay in hotels/motels, and visit more destinations. The Jemez Mountain Trail Scenic Byway contains a high percentage of historic and cultural features that would interest this particular travel group. This route also provides a good mix of recreation activities (i.e., from fishing to hiking on marked trails or into the backcountry) that could potentially attract this specific group of visitors.

Nature and recreation enthusiasts are also drawn to this area because of its rich outdoor adventure possibilities. Hiking, fishing and camping groups are very popular markets that could also be tapped into by the Preserve. Bus and van tours from Albuquerque and Santa Fe are a key market that should be explored for future programs. These groups are schedule driven, and, once part of the Preserve's program system, could provide an economic base for programming.



SOME SIGNIFICANT STATISTICS

Significance of Byway

- Total byway visitors to the community: 19,022 (8,498 parties)
- Visitation to the community influenced by the byway to visit: 2,054 (10.5%)
- Awareness of byway prior to visiting the area: 63%
- Byway influenced decision to visit the area: 10.5%
- Intended to travel on byway: 76%

Economic Impacts

- Estimated gross receipts (rounded)
 - Lodging: \$1.9 million
 - Food & Beverage: \$1.3 million
 - Recreation: \$611,000
 - Jewellery: \$500,000
 - Artwork: \$334,000
 - Crafts: \$380,000
 - Cultural Activities: \$242,000
 - Other purchases (misc. shopping, gas, gambling): \$1.2 million

Visitation

- First-time: 47%
- Visited Previously: 38%
- Visit Frequently: 15%

Attractions (highest possible score is 5 = very important)

- Scenic beauty: 4.6
- Availability of Historic Sites: 4.0
- Unique Experience: 3.9
- Museums and Cultural Institutions: 3.9
- Archaeological Exhibits and Sites: 3.9
- Memorable Attractions or Activities: 3.9

(from the 2003 New Mexico Scenic Byway Economic Impact Study – Jemez Mountain Trail Scenic Byway)



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Potential Casual Market

There was considerable difficulty in acquiring detailed information on the use of Jemez Mountain Trail Scenic Byway. An unattributed figure of 800,000 vehicles annually using Hwy 4 sounds reasonable given that Bandelier National Monument averages an annual visitation of approximately 300,000. Note, however, that Bandelier is a well-known destination at the eastern end of the Byway and may receive substantial visitation from the east and south by visitors who proceed no further westward. A conservative multiplier of double vehicle occupancy suggests that approximately 1.2 million travelers pass by Valles Caldera every year. An equally conservative estimate of half as residents/commuters suggests that approximately 600,000 potential visitors, at a minimum, experience at least a view into the Valle Grande. This equates to approximately 1600 individuals or 800 vehicles per day.

In 2004, the Preserve served approximately 22 people per day based on 8,000 visitors per year. The planners noted that during the summer, with only the gate open and less-than-inviting signage, at least 10 people drove as far as the staging area hourly just to investigate and inquire about the Preserve. This suggests that curiosity alone would double or triple visitation if the Preserve had experiences to satisfy short-term visitors.

The following speculative table is based on visitation to a site, which provides a high quality experience involving a visitor commitment of less than two hours. Visitors are assumed to have little knowledge of the site and all it offers. With a concerted marketing campaign and adequate experiences, the Preserve could easily become a destination that would significantly alter capture rates.



Assumed Potential Market of Casual Travelers per year = 600,000

Market Capture Rates:	5%	10%	15%
Visitors per year	30,000	60,000	90,000
Visitors per day (even distribution through year)	82	164	247
Visitors per day (high season)*	118	235	353

**assumes 70% capture during 6 month period*



3.3 Existing Audience

The existing audience for interpretation and education is approximately 8,000 people including all recreation users, staff, Native-Americans undertaking spiritual and traditional practices, scientists and other researchers, students including adults upgrading their skills, staff, and other visitors who come for special reasons. These groups can be further categorized by their reasons for being there.

Activities

Recreational Activities (these people come in large numbers and will seek out experiences based on their needs and interests)

- “Alone” and in place – e.g., artists, fishers, etc.
- “Alone” and moving around – e.g., hikers, backpackers, horseback riders, etc.
- “Knowledge” seekers – e.g., local community, tourists, etc.
- “Convivial” groups – e.g., families, tour groups, etc.
- “Casually Curious” – e.g., opportunistic travelers

Spiritual Pursuits and Traditional Practices

- Pueblos
- Others

Education, Training and Skills Development (these people come in small groups)

- Ranching practices
- Forest management
- Natural resource management
- Outdoor recreation management

Site Services

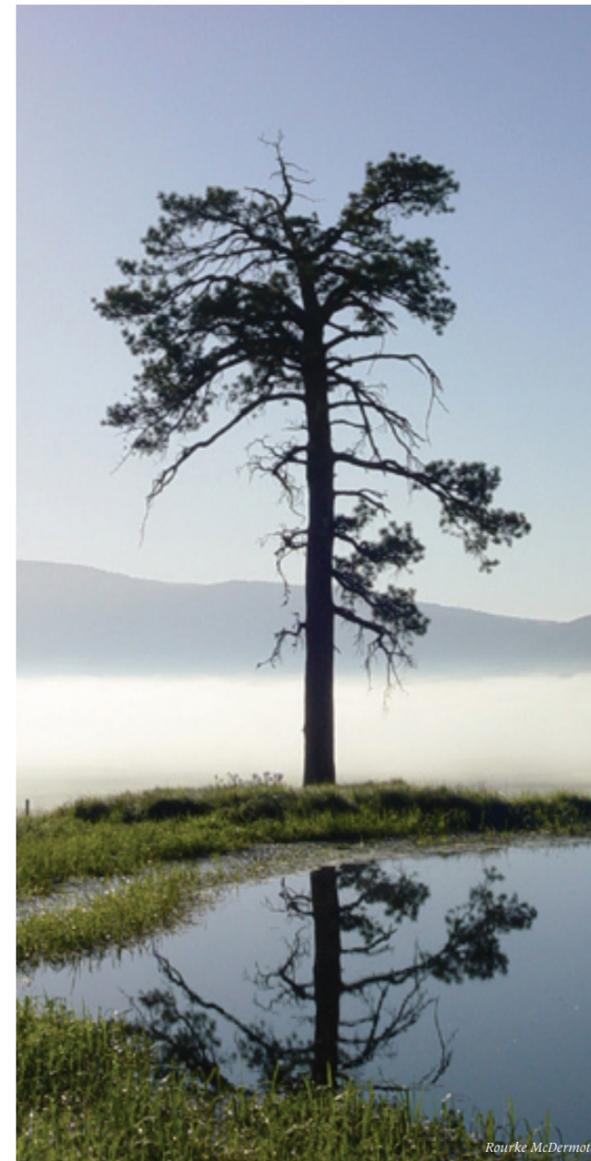
- Staff
- Volunteers
- Scientists

Other Groups with Specialized Needs

- Media, journalists
- VIPs – Political and financial figures, etc.
- Professional peers
- Donors and sponsors

Social or Private Experiences in a Special Place

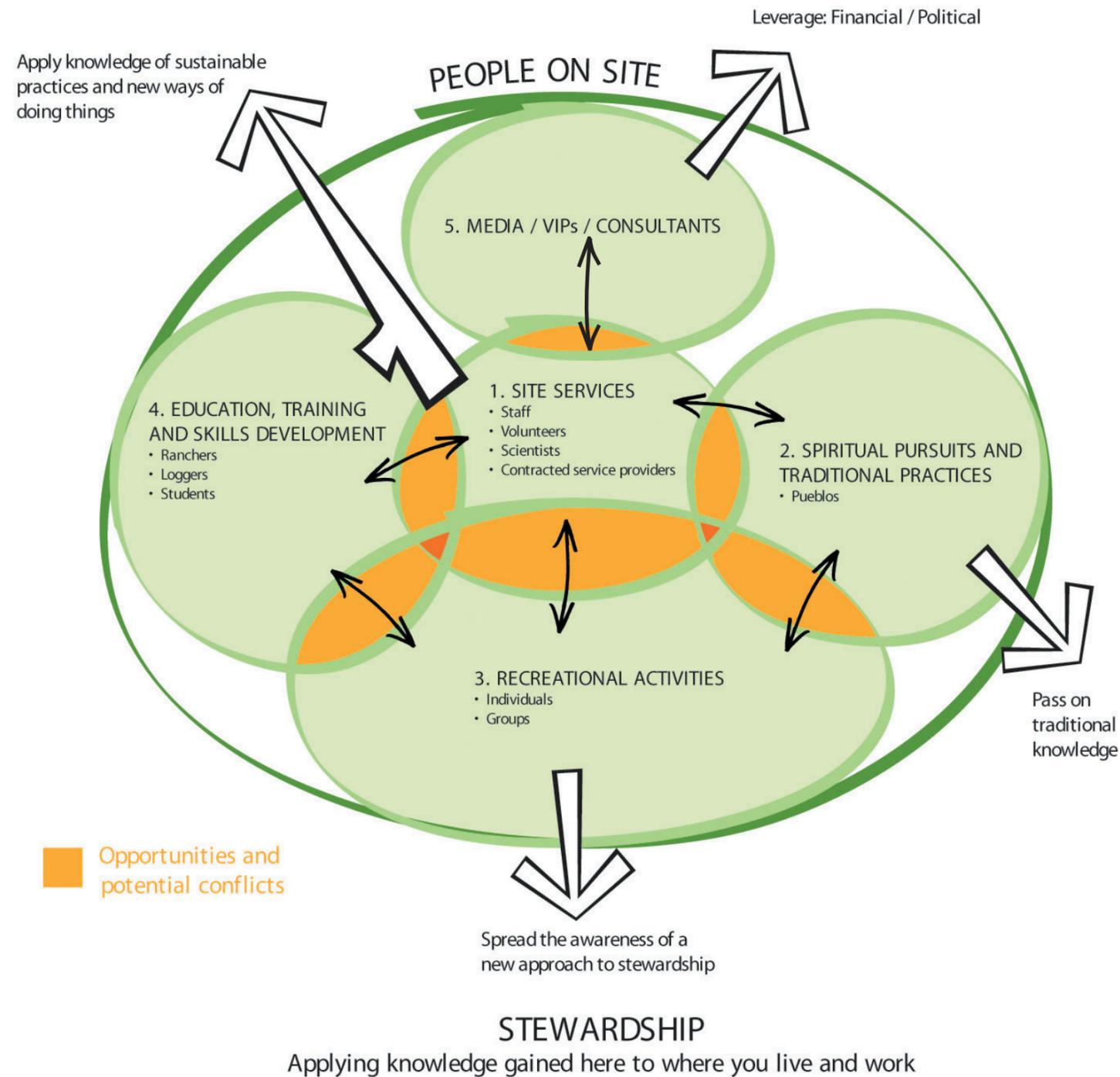
- Solitude: alone or with a minimum of others
- Private: shared with family and/or friends – no intrusion by strangers
- Peers/experts: learning and/or teaching in an outstanding outdoor laboratory
- Organized Groups: shared, controlled experiences including meeting new people
- Social and Open: social context very important - without the structured formality of a tour





Valles Caldera National Preserve

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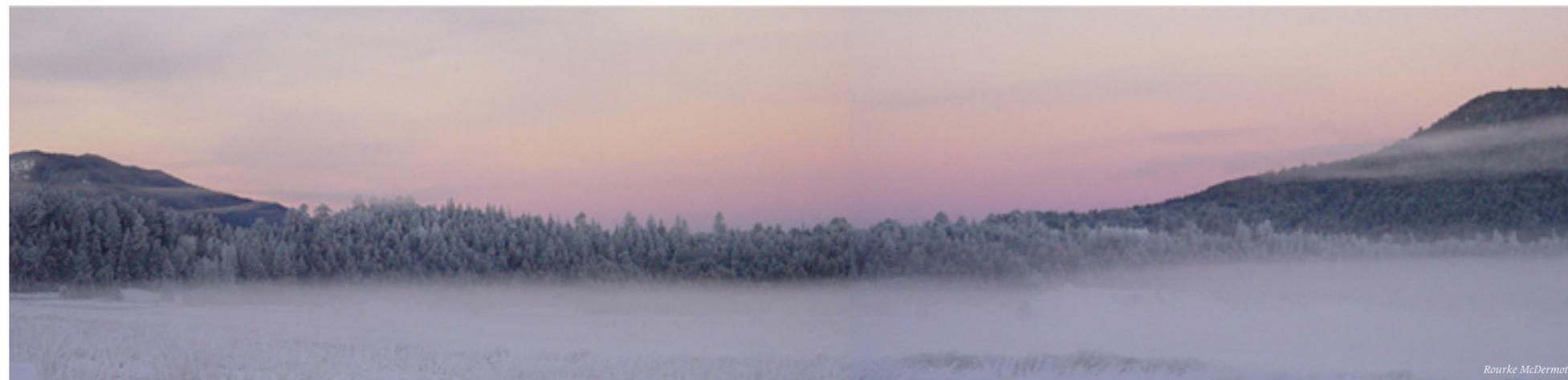
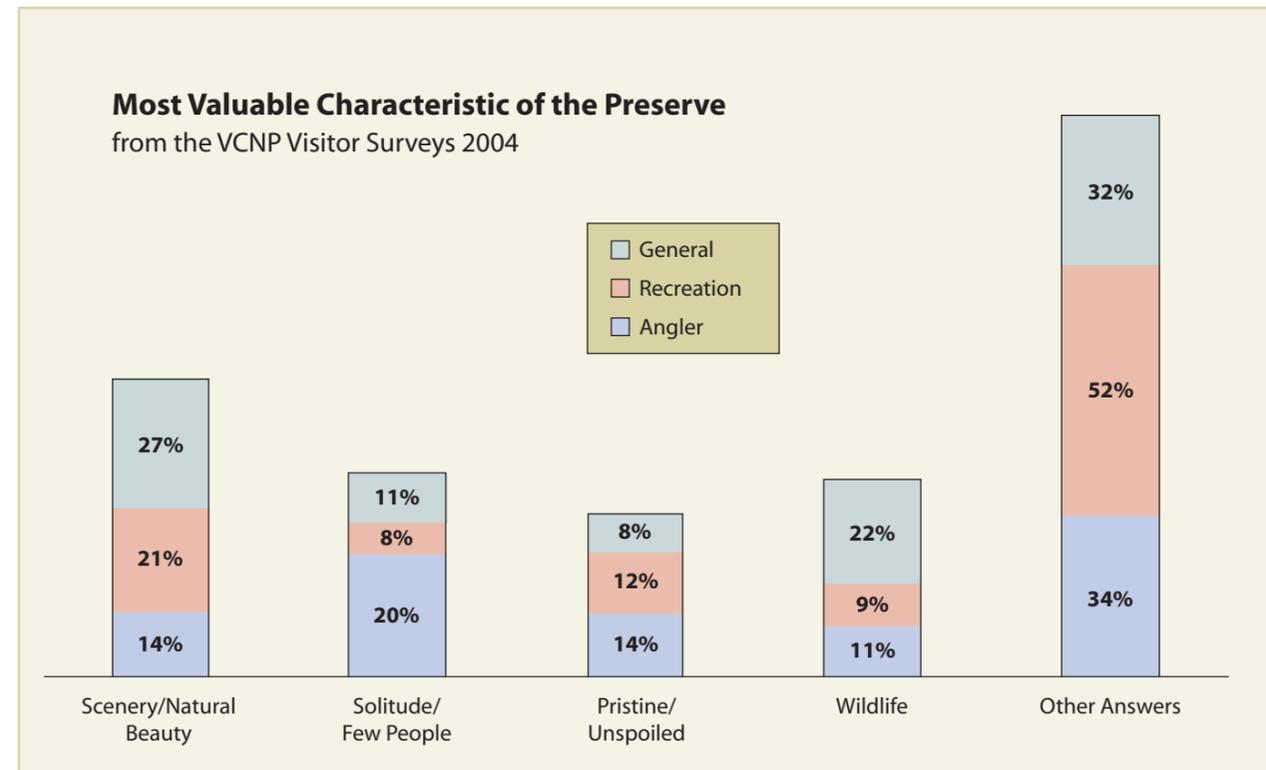
Relationships of Users to Each Other, and to the Outside World

The graphic to the right provides a conceptual model of potential relationships amongst users of the Preserve. Note that opportunities exist for virtually all users to interact in a variety of possible ways. Because of the different activities and experiences that draw people to the site, it is important that these interactions between users are positive experiences for all.

Implications for Audience Experiences

The existing audience for interpretation in Valles Caldera are those who treasure its values to the extent that they are willing to pay for it. A sampling of recreation users (N=99) conducted during 2004 provides some insight into the values they most appreciate. There was a wide range of characteristics listed—only those accounting for 15% or more of the total answers are charted.

Anglers most appreciated the relative solitude provided and secondly, the “pristine” nature of the Preserve. Individuals who completed the general surveys—a much smaller sample—identified wildlife first followed by the natural beauty of the place. A similarly small sample of individuals, who completed the recreation survey, focused on the scenery first. Although both samples from the general and recreation surveys are too small to identify a pattern, it is noteworthy that “solitude/few people” was not identified by either group as a particularly valuable or special characteristic of the Preserve. It is also noteworthy that the Preserve’s privacy values may have been a major draw for many anglers and, thus, this group probably pre-selected itself for relative solitude.



Rourke McDermott



VALLES CALDERA NATIONAL PRESERVE

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4.0 THEMATIC STRUCTURE

What is the single most important idea or theme to be passed on to visitors? How can the other themes be best organized into a structure that is intuitively clear to the visitor? What information should visitors leave with? Answering these questions requires the identification of the main goals, themes, messages, interpretive communication objectives, and storylines—the key elements that drive the development of the master plan for interpretation.

The primary challenge for interpretive communications is achieving three broad objectives commonly identified for interpretation: learning, behavioral, and emotional. Ultimately, the behavioral objectives are most important: How do you want visitors to apply the information you have given them to their own lives?

The key to achieving behavioral objectives is to address the emotional (or attitudinal) objectives in concert with the learning (or cognitive, or intellectual) objectives. There is a tendency for agencies to focus on the cognitive aspects of the experience they provide for visitors. But the emotional connections are most likely to survive in people's minds after the visit and to affect behavior. It is, of course, essential that both approaches and objectives be addressed in the visitor experience. Powerful emotional experiences become part of the brain's limbic system, our chief interface with the outside world. Cognitive experiences provide the intellectual support for those emotions.

The interaction of our emotions, intellect, and actions constitute the essence of human experience. A quality interpretive experience provides all of these connections in a way that offers the visitor with a special, personal and lasting experience of their own. Expressed from the visitor's perspective:

“When a person ‘buys’ an experience, they pay to spend time enjoying a series of memorable events that a site or facility stages to engage them in a personal way.”

Pine and Gilmore, *The Experience Economy*

Los Alamos Historical Society



4.1 Goals and Objectives

Maximize impacts on the site's users... hearts, minds & behaviors

Minimize impacts on the site... environmentally & experientially

Proposed Goals:

The visitor will appreciate and understand the complexity and significance of Valles Caldera National Preserve and Jemez Mountains Region cultural history.

The visitor will experience and come to value our forests and grasslands as living, evolving ecosystems that support many forms of life for many different purposes.

The visitor will appreciate and understand the complexity of ranching and managing rangelands in New Mexico—a history that needs to be told.

Interpretive Objectives are specific and measurable. Either they are accomplished or not, and evaluation should focus on determining this. Some interpretive planners advocate the division of objectives into three categories: learning, behavioral and emotional, which can lead to the best interpretative results. However, the learning and emotional objectives are critical tools for meeting the behavioral objectives. For example, VCNP objectives could include:

Visitors will appreciate the beauty and important resources that are managed in the VCNP.

Visitors will be able to name five kinds of animals that depend on the transition zones between grasslands and forests.

Visitors will grow native plant species in their yard.

4.2 Themes, Messages and Stories

The **Theme** is the central and most important idea for any site and its interpretation. It is usually expressed as a short phrase (some advocate a complete sentence).

Draft Overall Theme

VCNP is a bold experiment in managing a working ranch in a way that offers a broad range of public activities, preserves cultural practices, and sustains ecological integrity.

Subthemes are used as organizing elements within the overall theme, i.e., just a way to get a handle on what is often a complex story.

Messages are simple statements that summarize what must be interpreted to the visitor, and form the basis for objectives, e.g., *responsible grazing management is based on sustainable use of grasslands and water supplies.*

Stories (or topics, or subjects) are the content that forms the body of interpretative programs and media. Understanding the Preserve's stories is an essential prerequisite to identifying themes. This process is circular: initially, content determines themes; in the development of programs and media, themes determine the content.

Non-Interpretive Themes – The themes discussed above refer to interpretive themes, which, in turn, are related to objectives, exhibits, etc. Sometimes non-interpretive themes are used that place more emphasis on attracting the visitor than on the interpretive goals. For example, the Regenstein Journey Across Africa does not hint at the interpretive goals nor do some of the alternatives such as Africa Alive and Safari! These “themes” are sometimes referred to as “hooks.”

4.2.1 How Themes, Messages and Stories are Used

In addition to the documentation of themes, messages and stories found in this section and in the interpretive matrix in the appendix, a map of primary sites for interpreting specific subthemes and stories is included. These combine to provide the raw material for programming. Program themes, messages and stories may be organized in a number of ways:

- Introductory programs, i.e., those that strive to provide an overview of the Preserve and its goals, should incorporate all of the themes and as many messages as are practical to include. Examples of such programs include van tours of the site, exhibits in a visitor facility, outreach programs in neighboring communities and publications.
- Specialized programs, e.g., elk viewing or geology tours, may focus on a specific theme, but should incorporate the other themes as secondary messages. For example, a geology tour may focus on the caldera and obsidian stories, but should also include the cultural significance of this rich source of obsidian, and remind the audience that role of the Preserve is to manage all of these resources in the context of a working ranch.
- Interpretive panels function most effectively if they focus on subjects that require relatively little interpretive text. Generally, one or two stories are highlighted from the theme on each panel. An easy test of the subject's appropriateness is if another interpreter can immediately identify the theme of the panel.
- All themes must be interpreted, but the programming methods can vary; if a program does not focus on specific themes, then it should be assessed as to the appropriateness of undertaking it.

- Themes, and the related elements of subthemes, messages, and objectives, act as a filter for determining how to proceed with interpretive programming.





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The following matrix provides an organization of the storyline for VCNP into subthemes, messages and content:



Subtheme	Subtheme	Subtheme
<p><i>VCNP preserves key components of the human history of the Jemez Mountains.</i></p> <p>Messages</p> <ul style="list-style-type: none"> • Valles Caldera and the Jemez Mountains have special spiritual meaning to the Pueblos and Tribes. • Valles Caldera has been used by Native Americans, especially by those of Pueblo heritage, since time immemorial. • The preserve was once the Baca Location No. 1 Land Grant. • Different groups have hunted in the caldera for countless centuries. • The caldera's grasslands attracted Hispanic and other shepherds and sheep ranchers. • Cattle grazing replaced sheep grazing in the caldera after World War II. • Past logging operations have left their mark on the caldera's forested lands. • The geothermal activity in the caldera once attracted prospectors and researchers. • Hollywood built movie sets in the preserve that capitalized on the caldera's beautiful vistas. 	<p><i>VCNP protects a remarkably diverse ecosystem of great biotic and abiotic significance.</i></p> <p>Messages</p> <ul style="list-style-type: none"> • The Valles Caldera is one of the best examples of a caldera formation in the world. • Volcanic activity over the millennia has created many dominant geologic features in and near the Preserve. • The Preserve's montane grasslands are one of the most dramatic features of Valles Caldera. • Most of the ponderosa pine forests and woodlands on the preserve are second growth, although some old growth stands remain. • Rare plant species of New Mexico are found in the Preserve. • Various aquatic habitats help shape the Preserve's unique landscape. • Noxious weed species have been found in the Preserve. • The preserve supports rich communities of flora and fauna. 	<p><i>VCNP inspires new directions in public land management by serving as an experiment in balancing natural processes with human uses.</i></p> <p>Messages</p> <ul style="list-style-type: none"> • The Valles Caldera Trust was formed to uphold the Valles Caldera Preservation Act. • The Preserve is operated in a manner that honors the history, traditions and ethics of a working ranch. • The values and vision of the trust are based on a ranching ethic. • A central goal of management is to increase the resilience and integrity of the preserve's ecological systems. • The Preserve is accessible by the public on a limited basis. • The Preserve's goal is to be a successful model of integrated land stewardship demonstrating the balance of ranching, recreation, cultural preservation, sustainable use and financial self-sufficiency.

Human history of the Jemez Mountains



Los Alamos Historical Society



Don J. Usner



VCNP

Diverse ecosystem



Don J. Usner



Don J. Usner

New directions in public land management



Don J. Usner



VCNP

5.0 CHALLENGES and STRATEGIES

5.1 Planning Approach

The potential variety of users—recreational, scientific and resource management—has major implications for planning. The challenges addressed in this section include:

- Integrating “working ranch” experiences for users
- Opportunities for interaction—this will need to be carefully planned in order to avoid conflict
- Viewing corridors—the physical beauty and rich views are important site values that must be maintained
- Experiences—an enormous range of experiences are possible on site, but which ones are appropriate, affordable and sustainable?
- Time required (for experience)—what is the appropriate ratio for extended experiences versus shorter experiences?
- Where on site (location)—how can the high quality solitude-based experiences be provided at the same time as group experiences?
- Infrastructure—what level of services and facilities are needed?

5.1.1 Evaluation of Experience Possibilities

A significant result of the project workshops was group direction on ways that experiences could be provided for users. The goal of the workshop exercise was to determine the means by which the Preserve can meet and satisfy the needs of users who have different reasons for being there and different interests, knowledge and learning styles. The results are summarized below together with a few examples. The complete results of the experience workshop are included in Appendix C.

Off-Site & On-Site “Information”

There is a clear need for information. Most of what is required begins with orientation (i.e., answering questions such as: Where am I? What can I do here?). Meeting various information needs can be achieved through website information, advertising, brochures at information centers, maps, books, site orientation and highway signage.

Interpretation for Meaningful Connections

This is the broadest category of experiences because these interpretive experiences are typically presented to a volunteer audience of whom we know little about.

Experience Stories Through Media and Built Environments

Some users are most comfortable learning through the use of physical aids, such as media. To reach these audiences, interpretation needs to provide opportunities to:

- Build and use appropriate environments to reinforce experience, e.g., themed play area for kids

- Learn remotely through technology, e.g., watch a video on caldera formation
- Preserve experience through purchased mementos, e.g., buy art that reminds them of their experience

Active On-Site, Real Time Experience

Many users will be seeking real experiences in a real place. These can be achieved through:

- Onsite interactive educational experiences, e.g., topic-based tours
- Northern New Mexico heritage experiences, e.g., be a cowboy for a day

Unguided Personal Experience

Other users will favour a do-it-yourself style of learning experience, through:

- Solitary sensory experience of nature, e.g., hear an elk bugling while alone

Included under this category of experience are Pueblo native practices, which provide opportunities for religious and cultural activities

Hands-On, Adaptive Management Education: Two-way

In keeping with the Preserve’s mandate, users may also be drawn to the site for very specific purpose

Development & Sharing of Personal Working Knowledge

- Participate in the ongoing sustainable working landscape of the Jemez Mountains, e.g., real cowboys interacting with visitors or visitors participating in biological research

5.2 Challenge #1: Enhancing VCNP operations to complement interpretive goals

Challenge:

Interpretation is often the mandate of recreation, which “works around” scientific and cultural activities (ranching, archaeology, etc.). This approach has issues particularly for visitors who may feel shut out of the real thing. The Preserve strives for a better model but, as is commonly the case, has problems acquiring information in a timely manner, and lacks dedicated space and time to efficiently get together.

Strategy:

To share goals in:

- Achieving individual objectives
- Assisting objectives of others
- Providing public experiences
- Attaining economic sustainability

Recognize that everyone needs to get work done efficiently. Assist individuals in looking for ways to involve the public in getting the work done and disseminating the results of that work.

- Identify or create a new staff position with the responsibility to collect stories from the people and events on the site and make sure that they are communicated broadly.
- Develop an operational approach that underscores collaboration and cross-fertilization of disciplines and roles within the organization.
- Support staff and volunteers getting together regularly to understand what is happening within the organization.

- Provide staff and volunteers with training in dealing with the public and interpreting the mission, messages and stories of the organization and place.
- Incorporate the public in accomplishing as many roles as possible.
- Form partnerships with surrounding groups and organizations that can assist in providing interpretation and spreading the word about the mission, messages and stories of the organization and place.

All disciplines should focus on what they can provide for the other users...providing added value to each activity. For example:

- Science could provide opportunities for the visitor to participate in field studies; researchers who apply to work in the Preserve should include how they propose to incorporate or provide benefits for other users.
- Archaeology should accept volunteers or paying individuals to assist in research.
- Ranching could include the cattle-owners or paying visitors as cowboys.
- Recreation should provide tours/hikes/overnight stays for those who come for education, training and skills development or as part of other projects.

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5.3 Challenge #2: Reduce On-site Conflicts Among Users

With the mixed goals for the Preserve and the numbers of users undertaking a wide range of activities on-site, there is potential for conflicts. These conflicts may be broadly categorized as:

Environmental: potential risk to scientific research, wildlife disturbance, vegetation, water

Archaeological: potential risk to important historic/prehistoric sites

Functional: potential interference with ranching operations, and in the future, possible timber operations

Aesthetics: solitude and/or privacy could be disrupted by views or interactions of others

Economic: busy site would detract from uniqueness of experience which could result in disinterest in activities that produce revenue but are similar to those available free or at significantly lower cost in National Parks or National Forests

Religious/Spiritual: potential disturbance of area (Redondo Peak) sacred to Pueblos



Access and activities without conflict can be achieved through space (zoning), through time (scheduling) or through a combination of these. Different times, locations and capacities could also be considered for overnight stays (if these are implemented) versus day use.

Theoretical zoning criteria by space, time and capacity.

1. SITE-SPECIFIC ACCESS ZONES:

- No entry
- Limited entry
- Guided entry only
- Full entry

2. CAPACITY ZONING:

- Low, moderate and high intensity

3. SCHEDULING:

- Overnight stays vs. day use
- Seasonal

Develop a plan that lays out the “absorption” / “level of use” zones that can provide guidance for future decision-making on level of public use. Very few areas will be no entry; some will require a guide in attendance; others will only require clear instruction and orientation for the user.

Continue the current program development approach that separates diverse uses through careful scheduling and spatial distribution.

Conceptual Space and Capacity Zoning

Low: The Valles

Valles are zoned for low capacity as a result of their views. Anything that is going on in the Valles can be seen by anyone standing on an edge or viewing from afar.

Medium: The Forest Edges

The more densely forested southwestern area with its significantly smaller grassland areas and fewer viewpoints provides the opportunity for more group activities and/or special events. Clear areas are primarily forested and suitable for moderate use particularly along the forest edges. Prospect / Refuge Theory indicates that this is the best zone for circulation and observation; one can be seen without being seen. An important caution to this is, however, that a number of these edges are also Elk Refuge Areas, which should be skirted wherever they occur.

High: Selected Areas

These would be areas that are out of direct view of the visiting public and do not conflict with ecologically sensitive areas (e.g., a number of the pads in the Redondo Creek area; parts of Banco Bonito; the edge of the Valle Grande where it meets Highway 4, etc.)

Conceptual Time Zoning

Rotation of Use by Area

Rotating specific areas for different activities would provide new experiences for repeat users without compromising the number of users who could be accommodated. In the case of overnight accommodation, for example, if the tent pads or yurts were moved to different locations on an annual or biannual basis, the impact on the original site(s) would be mitigated and new experiences would be available for repeat users. This model—borrowed from the ranching ethic—would also see certain areas taken out of use entirely for significant periods of time (e.g., one to three years) to allow it to recover.

Special Events

Special events could eliminate conflicts by closing an area to other uses for the event’s duration, usually a day or two at most.

Seasonal Zoning

At present, seasonal zoning already occurs at a basic level with regard to cross-country skiing in winter versus other uses in summer. The Preserve is annually closed to most other uses during the elk-hunting season. This model could be used for other purposes, e.g., more biking, hiking or equestrian travel in the spring shoulder season or on specific weekends.

An exception to this broad zoning scheme could be the Historic Ranch District, which has a history of people living in it and could be considered for more intensive use on an occasional or regular basis, e.g., hayrides combined with chuckwagon dinners.



5.4 Challenge #3: Address Socio-Economic Barriers

While some free entry opportunities are currently offered, the Preserve is sometimes perceived as “too expensive” for certain groups. The challenge is to offer a range of activities without undermining the quality of experience.

Strategy:

Recognize that the interests and needs of the local communities, or “neighbors,” are different from those of “tourists.”

1. Provide opportunities for lower income participation in diverse activities that do not detract from the ability of the Preserve to support itself.
2. Develop affordable overnight accommodation so that regional users can participate more easily in activities (e.g., trail riding).
3. Develop communications methodology that does not solely rely on the Web.
4. Develop programs, activities and roles that respond to the needs of “neighbors.”
5. Host community-focused special events emphasizing informal gatherings and shared experiences.



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5.5 Challenge #4: Broaden Appeal of the Preserve's Offerings

Overview

Current interpretation occurs in a number of ways, primarily focusing on natural values and settings:

- Users are transported to their recreation areas and receive interpretation as part of the trip to and from the area—e.g., hikers and anglers
- Dedicated interpretive events focus on interpretation throughout the tour—e.g., van tours and special tours
- Special tours, such as elk viewing, receive interpretation integrated with elk-specific information
- Others who are largely self-directed receive some interpretation as part of their orientation to the site—e.g., elk hunters, horse riders, cyclists
- Travelers who stop at one of the Hwy 4 pullouts receive some limited interpretation via graphic panels

These staff-and-volunteer-intensive interpretive events reach most visitors to the Preserve; excluded are those who use the free trails. The low numbers of users—somewhere around 8,000 annually—reflect a careful approach to using the site for recreation, based on conservative capacity limits and close control of user movements and actions. The only users who may freely move around the site, within their designated areas, are elk hunters.

The primary audience at present for interpretation is New Mexico residents who value personal or private experiences in an apparently pristine environment. To some extent they can be categorized into three broad, overlapping groupings: those who are drawn to the site by its special resources (e.g., elk hunting and high quality fishing); those who are willing to pay for personal or private experiences in nature; and those who are acquainted with the site as the Baca and are curious. If this categorization is accurate, these audiences may be expected to change over time:

- Elk hunting and fishing should continue to attract users as long as the resource is of continuing high quality.
- Visitors seeking private experiences in nature may decline unless a greater variety of experiences is made available.
- Curiosity-seekers will decline in number as their curiosity is satisfied.
- Lack of overnight experiences will deter visitors from more than two hours away.

Why People Don't Come

Visitors from outside the state: most will be unfamiliar with or unaware of VCNP and what it has to offer.

Highway travelers on fixed, tight schedules: not in the area long enough to commit to the longer activities.

While these users are presently not served well, it can be expected that they will be a significant-to-major audience in the near future as the Preserve moves towards financial sustainability. An important characteristic of both audiences (many times they are the same audience) is that they may come to the area with little or no knowledge of the Preserve and with only limited available time for a visit. At present, the

Preserve can only offer them two hiking trails and some signage at pullouts along the Valle Grande.

Strategy:

To provide for a range of experiences:

- Increase exposure to message
- Attract new audiences
- Serve economic goals
- Develop activities and programs that are coupled with real learning and a special experience of the place; each experience becomes one of “intention,” not “convenience” or “whim”
- Ensure that there is niche differentiation from surrounding offerings
- Recognize that the Preserve doesn't need to be all things to all people.

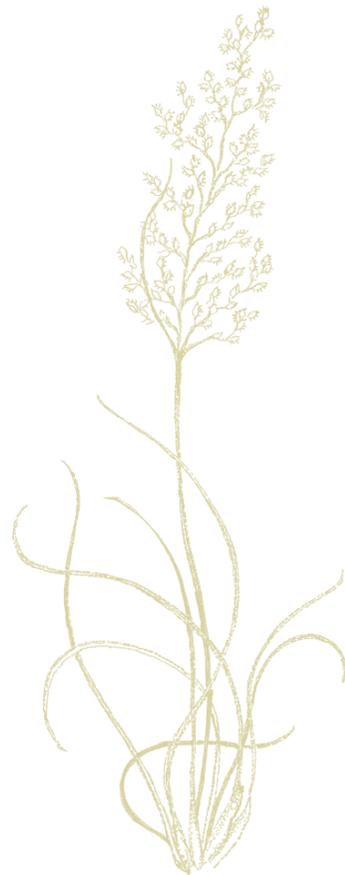






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5.5.1 Personal Programming

Personal programming happens both indoors and outdoors. Current programming generally follows traditional formats for guided events and does an excellent job of achieving interpretive objectives. The limitation of this or any style of personal interpretation is that it restricts participation to those who are comfortable with this style of free-choice learning.

Specialty tours offer expert-led tours; these are well-received and should be continued.

Additional interpreter-led group experiences could be offered with or without expert leaders, for instance:

- Equestrian guided rides
- Birding tours
- Archaeological digs
- Biking tours

Living history-based programming could be very well-received by users. This could take the form of first-person Interpretation (costumed role-playing) or third-person interpretation (costumed). This would bring the cultural history and on-going ranching story into a closer balance with the natural history of the Preserve in terms of subject matter for interpretation. Service Learning (on the job training) is currently taking place, and should continue to expand in scope.

As is the current intent, continue to encourage local communities to provide interpretive services regarding the traditional uses of the landscape. It is also desirable for some of the interpreters to be of Hispanic or Pueblo origin.

Encourage partnership arrangements with community groups for VCNP programming and community partnership ventures that use VCNP as a venue.

5.5.2 On the Site

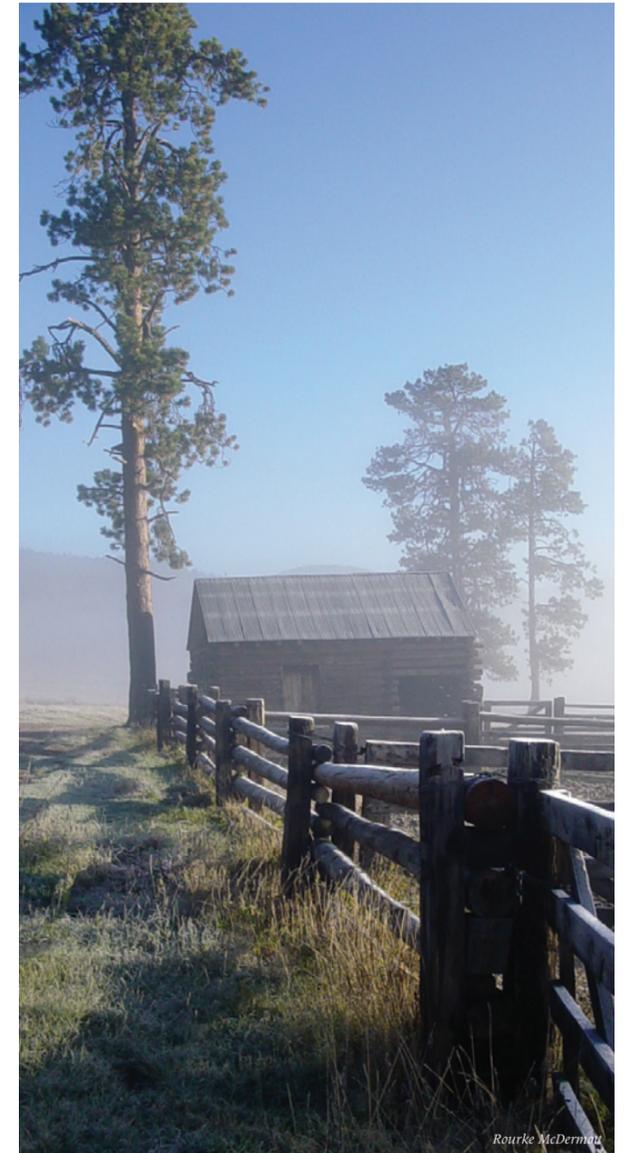
5.5.2.1 Graphics/Interpretive Stations

The term “graphics” is used to describe interpretive signs; “interpretive stations” refer to collections of graphics often displayed in a kiosk or platform and sometimes accompanied by 3-D objects or sculptures, or are directly associated with viewpoints, historic structures, or similar “real” things.

The present graphics used at the viewpoints along Hwy 4 should be replaced with graphics that better interpret the Preserve, its values and goals. This will probably entail three or four graphic panels, which could form a low aspect interpretive station if mounted on a low structure made of materials appropriate to the site and setting.

We do not consider that graphics or interpretation stations have a large role to play in the Preserve—particularly not in such a way as to be viewable from afar. Exceptions include structures, e.g., ranch buildings, San Antonio cabin, and movie sets, which could have graphics identifying their history and use, mounted inside the building.

All graphics should follow the ranching theme in design as should all interpretive stations and structures.



Rourke McDermott

5.5.2.2 *Overnight Accommodation*

Overnight accommodation on site could achieve a number of objectives:

Satisfy visitor requests. Existing recreation users have specifically identified the desire for accommodation as a means of enriching what otherwise is a short-term activity.

Enhance experiences. The depth of experience gained when it is possible to stay in a beautiful environment provides an immersion in place; visits based on only a few hours are often transitory in our memories.

Achieve interpretive goals. Establishing a “sense of place” is always more effective when the visitor has had the opportunity to experience the place alone and in context.

Valued-added recreation. Significantly higher revenues are generated by overnight accommodation than by short-term tours.

Increase return visits. If overnight accommodation is incorporated into extended touring experiences then users may return to complete the entire route over time.

Overnight accommodation can stand on its own as a value-added feature of any other experience on-site (e.g., fishing or hiking) and could be provided using existing facilities, such as the lodge in the Ranch HQ, bunkhouse along Redondo Creek and San Antonio cabin. An overnight visit could also form the core of extended experiences, such as hut-to-hut skiing, a caldera rim trail for hikers, or simply a night stay at the end of an existing hike or tour.

Implementing the latter option would require accommodation to be provided at other locations on the site. This could range in scale from simple tent platforms (in order to confine camping to specific locations), to small huts or cabins, to larger structures that could accommodate up to 12 people.

Considerations for overnight accommodation include:

- Size and aesthetics should be consistent with “working ranch” in the high-altitude, New Mexican context
- Siting, or location, should be out of the viewshed, and away from archaeological sites and important wildlife areas
- Means of access
- Wood smoke drainage into Valles
- Reversibility / portability: no structure should be put in place that cannot be easily removed

Opportunities:

- High-end individual / small groups
- Retreats
- Educational overnights for students and conferences
- Astronomy, bat surveys and other nocturnal research



5.5.2.3 *Social Events*

Special events, currently offered within the Preserve, include fly-fishing, adult and children’s fishing clinics, elk hunting and bugling seminars, and the 2004 bike-touring day. Opportunities exist for events that are primarily social in nature. Comments from local community individuals suggest there is less interest in specific activities than in having the chance to visit “the Baca” and exchange stories with others for whom this place has been, in some way, part of their lives or their parents’ lives.

Such events would attract many potential users, including those working on the site or there for educational reasons, as well as people who simply wanted to spend some time in this special place.

Social events could include:

- Hay rides
- Chuckwagon dinners
- Cultural celebrations
- Musical festivals

These could be combined into a single event or could be held at regular intervals. This is also a value-added opportunity with significant potential revenues. The Ranch HQ is probably the best location for these events, but other locations (e.g., an interpretive center or an open area in the southwestern portion of the Preserve) could also work.





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5.5.3 Facilities

Casual Visitor Needs

Our audience can be split into two basic groups: dedicated visitors who have extended time available and are prepared for recreational activities, and casual visitors who are likely on a restricted schedule and unprepared for extended experiences on the site.

The smaller dedicated audience is presently well served by programs and personal interpretation at the Preserve. These people would include ranchers, hikers, skiers, anglers, and others who have made arrangements ahead of time and are relatively well-informed about the Preserve.

Casual visitors, on the other hand, have very limited time for their visit. Many will have never visited the Preserve before. Most will have only a vague idea, if any, of the Preserve's experiential offerings. In many cases they will make a spontaneous decision to stop, because the power of the site has stimulated their interest and curiosity. With a limited time frame available and minimal personal preparations, it will not be practical for them to enjoy extended experiences on the site. A mix and intensity of media is needed for them in order to provide an adequate introduction to the story of the Preserve and a vicarious adventure.

Different interpretive techniques are required to meet the needs of the casual visitor; techniques that differ from what the Preserve is offering to the dedicated visitor at present. With the casual visitors' limited time horizon and "softer" commitment, the most effective interpretive methods are those that quickly communicate content beyond simple facts and figures while using technical and complex combinations

of media. Content that involves the complexity of environmental issues, and their underlying processes and meaning, for example, is unlikely to be well communicated with simple text and graphics to an audience unprepared to read a book on the matter. With indoor environmental controls, these interactive technical communications' solutions can be considered.

Media appropriate for outdoor interpretation is limited to text, graphics, and personal interpretation. Although kiosks and other durable shelters can be used outdoors as small interpretive nodes, exposure to natural elements and their sometimes remote locations limit the use of technical media solutions. Audio visuals, for instance, need the protection provided by indoor facilities. This is also true for artifacts or props, which rapidly degrade if outside without expensive forms of enclosure. All electronic media and electrical/mechanical interactives require power, an expensive option to provide outdoors. Even simple graphics and text need to be fortified to withstand vandalism, UV degradation and temperature changes for outdoor use.

This situation results in three issues unique to dealing with casual visits:

1. VOLUME

A high number of casual visits translates into a higher environmental impact, unless visitors are controlled and concentrated appropriately: parking should be organized and adequate, and located in an area that minimizes visual and environmental impact; security of circulation should be maintained, so access to the overall site is limited; and, an adequate number of restrooms needs to be provided.

2. TIME

Because a casual visitor has limited time available, he or she will be looking for experiences that communicate the big picture as quickly as possible. Any communications' program should convey the big picture and make emotional connections across a wide range of knowledge levels, ages and cultural backgrounds. The necessary mix of technical media to achieve this requires indoor environments for operation.

3. PREPAREDNESS

Most casual visitors to the Preserve will be unprepared for outdoor pursuits or physical activity. They will, therefore, need to experience the Preserve vicariously. If they do want to experience the Preserve during their stay, they will be ill-prepared for walking any distance. Many will require handicapped-accessible walkways and short looped trails. Our goal is universal access; we must examine all our facilities to achieve this. Who is "our"; is the goal of "universal access" the Preserve's goal?



Possibilities for Indoor Experiences

Many powerful interpretive techniques are only applicable in indoor settings because of their requirement for temperature and light control, and shelter from the elements. The range of indoor interpretive media suitable for effective and timely communications with a casual audience include:

- Multimedia theatrical presentations
- Cultural artifacts
- Interactive computers
- Electro-mechanical interactive devices
- Assorted natural materials and tools for observation
- Dioramas and recreated immersive settings
- Artwork
- Lab or craft skill demonstrations

Environments for Interactive Exploration



Multimedia Theatrical Presentations for Emotional Impact





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Dedicated Visitor Needs

For casual visitors, messages must be communicated quickly and in comfortable surroundings. For the dedicated visitor the challenges are quite different. Because the purposefulness of any extended visit is the result of previous awareness and interest, basic content and orientation likely will be unnecessary. More sophisticated information, which is responsive to individual interests and suited to higher levels of knowledge, will be necessary.

Dedicated visitors will come relatively prepared for physical excursions. Their expectations and demands for service will be higher than the casual visitor's, and their interests more targeted. Anglers will have high expectations for uninterrupted solitude and fishing success. Campers will expect functional services unrelated to interpretation. More "face time" will be required of staff for the dedicated user, and there will be requirements for overnight parking, transfer of vehicles for tours, and storage of equipment. A longer time on site means an appreciation of pre- and post-visit amenities including spaces to meet to share experiences, restrooms with changing facilities, and meeting spaces for orientation and debriefing.



Planning Strategies for Built Interpretive Facilities

Five issues need to be addressed in order to serve the needs of both casual and dedicated visitors groups, and the needs of staff for operations:

1. LOCATION AND SECURITY

There are two goals for locating any visitor facility on the Preserve. First, the visitor facility needs to be restricted to the periphery of the site in order to minimize its environmental impact and subsequent visitor impact. Second, it needs to be situated in such a way that access to the rest of the Preserve can be controlled. The further away the visitor facility is from the periphery (i.e., the closer it is to the Preserve's nucleus), the more difficult or expensive it becomes to limit access. Third, a location along the highway takes advantage of the Valle Grande vista's "stopping power." At this point in a casual visitor's journey, there is the highest motivation to stop and investigate. This decision point is the appropriate moment to provide directions and a "front gate" to any interpretive facility.

2. CONCENTRATION OF FACILITIES

The environmental impact of the casual public is to be minimized, yet the volume of short-term visits will be dramatically larger than at present. At the same time, operation of any visitor facility should be as efficient as possible.

Combined, these factors justify a physical concentration of interpretive experiences for both the casual and dedicated audiences, where the visitor facility also functions as a space to prime dedicated visitors and disburse them onto the site. Overall, the facility should be a "hub" for visitor orientation, interpretation and organization.

3. AMENITIES AND OPERATIONS

The requirement for the Preserve to operate on a sustainable basis in the future will demand that revenue opportunities are exploited and efficiencies of operation realized. Concentrating operations related to organization and handling of casual and dedicated visitors will contribute to controlling costs of running the facilities. Visitors can contribute to the revenue side of the operation if there are services or products they can pay for during their visit. Provision of food services, a gift shop, and the opportunity to sign up for tours, events and other dedicated visitor offerings are some examples. The key to the success of these amenities is the volume of casual visits that can be efficiently processed and the quality of the choices.

Interpretive components and visitor amenities would include:

- Adequate parking for day use and overnight security
- Shelter and lobby space for assembly of group
- Reception and information desks
- Gift shop and retail
- Food services
- Exhibits area
- Temporary exhibits area
- Interactive classroom areas
- Multipurpose auditorium/theater space
- Restrooms
- Administration
- Temporary tour vehicle parking and transfer
- Short loop trail for casual visitors
- Lounge/meeting area for dedicated visitors

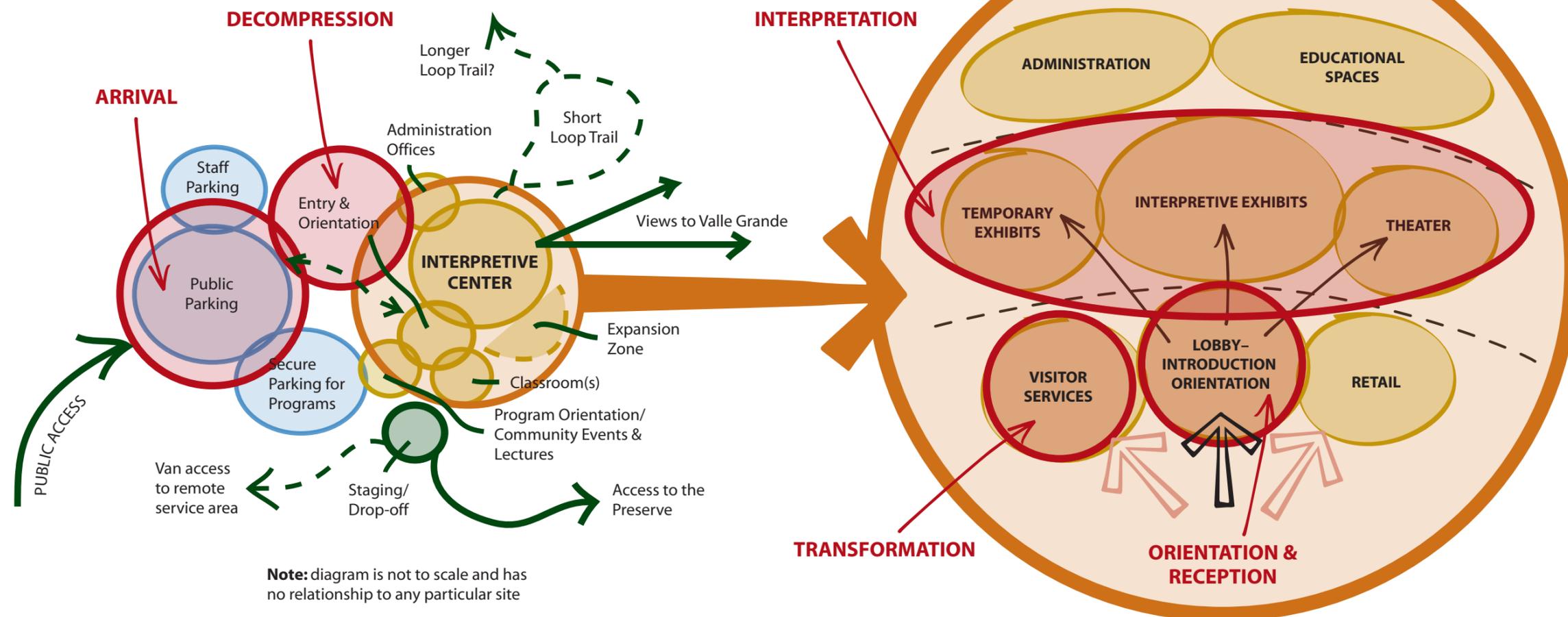
The optimal relationship between these components can be shown in the following diagrams:

Optimal Interpretive Facility Arrangement and Approach

This diagram shows the sequence and adjacencies of the functions normally provided at an interpretive facility. These relationship bubbles also include the need to control access to the site offerings for the more dedicated audience, and the provision for a limited site experience for casual visitors. These sequences and adjacencies have a very important impact on the functionality of the facility and the site, and on the visitor experience.

Optimal Arrangement of Internal Functions

Visitor flow within an interpretive facility should be considered as a series of access layers. The first layer would include all those amenities that visitors do not pay for. Access beyond is restricted to paid customers and staff. The last layer would include back-of-house functions and areas restricted to staff or special groups that require special access.



Note: diagram is not to scale and has no relationship to any particular site



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Ideal Sequence of Experience

The workshops introduced an idealized sequence of experience that planning should strive to achieve. This sequence is referred to by the acronym “ADROIT” and includes the key components that provide a satisfying, enjoyable experience. This sequence list is annotated with definitions and with implications for services and infrastructure:

Arrival—plan and find your way to destination (interp facilities)

Decompression—collect your thoughts and leave the travel behind (interp facilities)

Reception—obtain tickets, your first interface with staff/volunteers (interp facilities, some programs/exhibits)

Orientation—find quick answers to how, where, when, what questions; information (interp facilities, programs/exhibits)

Interpretation—interact with methods of delivering messages/themes/content (interp facilities, programs/exhibits)

Transformation—say good-bye; make decisions based on your experience and/or share your experience, which may lead you to do other activities related to the experience and/or plan to come back (interp facilities)

4. AESTHETICALLY AND ENVIRONMENTALLY “SENSITIVE” DESIGN

Interpretive facilities can communicate some of the story through architecture and reflect many of the values of the Preserve. The building and its constructed landscape can aesthetically blend into the site and work to reinforce the visual experience

of the landscape. The design of the facility can also be completed in an environmentally sustainable manner as an example of “walking the talk.” Given the environmental goals of the Preserve, the design of any building on the site should convey examples of sustainability, providing interpretive content for the visiting public about how they too can walk more “lightly on the land” by taking these design lessons home.

Some examples of aesthetically-appropriate and sustainably-designed interpretive facilities are included here:

Appropriate to the Landscape

Rogers Pass Visitor Centre, British Columbia

Serves visitors to both Revelstoke and Glacier National Parks in Canada. The building simulates a CPR avalanche shed and settles nicely into its mountain context. Visitors are oriented to the Parks and learn the construction story of the CPR and previous battles with avalanches in Rogers Pass.

Local Architecture

Moose Visitor Center and Jenny Lake Visitor Center, Grand Teton National Park, Wyoming

Both facilities reflect the wood structures that are traditional construction materials in the area. Moose Visitor Center uses height to capture a sense of the dramatic landscape. Jenny Lake Visitor Center is a log cabin in design.



A Non-Building Hidden in the Landscape

The Naturealm Nature Center, Akron, Ohio

The nature center uses an earth-sheltered structure to moderate interior temperatures and its non-building concept emphasizes the site experience for the visitor.



Metaphor for Mammals in a Desert

Anza-Borrego State Park Visitor Center, Borrego Springs, California

A stone structure and a partially buried setting help the center remain cool in the desert heat. Most mammals are hiding in burrows or shady locations during the heat of the day—the period of highest park visitation by people.



Recycling

Grant-Kohrs Ranch National Historic Site Visitor Center, Montana

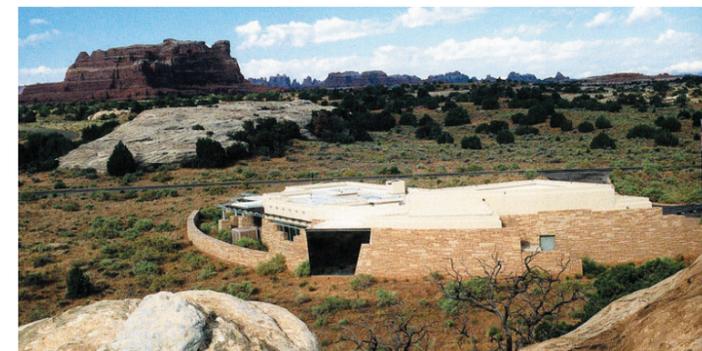
The visitor center is a renovated granary lending authenticity to the visitor experience. This photo shows it in 1935 performing its original role.



Old Design, Modern Technology

Needles Visitor Center, Canyonlands National Park, Utah

The contemporary design for an outdoor setting draws on 150 years of architectural history. Modern technologies and materials are applied to a traditional form in a way that honors the spirit of place and culture.





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5. FACILITY SIZE

The appropriate size for an interpretive facility is driven by the predicted volume of casual visitors, their expected length of stay and special program requirements for dedicated users. Casual visitors can be expected to stay from a 1/2 hour to 1 1/2 hours at any destination. A significant portion of this time will be spent enjoying the outdoors if the weather permits. The high volume of visits from the casual audience requires adequate space for easy circulation. Dedicated visitors will need less space because their numbers are relatively small, and much more of their time will be spent on site. However, areas for meetings, parking and transfer to tour vehicles need to be large enough to handle dedicated visitor groups during their time at the facility.

To give some idea of the scale of internal public space required for interpretive facilities and their related features, three regional examples are provided in the following table, ranging from small to large capacity. These will provide lessons from others and a context for planning any facilities.



	Small	Medium
Facility	<i>Walatowa, Jemez Pueblo</i>	<i>Bradbury Museum, Los Alamos</i>
Public Galleries	3,600 sq ft	8,000 sq ft
Role	Orientation Information Staging Area Small Exhibit Area Small Retail Area	Orientation Information Staging Area Medium Exhibit Area Small Retail Area Classroom
Fees	Free	Donation
Exhibits	Primarily graphic panels or other wall-mounted exhibits	Graphic panels plus some more complex, free-standing, interactive exhibits, e.g. topo model, small diorama, etc. Mini-theater with space for 20-30 people
Retail	Small – based on wall mounted display cases and/or freestanding displays for clothing - limited selection	Moderate space and selection
Capacity	150 people	350-400 people
Duration of Stay	15 minutes	1.5-2 hours
Staff & Volunteers	4 staff + 0 volunteers	7 full time / 10 part time + 0 volunteers

Large
<i>New Mexico Museum of Natural History & Science, Albuquerque</i>
65,000 sq ft
Orientation Information Staging Area Large Exhibit Area Large Retail Area Theater Classroom Feature
Admission Charge \$11 to \$16
Full range of exhibits possible including a large format theater that seats 1-2 busloads of visitors
Many of the experiences are immersive e.g. explore the jungle of roots and rootlets beneath the surface using large models reflecting the world a prairie dog would see
Large space with enough selection and customized items to become attraction for unique gifts for area residents
3,800 people
2 hours
160 staff + 200 volunteers

Potential Size Requirements for Valles Caldera Indoor Facilities

Estimates for facility size requirements depend on reliable statistics on potential visitation. Acquiring this information proved to be a significant challenge. Only the Jemez Mountain Trail Scenic Byway had reasonably current numbers. Extrapolation was necessary to estimate traffic past the Preserve. The decision was reached to not address this question because the results could be inaccurate and potentially misleading. This need would be met by a comprehensive feasibility study that should be undertaken prior to any public facility decision. A sense of the needs for the public gallery space at an interpretive facility can be concluded from the criteria for visitor experience included in the appendices of this report.

A proper calculation should take into consideration the potential market in detail and include, as part of an overall functional program, a complete analysis of functional requirements for dedicated visitors and administrative functions. The optimal-sized facility could then be analyzed for operational sustainability in terms of costs and potential revenues.





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6.0 IMPLICATIONS & IMPLEMENTATION

The implications of this Master Plan for Interpretation extend far beyond the presentation of interpretation to Preserve users. This section will detail these implications, which naturally derive from the elements of the plan and provide a framework for implementation.

Los Alamos Historical Society



6.1 Preserve Operations and Management

The primary operational implications for the Master Plan is that the Preserve will be more intensively used, feature more complex experiences, require additional staff and volunteers, and need to address the operation and management of overnight accommodation and a public facility.

Additional Staff Requirements:

- Managing, staffing and maintaining an interpretive center
- Managing and maintaining overnight accommodation both central and remote in location
- Managing and staffing additional history-based interpretation at the Ranch Headquarters
- Potentially operating food and retail services
- Expanding marketing to a larger geographical area and niche markets
- Additional patrolling of site and buildings

Additional Operational Requirements May Involve:

- Maintenance of new buildings and renovated structures
- Potentially new road construction and de-commissioning of existing roads
- Meeting Federal/State regulations for accommodation and food services
- More complex financial accounting

6.2 Business Planning

Implementing this Master Plan will involve a substantial capital outlay and significantly increased staff and maintenance costs. In exchange, revenues will also increase significantly. Of the activities currently undertaken or planned for the Preserve, recreation— including interpretation and education— has the highest potential for revenue generation. Revenue would be generated from:

- Expanded site use and revisits as a result of extended recreational options (longer trails, skiing, etc.)
- Expanded visits as a result of new programming and exhibitry at the Ranch Headquarters
- Expanded visits as a result of value-added guided events, e.g. horseback tours, archaeological digs, etc.
- Accommodation, both rustic and upscale
- Interpretive center entrance fees or, if no fees, food and retail sales and additional fee-for-service site use



6.3 Implementation

This section details the elements of the plan, which have been rationalized and discussed in previous sections. They are categorized according to priority based on short, medium, and long term schedules.

6.3.1 Short Term (1-3 years)

Operational

- Conduct a cost-benefit analysis and feasibility study for providing public lodging in the lodge in the Ranch HQ, bunkhouse along Redondo Creek, and/or San Antonio cabin.
 - If feasible economically and operationally, implement of a limited scale
 - Contract out, identify, or create a new staff position with the responsibility to conduct an oral history of the people and events on the site and make sure that they are communicated broadly. Note: an outline of a possible special event that has a supportive goal is included in an appendix to this document.
 - Develop an operational approach that underscores collaboration and cross-fertilization of disciplines and roles within the organization.
 - Facilitate Staff and Volunteers getting together regularly to understand what is happening within the organization.
 - Provide Staff and Volunteers with training in dealing with the public and interpreting the mission, messages and stories of the organization and place.
 - Incorporate the public in accomplishing as many roles as possible.
- Form partnerships with surrounding groups and organizations who can assist in providing interpretation and spreading the word about the mission, messages and stories of the organization and place.

Conflict Resolution

- Develop a plan that lays out the “absorption” / “level of use” zones that can provide guidance for future decision-making on level of public use.
- Continue the current program development approach that separates diverse uses through careful scheduling and spatial distribution.

Community Audience

- Provide opportunities for broad participation in diverse activities that do not detract from the ability of the Preserve to support itself.
- Test providing access to all recreation activities via a lottery-based, low cost, fixed % of tickets which are made available only to the local communities
- Develop communications methodology that does not solely rely on the Web.
- Develop programs, activities and roles that respond to the needs of “neighbors”
- Test hosting community-focused special events that focus on informal gatherings and shared experiences

Interpretation

- Conduct a Feasibility Study and Concept Design for a visitor facility in the Preserve; determine any environmental impacts.

- Hire and train professional interpreters to undertake “Living History” interpretation on-site.
- Assess suitability of current Ranch HQ structures for use in Living History programs, e.g. addition of graphics, exhibits, etc.
- Recruit multilingual interpreters of Hispanic and Pueblo origin
- Test implementation of additional interpreter-led group experiences, for example:
 - Equestrian guided rides
 - Birding tours
 - Archaeological digs
 - Biking tours
- Determine additional forms of Service Learning that can be undertaken.
- Test and evaluate
 - Hay rides
 - Chuckwagon dinners
 - Cultural celebrations
 - Musical festivals
- Replace present graphics used at the viewpoints along Hwy 4 with graphics which better interpret the Preserve, its values and goals. Will probably entail three or four graphic panels per site which could form a low aspect interpretive station if mounted on a low structure made of materials appropriate to the site and setting.
- Determine potential for additional interpretive graphics inside existing structures, e.g. ranch buildings, San Antonio cabin, movie sets, etc.





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6.3.2 Medium Term (4-6 years)

Operational

- If test implementation of overnight accommodation in existing structures is successful, (for example, no significant operational or environmental impacts; revenue generating), implement as full program
- Determine economical and operational feasibility of establishing accommodation at other locations on the site. This could range in scale from simple tent platforms in order to confine camping to specific locations, small huts or cabins, up to larger structures, which could accommodate up to 12 people.
 - If feasible, conduct test implementation using tent platforms and/or yurts

Conflict Resolution

- Review proposed extended experiences for zoning changes

Community Audience

- Continue and expand community participation

Interpretation

- Complete visitor facility design and begin construction
- Add successful interpreter-led programs to full program status
- Living history-based programming implemented as full program

- Where considered important to interpretation, add additional interpretive graphics inside existing structures, e.g. ranch buildings, San Antonio cabin, movie sets, etc.



6.3.3 Long Term (7-10 years)

Operational

- If test implementation of additional overnight accommodation is successful, build out to full program.

Conflict Resolution

- Review and scheduling to determine any changes required as a result of new initiatives

Community Audience

- Continue and expand community participation

Interpretation

- Open visitor facility to the public



APPENDICES



VALLES CALDERA NATIONAL PRESERVE

MASTER PLAN for INTERPRETATION

7.0 APPENDICES

APPENDIX A: VCNP Subthemes, Messages and Stories

The importance of themes, messages and stories to interpretation has been described in an earlier section. In this appendix, stories have been added at the subtheme and message level. Stories provide the detail that is summarized in each message. The stories selected are those which most specifically address and reflect the uniqueness of the Preserve. They are a starting point for interpretation: metaphorically, they are chapter headings waiting for the interpretive planner or site interpreter to develop the text. The Preserve has too many stories for those below to be described as comprehensive but they are an important starting point for providing Valles Caldera National Preserve with a sense of place for its users.

Theme: *Valles Caldera National Preserve is a bold experiment in managing a working ranch in a way that offers a broad range of public activities, Preserves cultural practices, and sustains ecological integrity.*

Subtheme: *VCNP Preserves key components of the human history of the Jemez Mountains.*

Valles Caldera and the Jemez Mountains have special spiritual meaning to the Pueblos and Tribes

- Redondo Peak is sacred in the Jemez Pueblo and Zia Pueblo traditions.
- Keepers of indigenous cultural knowledge in Pueblo communities have vowed to protect the sanctity of their traditions through secrecy. Areas and archaeological sites in the caldera with special cultural and spiritual importance are off-limits to the public.

- Volcanic mounds of the Valles Caldera, forming a broken arch, correspond to the six ruling societies of the modern Pueblo of Zia. The societies, each named after one of the volcanic mounds, are responsible for the health and welfare of the Zia people.

Valles Caldera has been used by Native Americans, especially those of Pueblo heritage, since time immemorial.

- Over countless centuries, Native Americans hunted game animals, gathered native plants, and collected obsidian and other natural materials to meet subsistence, social, and ritual needs.
- Today, many Rio Grande Pueblo communities maintain links to areas within the Valles Caldera National Preserve.
- The Utes, the Navajo and the Jicarilla Apache also have ties to the area. Their ancestors occasionally traveled through and hunted in the Valles Caldera.
- Obsidian, the best material for arrows and spears, attracted early hunters to the area. They established three main quarries within the Valles Caldera at Rabbit Mountain, Cerro Toledo and near Cerro del Medio.
- In prehistoric times, obsidian material traveled far and wide. Tools have been found as far as 700 miles away from the caldera.
- The Pueblos, the Navajo and other Native American groups used obsidian in ceremonies.
- The ancestral Pueblo cultures eventually consolidated their villages into large pueblos and became the first residents of the Jemez Mountains.

- In the summers, Pueblo farmers built one-room houses next to the fields of corn and squash they planted on the fertile soil of Banco Bonito.
- The Redondo Creek watershed was an important area to the Jemez Pueblo for gathering plants and herbs used in traditional activities.

The Preserve was once the Baca Location No. 1

- Establishing the Preserve was possible, in part, because the Baca Location No. 1 remained largely intact after generations of private land ownership.
- In 1860, Luis Maria Cabeza de Baca became the first owner of the Baca Location No. 1, which was 99,289 acres at the time. This acreage was part of a larger land grant awarded to Cabeza de Baca in 1821.
- Its colorful ownership history includes the Otero family, the Bond family and Pat Dunigan, all of whom used the grasslands to raise sheep, horses and/or cattle. In 2000, the Dunigan family sold the Baca to the federal government, who then established it as a Preserve.

Different groups have hunted in the caldera for countless centuries.

- Pueblo, Hispanic and Anglo-European groups hunted elk, deer, bear, turkey, grouse, mountain lion and other game animals in the caldera.
- The Jemez Pueblo also hunted hawks, robins and magpies for ritual purposes.
- Broken dart and arrow points, other hunting tools and a pattern of preferred site location near elk calving areas are evidence of early Native American hunting in the caldera.

- Subsistence hunting was important to the region's Hispanic communities from the first arrival of the Spanish to the early twentieth century. Some early Anglo-European settlers also engaged in subsistence hunting, as well as trapping.
- Recreational hunting was introduced into the caldera as rifles became popular in the 1900s.
- The growing elk population in the late 1970s provided James Patrick Dunigan, the last owner of the Baca Location, an opportunity to promote guided elk hunts. The hunting fees included overnight stays at the Dunigan Casa de Baca.

The caldera's grasslands attracted Hispanic and other shepherds and sheep ranchers.

- Baca heirs and other Hispanic sheep herders used the grasslands for grazing their flocks in the summer.
- Names and dates carved onto aspen trees by Hispanic shepherds during the late 1800s are still visible in the VCNP today. These markings are evidence of sheep herding that occurred in the smaller valles along the north rim of the Valles Caldera.
- Hispanic family groups set up sheep camps in the Valle Toledo, Valle San Antonio, and the Valle de los Posos.
- The Jemez Pueblo also grazed flocks of sheep in the Valles Caldera. By 1757, the Pueblos and Hispanics of New Mexico together owned seven times more sheep than cattle.
- After Mariano and Frederico Otero purchased the Baca Location No. 1 in 1899, they began livestock operations in the caldera, grazing sheep in the mountains and grazing cattle and horses on the grasses in the large valles.

- Ranching was the main activity that connected the Hispanic people to the Valles Caldera. The partido system and its use by the Bond family influenced the Hispanic way of life.
- The sheep industry's growth and subsequent overgrazing in the late 1800s and early 1900s has influenced today's native plant composition of the Preserve.

Cattle grazing replaced sheep grazing in the caldera after World War II.

- After World War II, increased manufacturing of synthetic fibers decreased demand for wool and caused the sheep industry to collapse.
- In 1940, the Bond family added cattle to their ranching operations and started to increase cattle numbers five years later. By 1960, cattle had replaced sheep in the Valles Caldera.
- Dunigan bought the Baca Location soon after and started running his own cattle on the ranch in 1965. He grazed the cattle in the Valle Grande, Valle Toledo, Valle de los Posos, and Valle Seco, and also in the lower valleys of San Luis and Santa Rosa.

Past logging operations have left their mark on the caldera's forested lands.

- From 1946 through to the mid-1970s, harvesting operations occurred throughout the caldera, including Redondo Peak, El Cajete, the Jaramillo drainage, Cerros del Abrigo, Cerros de Trasquilar, and the lower slopes of Cerros del Medio.
- Logging companies used selective and clear-cut methods. The latter, in particular, left devastation and only a few old-growth stands behind.

- Between 1963 and 1971, New Mexico Timber cleared more than 1,000 miles of road.
- In an attempt to halt aggressive logging practices, Pat Dunigan filed suit against New Mexico Timber in 1964

The geothermal activity in the caldera once attracted prospectors and researchers.

- Remnant well sites and buildings used for past geothermal operations still exist in the Preserve .
- From 1959 to 1983, close to 40 deep exploration and research wells were drilled in the Valles Caldera, specifically in the Redondo Creek and Sulphur Springs reservoir.
- Wells uncovered a geothermal system of hot, neutral-chloride fluids. But it did not produce enough volume to be economically viable.
- Subsequent scientific research projects focusing on geothermal activity in the caldera improved our knowledge of volcanism.

Hollywood built movie sets in the Preserve that capitalized on the caldera's beautiful vistas.

- During the Dunigan era, the Baca Location No. 1 was the backdrop to over 8 western-style films.
- The movie set for the "Fight Before Christmas" – the site's first movie - overlooks the Valles Grande. Situated close to Highway 4, it is the most visible of the Preserve's movie set.



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Subtheme: *VCNP protects a remarkably diverse ecosystem of great biotic and abiotic significance.*

The Valles Caldera is one of the best examples of a caldera formation in the world.

- The Valles Caldera is where the theory of plate tectonics was proven.
- Current caldera's formation began over one million years ago when the Toledo Caldera erupted displacing about 292 cubic meters of crust and lava.
- Geothermal waters found in the Preserve are testament to the fact that the caldera is in a dormant cycle of volcanic activity.

Volcanic activity over the millennia has created many dominant geologic features in and near the Preserve.

- Redondo Peak is a resurgent dome formed just after the initial collapse of the caldera.
- The Bandalier Tuff forms a thick layer of light orange rock through the Jemez Canyon. The layer was once the volcanic ash deposited from the massive Toledo Caldera eruption.
- Obsidian formed as a result of intense, early volcanic eruptions that took place in the caldera.
- The Jemez River flows through the Preserve and on over Soda Dam/Springs, a calcium carbonate mound that is clear evidence of the region's underlying geothermal and hydrological forces.
- Geothermal springs in the Preserve create unusual, diverse ecological communities.

The Preserve's grasslands are one of the most dramatic features of the VCNP.

- Healthy grasslands maintain, absorb and retain moisture, provide essential nutrients and help prevent erosion of soils and stream banks.
- The Preserve's montane grassland area is one of the largest in the Southern Rocky Mountain Ecoregion.
- The grasslands are in good general health with high palatability, but some non-native species, such as Kentucky Bluegrass, grow in high concentrations. Non-native species are low nutrient providers to the soil and grazing community.
- Montane Valley Grasslands, and Montane Wet Meadows and Grasslands, are the two general vegetation groups found on the Preserve.

Most of the ponderosa pine forests and woodlands on the Preserve are second growth, although some old growth stands remain.

- Over 60% of the forest has been previously logged, using clear-cut and selective methods.
- The old-growth stands that remain are rare examples of virgin forest that still remain in the Jemez Mountains.
- Ponderosa pine stands near the current headquarters are over 300 years old.
- The three broad forest zones in the Preserve are: Rocky Mountain Subalpine Conifer Forest, Rocky Mountain Upper Montane Conifer Forest, and Rocky Mountain Ponderosa Pine Forest and Woodland.

Rare plant species of New Mexico are found in the Preserve.

- Sapello Canyon larkspur is endemic to the Jemez, Sangre de Cristo and Sandia Mountains, and is the only recorded plant species of concern.
- The only known occurrence of bog birch in New Mexico is found in the Preserve.

Various aquatic habitats help shape the Preserve's unique landscape.

- Aquatic habitats include geothermal hot springs, cold-water springs, acid pools, bogs and two major mountain stream watersheds.
- Alamo Bog is a good example of a special aquatic feature. It is a "fen" fed by warm underground springs and supports the bog birch, water sedge and club moss association, found nowhere else in New Mexico.
- The East Fork of the Jemez River and San Antonio Creek influences most of the Preserve's water systems.

Noxious weed species have been found in the Preserve.

- Twenty plant species termed as "noxious" by the state exist, but are not yet a major problem.
- Canada thistle has been identified in 11 areas, each an acre in size.
- Studies suggest that the introduction of more weed and noxious weed species and disease will rise as use of and access to the Preserve increases.

VCNP protects a diverse ecosystem of great biotic significance.

- The Preserve supports rich communities of flora and fauna.
- Over 550 species of plants are found here.
- Over 107 bird species use the Preserve at various times during the year; many use the Preserve for breeding.
- A fascinating world of invertebrates on the Preserve remains to be fully identified and understood. However, 63 species of butterflies are known to inhabit the Preserve.
- Elk were extirpated in this region by 1900. In the mid- and late-1900s, elk were reintroduced to the caldera and number approximately 3,000 in 2004. The Preserve is the core breeding ground and nursery for the Jemez Mountains elk population.
- Mule deer are now scarce, likely due to hunting, competition with elk, increased predation by coyotes and decreased seasonal shrubby vegetation.
- Coyotes are plentiful and are often spotted roaming the grasslands.
- Black bear, mountain lion and bobcat are rarely seen but their populations are presumed to be viable and proportionate to available habitat, given the abundance of prey and the absence of recent hunting pressure.
- Smaller mammals found on the Preserve include pikas and Gunnison’s prairie dogs. The latter are an important prey species for a number of predators, including golden eagles.

- Native fish, like the Rio Grande cutthroat trout, have been displaced by brown and rainbow trout. Efforts are being made to determine whether or not there is potential for re-introducing native fish into the Preserve’s streams.
- Other wildlife on the Preserve include several species of reptiles and amphibians, such as has chorus frogs, tiger salamanders and Jemez Mountain salamanders.
- The Valles Caldera Caddisfly is a species new to science.

Subtheme: *VCNP inspires new directions in public land management by serving as an experiment in balancing natural processes with human uses.*

The Valles Caldera Trust was formed to uphold the Valles Caldera Preservation Act.

- The Trust is a wholly owned federal corporation, governed by a nine-member board of Trustees, with broad authority to conduct its business independent of other agencies. Appointed by the President of the United States.
- The Trust’s responsibilities are:
 - To provide management and administrative services for the Preserve;
 - To establish and implement management policies to achieve the purposes and requirements of the Act;
 - To receive and collect funds and make dispositions for the management and administration of the Preserve; and
 - To cooperate with federal, state and local governmental units and with Indian tribes and pueblos to further the purposes of the Preserve.

- The act states that the Preserve has been established “to protect and preserve the scientific, scenic, geologic, watershed, fish, wildlife, historic, cultural, and recreational values of the Preserve, consistent with this title.”
- The act instructs the Trust to pursue six goals: working ranch; protection and preservation; multiple use and sustained yield; public access and recreation; local benefits, coordination with management of surrounding land and cost savings; and optimizing income.
- The act also urges that the Preserve become “a demonstration area for an experimental management regime adapted to this unique property.”

The Preserve is operated in a manner that honors the history, traditions and ethics of a working ranch.

A working ranch...

- Runs a sustainable level of livestock, adjusting numbers as necessary;
- Makes resources available for other revenue-generating activities such as bird watching, hunting, fishing and other low-impact recreational activities;
- Applies adaptive management on the day-to-day basis to ensure resource protection.

The values and vision of the Trust are based on a ranching ethic.

The ranching ethic requires that the Preserve...

- Monitors the impact of its activities.
- Operates the working ranch in a manner that sustains range resources in balance with use by native wildlife and their habitat needs.



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A central goal of management is to increase the resilience and integrity of the Preserve's ecological systems.

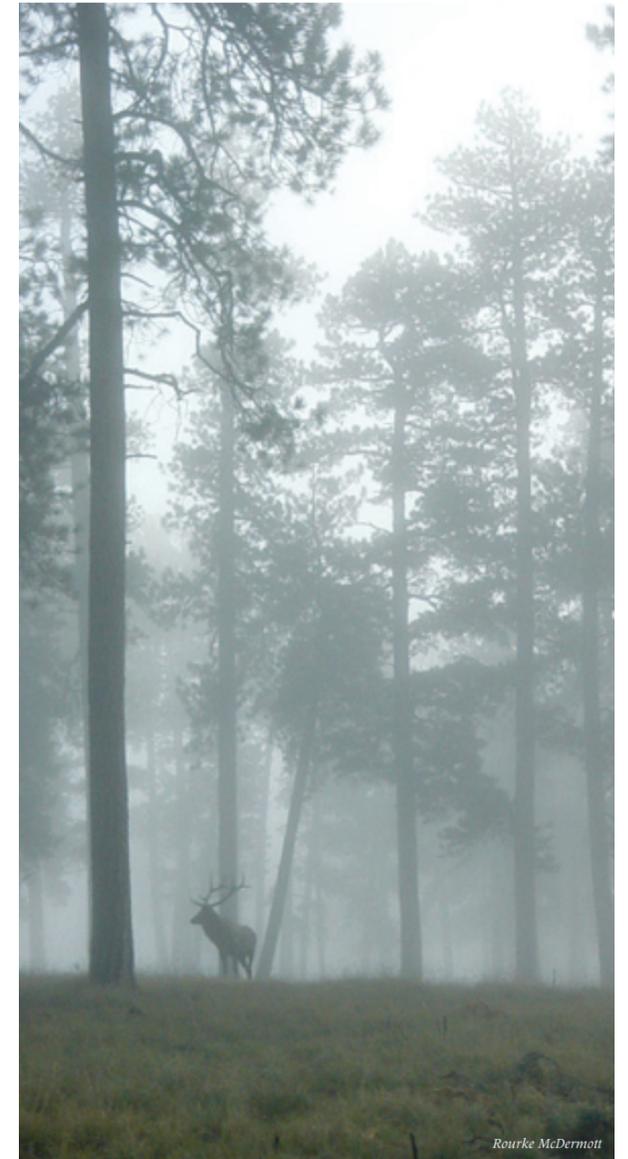
- The Trust wants to ensure a high level of watershed stability throughout the Preserve—to conserve the soils and attain proper functioning of its streams and watercourses.
- Because the behavior of complex systems cannot be made to conform to a preconceived model, managing the Preserve in the face of uncertainty requires programs that advance the Trust's understanding of the Preserve's systems.
- Restoration efforts include streams and fisheries, grasslands, forests, native wildlife, dirt roads, and overall aesthetic integrity.

The Preserve is accessible by the public on a limited basis.

- Public activities on the Preserve could include recreational opportunities for hiking, fishing, camping, cross-country skiing, and hunting.
- The Trust has resolved to approach public programs experimentally, launch them at a small scale, monitor their impacts and adjust them periodically on the basis of accumulated learning.
- The level and type of visitor activity depends on a number of variables, including:
 - Public demand.
 - The land and its wildlife need to be given adequate rest from visitor disturbance.
 - The challenge of maintaining high-quality visitor experiences by avoiding overcrowding.
 - Impact on the Preserve's finances

The Preserve's goal is to be a successful model of integrated land stewardship demonstrating the balance of ranching, recreation, cultural preservation, sustainable use and financial self-sufficiency.

- The Trust's core values are expressed in their management principles, which guide the pursuit of financial self-sufficiency, the operation of the Preserve as a working ranch, the protection of cultural resources and traditions, and the Trust's commitment to include public participation in decisions affecting the Preserve.
- The Trust's ten management principles are united by:
 - An appreciation of the richness and complexity of the VCNP in both its ecological and cultural dimensions,
 - A respect for the needs and interests of a wide range of stakeholder groups,
 - A commitment to consider financial impacts and realities,
 - A commitment to monitor the impacts of management and use the learning thus gained to inform subsequent management decisions, and
 - A general ethic of care and restraint in the development of programs.
- In its role as steward, the Trust has committed itself to "science-based adaptive management" including all sciences, i.e. social sciences as well.



Rourke McDermott

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APPENDIX B: Experience Delivery Matrix

This section focuses on linking interpretive messages directly to the landscape in terms of the experience visitors may have. Because no single interpretive technique will work for everyone – as a result of individual differences in interests, knowledge and learning styles – different techniques are combined to maximize the potential for affecting visitor hearts, minds and actions. A broad categorization of techniques can be found in Appendix C: Experience Categories Matrix which was developed in a workshop environment by the members of the consulting team together with Trust Board members, and Preserve staff. For the purposes of this matrix and associated maps, we have identified three categories of interpretive activity, only two of which are included in the matrix.

Basic is the term used in this section for interpretation that is broad in scope and relatively low in detail; therefore it has not been mapped. This includes most off-site materials – with the exception of books and videos – and all introductory media. Basic interpretation must cover the overall theme and the three subthemes. Because of the environment it takes place in, basic interpretation hopes to make one clear, strong contact with the user. Basic media often include brochures, welcome signs, web sites, and may include such items as themed gifts and meals. For the purposes of messages, basic interpretation may use elements of the subthemes, especially if they are likely to affect the visitor memory or attitude towards the Preserve, but will have little detail. Many messages will not be interpreted in this way; they must wait for In-Depth or Focused techniques which are usually site-based and include first hand experience with the resource.

Focused interpretation is named because it focuses on a specific subtheme and group of messages but also incorporates other relevant subthemes and messages. In doing so it both delivers a key message through a powerful technique but also places that message in a context that includes the whole Preserve. Most site interpretation falls under this category – mostly about something specific but a little bit about everything. For example, a geology tour might focus on the caldera and the amazing landscape it has produced, but it is impossible to talk about the Preserve's geology without interpreting the significance of obsidian to Native-Americans which leads to the story of the Preserve's long cultural significance. A simpler example is interpretive panels along Hwy 4. It is critical that any collection of panels address the overall theme and subthemes for the Preserve but it is likely to be ineffective if this is attempted on a single panel. Each panel in a group should interpret one subtheme using examples that are visible (or at least easily imaginable) from the road.

In-Depth interpretation is used to mean the best technique for achieving interpretive objectives. The technique may vary widely but in a site-based setting like the Preserve, it will most often be on the land with examples or artifacts of the subtheme right in front of the participant. The examples given – of both Focused and In-Depth interpretation – are only examples, and other techniques may work as well or better. They are, however, drawn from the consulting team's experience with other successful programs in other locations.

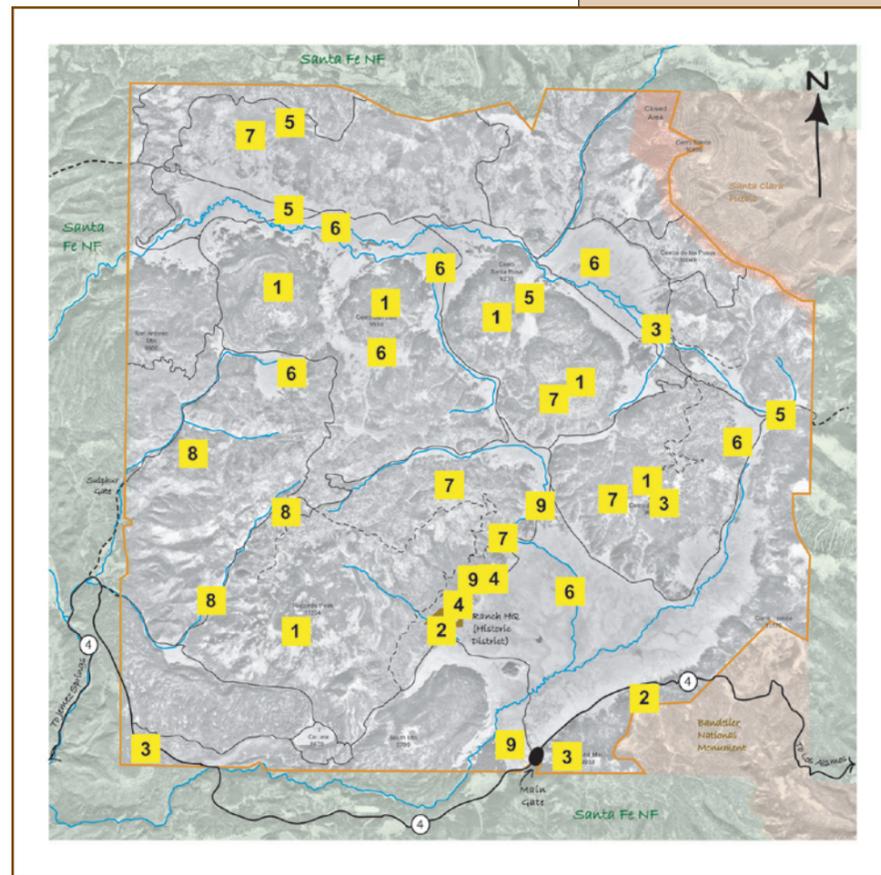


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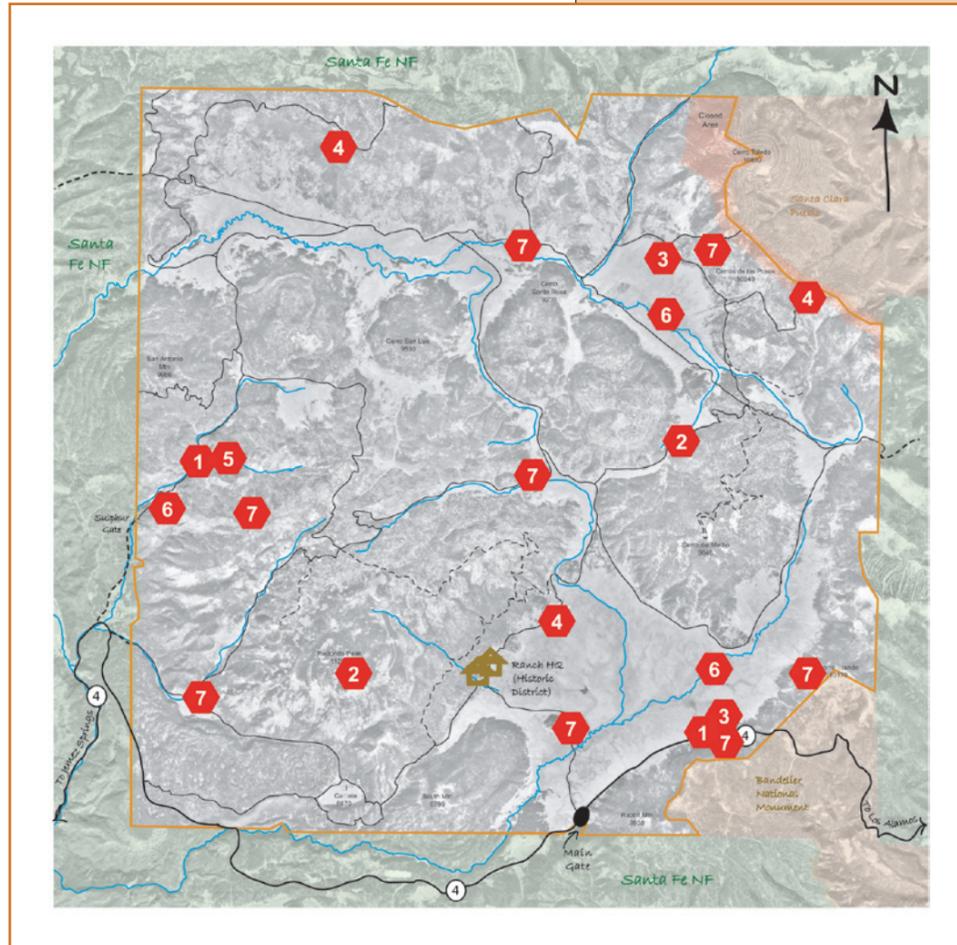
Subtheme	Message	Map Ref	In-Depth Examples	Focused Examples
VCNP preserves key components of the human history of the Jemez Mountains.	Valles Caldera and the Jemez Mountains have special spiritual meaning to the Pueblos and Tribes.	White 1A 1B	Dedicated hike led by guide from Pueblo community.	Guided event with view of, or visit to, Redondo Peak or volcanic mounds. Element in "Pueblo Connections to the Land" exhibit in interpretive facility.
	Valles Caldera has been used by Native Americans, especially those of Pueblo heritage, since time immemorial.	White 3A 3B	Pueblo guide with knowledge of archaeology and geology to visit obsidian site and demonstrations and participation in making obsidian tools, spear points, arrowheads... Visit to recreated one-room house beside modern version of corn and squash garden, led by guide from Pueblo community.	Hands-on demonstration on-site or in interpretive facility of obsidian tool making. Replica of one-room house inside or adjacent to interpretive facility.
	The Preserve was once the Baca Location No. 1.	White 2	Living history program with horse or wagon tour and overnight stay at Ranch headquarters.	Guided event to view key ranching sites and activities. Highway kiosk. Element in "Ranching on the Baca" exhibit in interpretive facility.
Different groups have hunted in the caldera for countless centuries.	White 4	Guided hunting using traditional methods	Demonstration of traditional hunting techniques at Ranch headquarters	
The caldera's grasslands attracted Hispanic and other shepherds and sheep ranchers.	White 5	Demonstration of sheep herding using dogs – special event	Van or hiking tour of Valle San Antonio and shepherding cabin sites	
Cattle grazing replaced sheep grazing in the Valles Caldera after World War II.	White 6	Ride with working cowboys to move the herd, have a BBQ with them in the evening	Van tour of main grazing areas; evening chuckwagon meal at Ranch headquarters	
Past logging operations have left their mark on caldera's forested lands.	White 7	Operate – under careful supervision – equipment used to thin the forest / participate in a controlled burn	Hiking tour of an old growth stand and observe thinning a crowded stand	
The geothermal activity in the Valles Caldera once attracted prospectors and researchers.	White 8	Camp out on a pad along Redondo Creek / bathe in a hot spring	Element in "warm water" exhibit in interpretive facility	
Hollywood built movie sets in the preserve that capitalized on the Valles Caldera's beautiful vistas.	White 9	Film your own western movie scene in movie set	Element in Ranch headquarters or interpretive facility: "Stars of the Valles Caldera"	





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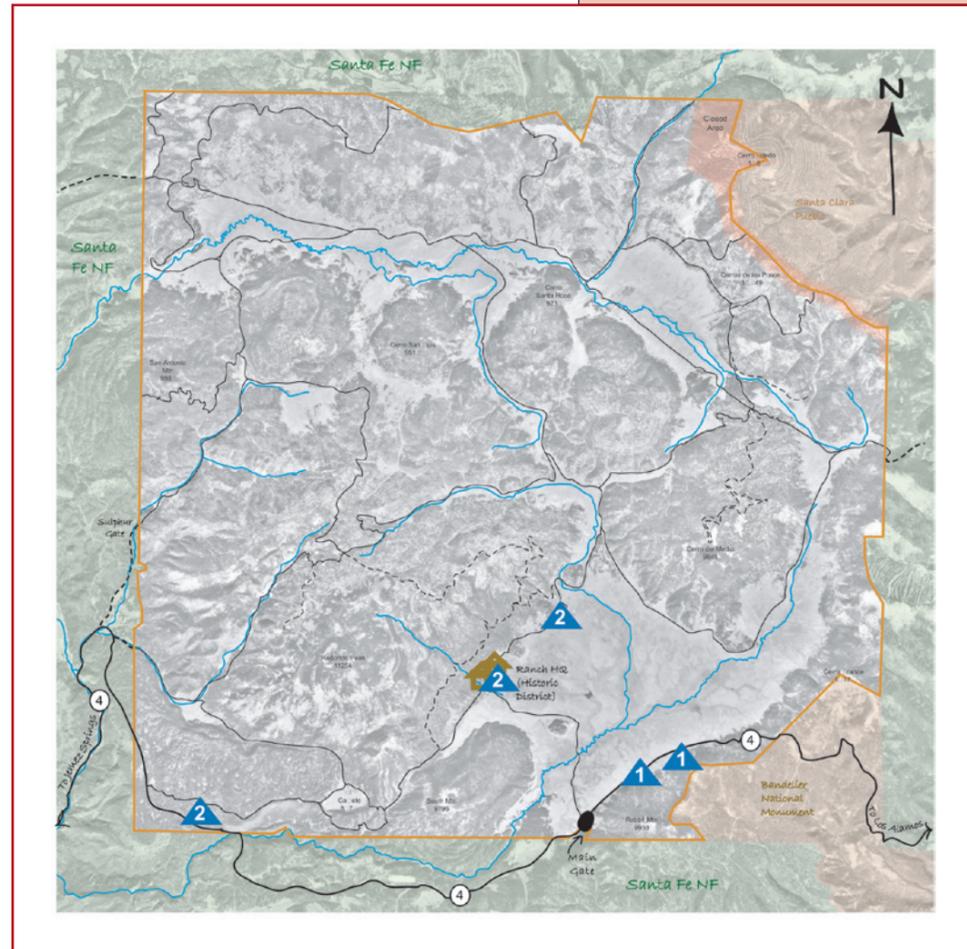


Subtheme	Message	Map Ref	In-Depth Examples	Focused Examples
VCNP protects a remarkably diverse ecosystem of great biotic and abiotic significance.	The Valles Caldera is one of the best examples of a caldera formation in the world.	Orange 1A 1B	Hike along the ridge of the caldera with overnight stops	Interpreted view of the caldera from a high point on Rabbit Mountain Hwy 4 interpretive panels
	Volcanic activity over the millennia has created many dominant geologic features in and near the Preserve.	Orange 2	Guided geology day hike to the Redondo Peak for view of volcanic features	Guided geology hike in Puerto de Abrigo Geology van tour "Volcanic Valles" – element in interpretive facility
	The Preserve's montane grasslands are one of the most dramatic features of the VCNP.	Orange 3	Horseback ride through Valle Toledo Cross-country ski across Valle Grande	Hwy 4 interpretive panel "Valle Van Tours"
	Most of the ponderosa pine forests and woodlands on the Preserve are second growth, although some old growth stands remain.	Orange 4	Operate – under careful supervision – equipment used to thin the forest / participate in a controlled burn	Hiking tour of an old growth stand and observe thinning a crowded stand
	Rare plant species of New Mexico are found in the Preserve.	Orange 5	Guided botanical tour of Alamo canyon and wetlands	"Special place – Special plants" – element in interpretive facility
	Various aquatic habitats help shape the Preserve's unique landscape.	Orange 6	Stay in the San Antonio cabin near San Antonio Creek and hot springs	"What's a Watershed" special presentation or element in interpretive facility
	Noxious weed species have been found in the Preserve.	Orange 6	Assist scientists in removing noxious weeds and studying impacts	Special Event - volunteer day to remove noxious weeds Element in interpretive facility
	VCNP protects a diverse ecosystem of great biotic significance.	Orange 7	Hike or ride through the different ecosystems/plant association in the Preserve with overnight camping	Guided van tour of the "Nature of VCNP"

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Subtheme	Message	Map Ref	In-Depth Examples	Focused Examples
VCNP inspires new directions in public land management by serving as an experiment in balancing natural processes with human uses.	The Valles Caldera Trust was formed to uphold the Valles Caldera Preservation Act.	Blue 1	Meet with members of the Trust to ask questions and learn of their work	Hwy 4 panels Element in Interpretive facility
	The Preserve is operated in a manner that honors the history, traditions and ethics of a working ranch.	Blue 3	Special Event: "Bring a Memory" – public oral history weekend in the Preserve at the Ranch headquarters	Horse or Van tour of all the activities of this working ranch
	The values and vision of the Trust are based on a ranching ethic	Blue 3	Special Event: "What is the ranching ethic" – a public forum	Element in Ranch headquarters or interpretive facility – results of the ranching ethic forum
	A central goal of management is to increase the resilience and integrity of the Preserve's ecological systems.	Blue 2	Spend a day with a scientist, helping and learning	Visit the research center / meet with scientists at the ranch headquarters / view displays at ranch headquarters or interpretive facility
	The Preserve is accessible by the public on a limited basis	Blue 3	Volunteer in assessing the impacts of the public after pilot programs have been undertaken	At a chuckwagon dinner at the ranch headquarters, participate in a monthly (weekly?) freewheeling discussion of the role of the public in the Preserve in recreation, stewardship, and sustainability.
	The Preserve's goal is to be a successful model of integrated land stewardship demonstrating the balance of ranching, recreation, cultural preservation, sustainable use and financial self-sufficiency.	Entire Site	Spend the summer, winter or whole year as a volunteer or intern assisting with all of the programs	Element in interpretive facility





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APPENDIX C: Experience Categories Matrix

The following matrix is the product of the April 2004 workshop which included the participation of Trust Board members and VCNP staff. The table organizes the users into “audiences” for information, interpretation and education, and lists ideas for related experiences that were developed over the course of the workshop. In the case of interpretation, the experiences have been organized into categories reflecting different learning styles and interests.



VCNP

Off-Site & On-Site "Information"	Interpretation for Meaningful Connections							Hands-On, Adaptive Mgt Education: Two-way
	Experience Stories Through Media and Built Environments			Active On-Site, Real Time Experience		Unguided Personal Experience		Development & Sharing of Personal Working Knowledge
	Build and use appropriate environments to reinforce experience	Learn remotely through technology	Preserve experience through purchased mementos	Onsite interactive educational experience	Experience northern New Mexico heritage	Solitary sensory experience of nature	Pueblo native practices	Participate in the ongoing sustainable working landscape of the Jemez Mtns
Website information	VC themed kids play area while parents are on the deck	Auto tour that focus on the preserve and extending beyond the boundary	Take home an "obsidian" souvenir	Participating in observational studies when hiking	I will see traditional cattle herding activities and be reminded of the "west"	Guided nature's noises tour (with isolation activities)	I can practice my religious & cultural activities without restriction or interference	Opportunity to talk & interact with visitors (cowboys)
Advertising	Visitor and education centre	"Sim city" concept around VCNP balance	Cowhide "recliner" chair	"Weekend with Bob" lottery	Cowboy or sheep herder for a day	I want to hear elk bugle and have the power reconnect me with life's forces		Timber opportunity for demos that show sustainable practice
Brochures at information centers	Used gorgeous restrooms and learn about water cycles	Saw a video about the caldera formation	VC buy themed products gift shop/books/t-shirts, DVD	Learn by doing e.g. ongoing cultural history of religion	Participate in an in-depth cultural experience	I want to hear silence, quiet		Learn new techniques on livestock mgt through demos & hands-on
Maps and Books	Stop at various pullouts with particular themes and viewing aids	VC virtual reality program experience of the preserve	I want to buy art that will always remind of my experience		Witness working landscape e.g. ongoing cultural history and religion	Potential for wildlife viewing		View science-based adaptive mgt in action
Site orientation	Camping/lodging within the historical context of the VCNP	Create an open database for knowledge exchange	Take a piece of the VCNP experience home (not obsidian)	Hands-on and interpretive outings field trip/tour	Chuck wagon dinner, caldera cocktail watching sunset & stars	Minimal contact with others		Participate in research work – monitoring inventories
Highway signage	Theme interpretive trail (guided or not) with quiz			Participate in topic-based tours	I will be able to explore the preserve on horseback	Natural soundscape		Outreach by users on resource mgt issues
				3-D objects mounted on interpretive signs (e.g. rock strata/elk antlers)	I will have access to information that will increase my knowledge of the Pueblos history	By seeing and touching the variety of geological features I will be reminded of the forces of nature		Involve practitioners in exchange of info with visitors
				Touch animal props like fur, antlers & scat				Training program to interface with public on their expertise
								Incorporate new/old expertise into existing programs
								Interaction with other agencies on issues & lessons learned



APPENDIX D: Implementing the Master Plan – Frequently Asked Questions

1) What determines priority for implementation?

Priorities are determined by considering the needs of the user together with the needs of the Preserve and its resources for implementation. A simplified hierarchy of needs for the user - exclusive of requirements such as rest rooms, food and beverages, shelter and safety - are summarized in the following questions:

Orientation:	Where are we?
Information:	What is there to do here and why should we do it?
Interpretation:	What is this place about? Why should I care?

Expressed questions for the Preserve:

Management:	Which interpretive services are most effective at producing respectful use of the Preserve with minimum impacts?
Sustainability:	How do we most effectively tell the story of this special and unique experiment in a manner that leads to greater appreciation of our natural and cultural resources, and actions that bring about sustainability in all public and private land management?
Support:	Which interpretive services have the most potential to generate support for the Preserve through community participation, volunteerism, and financial support in the form of grants, donations and direct revenue?

Within the master plan for interpretation itself, the hierarchy for implementation parallels the thematic structure i.e. the most important interpretation is the overall theme. This means that if, for example, the budget can only afford one interpretive panel, that panel should interpret the overall theme, the “Big Idea”. Interpretation that focuses on specific messages should wait until the overall theme and subthemes have been addressed. This hierarchy is moderated by consideration of the largest audience that can be interpreted to effectively, i.e. most likely to achieve the Preserve’s needs. Simple contact numbers are not the way to evaluate interpretive effectiveness - for example, a large billboard would reach the largest audience but limitations of time and content make it doubtful that many would be affected at the level of mind, heart and behavior.

2) What is the best process for implementing an interpretive program?

Interpretation is commonly linked to recreation, and is sometimes offered as a recreational activity all on its own. It is important that all levels of use on the Preserve should have an interpretive component. Specific ways in which this can be achieved are outlined in Section 5 of this document and a recommended schedule for implementing these actions forms Section 6.

In determining specific interpretive activities, review the previous appendices, all of which provide different approaches that, in combination, will shape the interpretation:

- Appendix A provides the complete thematic structure including stories which will guide the content. Use this structure to assess the effectiveness and comprehensiveness of current interpretation.

- Appendix B addresses messages at the site level and suggests particularly effective locations where the story can be told first-hand and/or can reach a large audience. Check these maps to determine opportunities that are available for interpretation and to determine of interpretation can be added to existing or planned recreational activities or facilities.
- Appendix C documents the results of an interpretive workshop that identified the types of experiences that are appropriate and desirable for the site. This was developed by census amongst Trust Board members, VCNP staff and the consulting team. When defining the interpretive program being implemented, ensure that it addresses at least one of the categories identified in the top row of the matrix, and targets at least one of the audience categories identified in the second row.
- Appendix E provides a listing of information sources which can be useful to an interpreter in developing their program.



3) *What is the best kind of interpretation?*

The facetious answer is “the one that works the best!” The real answer is that interpretive success depends on the receptiveness of the audience. And the audience will be most receptive to interpretation that is in a form that suits their interests, knowledge level, and learning style preferences. For some people, being alone in a natural area is the most effective experience; others would prefer to read a book in privacy; and, still others prefer the social aspect of informal group learning. That said, however, two techniques are very commonly used both for effectiveness and for efficiency.

Personal interpretation is a very popular and very powerful form of interpretation. It has the greatest degree of flexibility in terms of content, presentation style, location, and changeability. Personal interpretation traditionally takes in the presence of the subject being interpreted. The biggest challenge for this technique is finding good interpreters, training them, and supporting them. Interpretive facilities are also popular because they have long hours so visitors do not need to plan to be somewhere at some specific time; they are large enough to provide a wide range of interpretive techniques to many people; they are self-directed in most cases, and; they can act as an attraction which results in less impact on the site. Their chief drawback is cost both to build and to operate.

No interpretive technique will work for every participant. It is best to use interpretive techniques in combinations to reach the largest part of your audience – with the caveat that it is better to do a simple thing well than to do many things poorly. The Preserve’s size and rich combination of resources and activities provide interpreters with an almost unlimited range of stories and possible techniques. There are many opportunities to test new techniques and to offer a wide range of programs in this amazing place. Interpretation is also part of the “bold experiment”.





VALLES CALDERA NATIONAL PRESERVE

MASTER PLAN for INTERPRETATION

APPENDIX E: Information Sources

Reference/Research Material:

Valles Caldera:

- Valles Caldera Framework Document, 2003
- Valles Caldera Interpretive themes developed for the 2003 recreation season (3 pages)
- Valles Caldera Visitor Centre Site Criteria (1 page)
- A Vegetation Survey & Preliminary Ecological Assessment of Valles Caldera National Preserve, 2003
- Valles Caldera Maps – hard and digital copies for roads, boundaries, geographic names, vegetation
- Valles Caldera 2003 Fiscal Year Consolidated Annual Report
- Biota Information (2000) and image for *Plethodon neomexicanus* (Jemez Mtns Salamander)
- Land Use History Draft Document (digital)
- Community Meeting Recordings (two Hi8 tapes)

Other Park/Reserve Sites:

- Bandelier National Monument Business Plan
- Bandelier National Monument Final Comprehensive Interpretive Plan Foundation Information, 2001
- Bandelier National Monument Education and Community Outreach Strategy – Draft
- Bandelier National Monument Archive of the Comprehensive Interpretive Planning Process, 2001

Tourism Related:

- Jemez Mountain Trail Scenic Byway Interpretive Plan – Draft 2003
- 2003 New Mexico Scenic Byway Economic Impact Study – executive summary
- 2003 New Mexico Scenic Byway Economic Impact Study
- 2002 Psychographic Research for New Mexico Scenic Byways
- 2002 New Mexico Scenic Byways Market Data Final Report
- 2002 New Mexico Scenic Byways Print Conversion Study
- 2002 New Mexico Scenic Byways Focus Group Research

Research/Reference Books:

- DeBuys, William. *Enchantment & Exploitation, the Life and Hard Times of a New Mexico Mountain Range*
- Kessell, John L. *Kiva, Cross, & Crown, the Pecos Indians and New Mexico 1540-1840*
- Martin, Craig. *Valles Grande – a history of the Baca Location No.1*
- Sando, Joe S. *Pueblo Profiles, Cultural Identity through Centuries of Change*
- Brown, David E., Editor. *Biotic Communities Southwestern United States & Northwestern Mexico*
- Chronic, Halka. *Roadside Geology of New Mexico*
- Dunmire, William W. and Tierney, Gail D. *Wild Plants of the Pueblo Province*
- Lambert, David and the Diagram Group. *The Field Guide to Geology, updated edition.*

Tourism/Outreach Material:

- Valles Caldera National Preserve Site Brochure
- 2004 Valles Caldera Elk Hunt Promotional Brochure
- Seeking Common Ground Adaptive Management Strategy for Elk and Habitat Management
- New Mexico National Parks Brochure
- Bandelier National Monument Brochure
- Campground and Accommodation Information
- Walatowa Native Ed-Ventures
- Abiquiu Lake Brochure
- Cochiti Lake Brochure
- History of the US Army Corps of Engineers
- New Mexico Visitor Guide

Contact Names, Websites, Etc.:

Personal Contacts:

- New Mexico State Tourism: Bruce Poster
505-989-8500 bp.swpm@protigy.net
- Jemez Corridor Transportation: John Peterson
(Jemez Ranger Station) 505-829-3535
- Santa Clara Pueblo
Gilbert Tafoya
Cultural Preservation Land Claims and Rights
Protection Office
PO Box 580, Espanola, NM 87532
- Zia Pueblo
Peter Pino
135 Capitol Square Drive, Zia Pueblo, NM
87053-6013

Books:

Kessell, John. The Missions of New Mexico 1776 and Before

Kessell, John. The Missions of New Mexico 1776 to the Present

Websites:

For National Park monthly visitor reports:
<http://www2.nature.nps.gov/mpur/>

Jemez Mtn Trail Scenic Byway:
<http://nmshtd.state.nm.us/scenicbyways/JemezMountainTrail.asp>

Surrounding state park recreation areas:
<http://www.recreation.gov/> and <http://www.rfl.psw.fs.fed.us/recreation/>

Media Articles: (provided by Rick Rennie)

Great Expectations: Grazers, Hunters Get First Crack at the Valles Caldera National Preserve, Weekly Alibi article, January 17-23, 2002

Working Toward 89,000 Acres of Common Ground on the Valles Caldera, by

Coalition Coordinator Ernie Atencio, La Jicarita News article, March 2002

Valles Caldera Experiment, Albuquerque Journal North, June 16, 2002

In New Mexico, a Land Management 'Experiment': At Valles Caldera National

Preserve, Locals Dictate Property Uses, National Public Radio Morning Edition program, September 23, 2002

Valles Caldera experiment is working, by Coalition Coordinator Ernie Atencio, op-ed column, Los Alamos Monitor, September 29, 2002.

Taming The West, Government Executive Magazine article, January 1, 2003

Personal Contacts:

Voices from the Past – selected applicable articles by Robert Torrez, State Historian (retired)

Rick Martin, outfitter

John Peterson, District Manager, Sante Fe National Forest

Lynne Dominy, Chief Interpreter, Bandelier National Monument

Nona Bowman, Los Alamos Tourism

Dorothy Hoard, Los Alamos Outdoors Enthusiast

Mary & Lou Caldwell, Ponderosa residents, former neighbors to VCNP

Interpretive Staff, Jemez State Monument

Staff, Walatowa Visitor Center

Staff, Bernalillo Tourism Bureau

VCNP users: information interviews with anglers, hikers, van tours and elk viewing tours