

APPENDICES



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.





VALLES CALDERA NATIONAL PRESERVE

MASTER PLAN for INTERPRETATION

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.

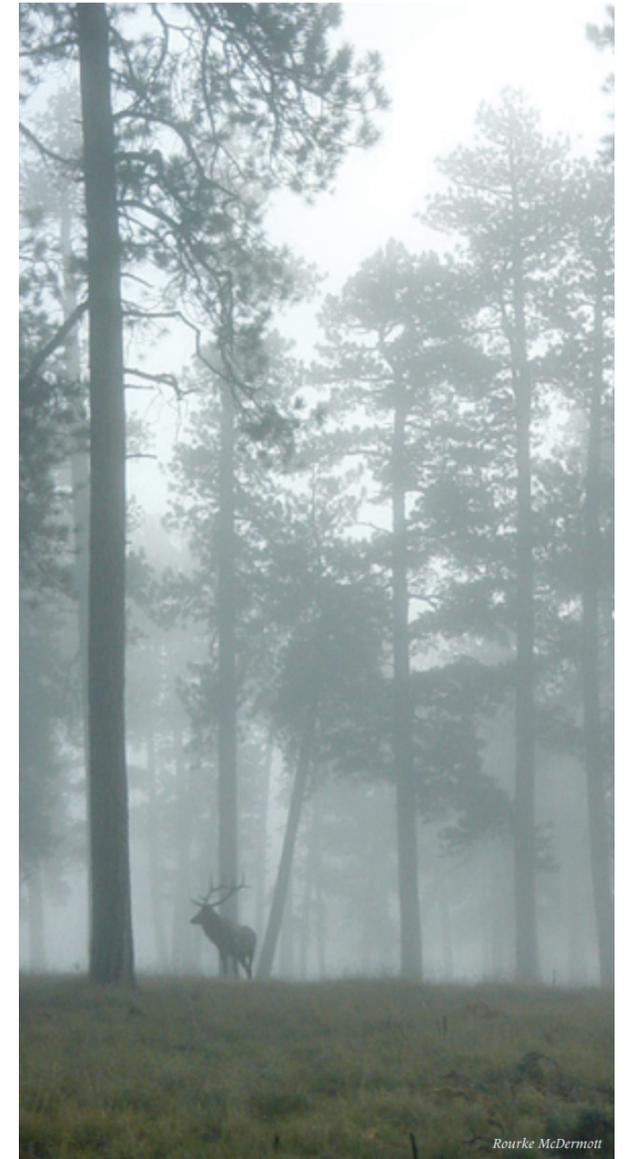
- The Trust wants to ensure a high level of watershed stability throughout the Preserve—to conserve the soils and attain proper functioning of its streams and watercourses.
- Because the behavior of complex systems cannot be made to conform to a preconceived model, managing the Preserve in the face of 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.

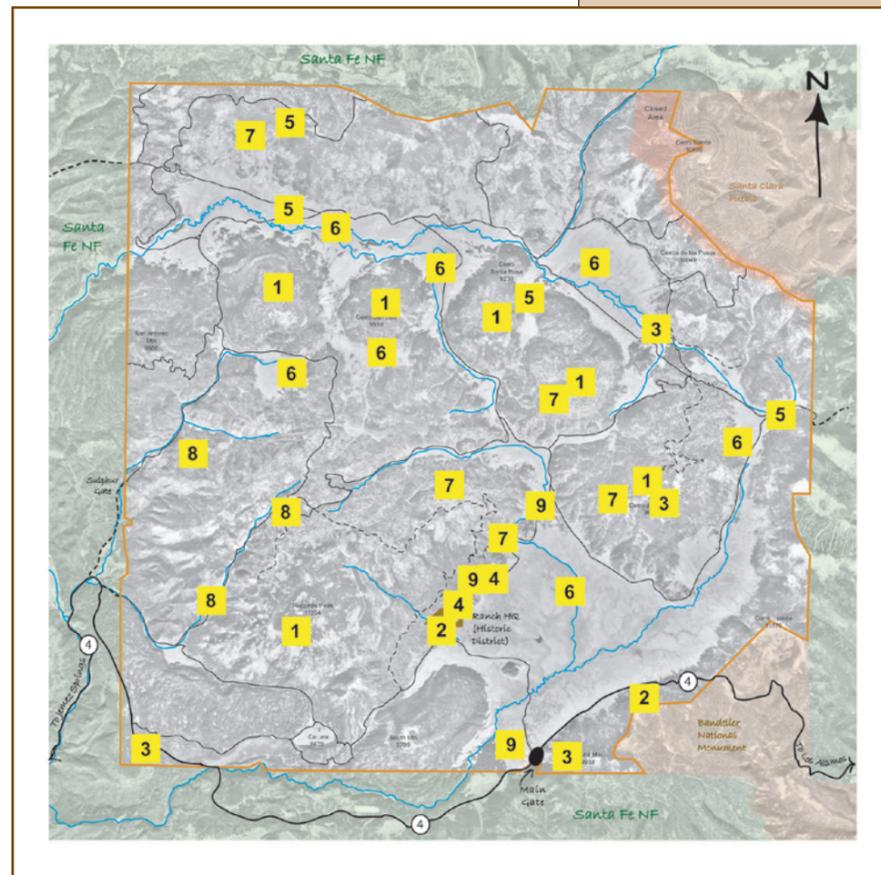


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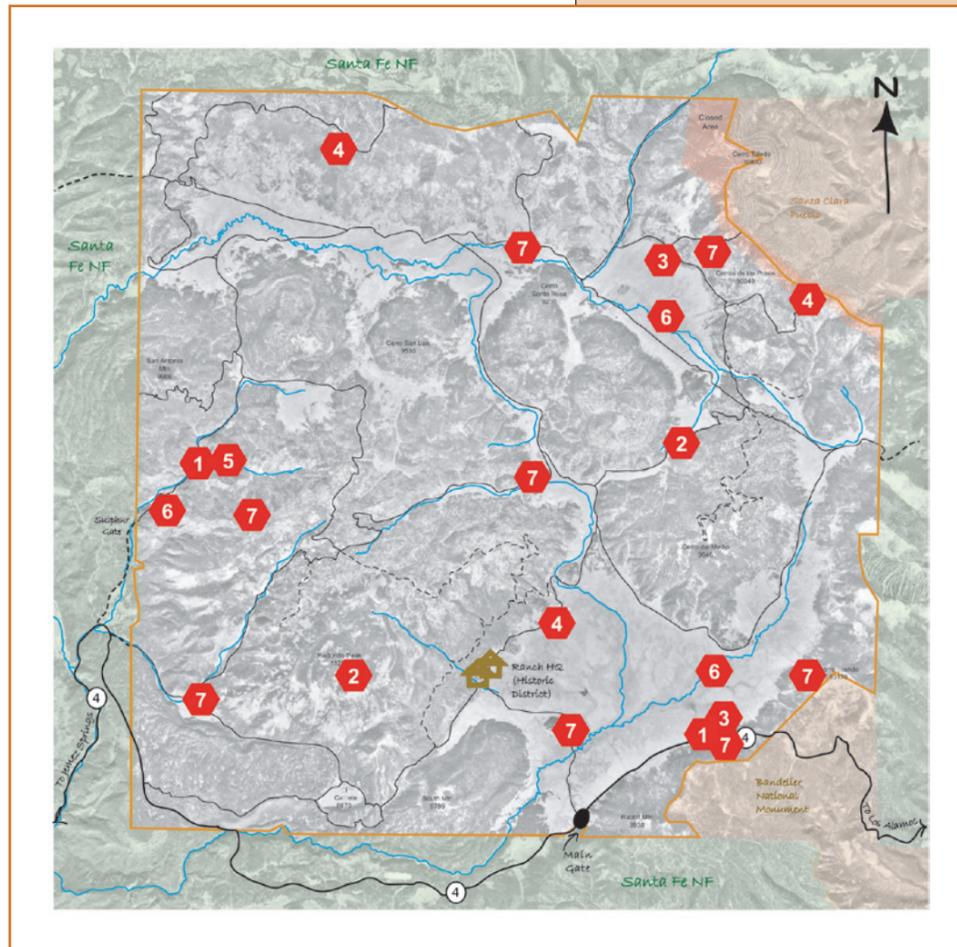
Subtheme	Message	Map Ref	In-Depth Examples	Focused Examples
VCNP preserves key components of the human history of the Jemez Mountains.	Valles Caldera and the Jemez Mountains have special spiritual meaning to the Pueblos and Tribes.	White 1A 1B	Dedicated hike led by guide from Pueblo community.	Guided 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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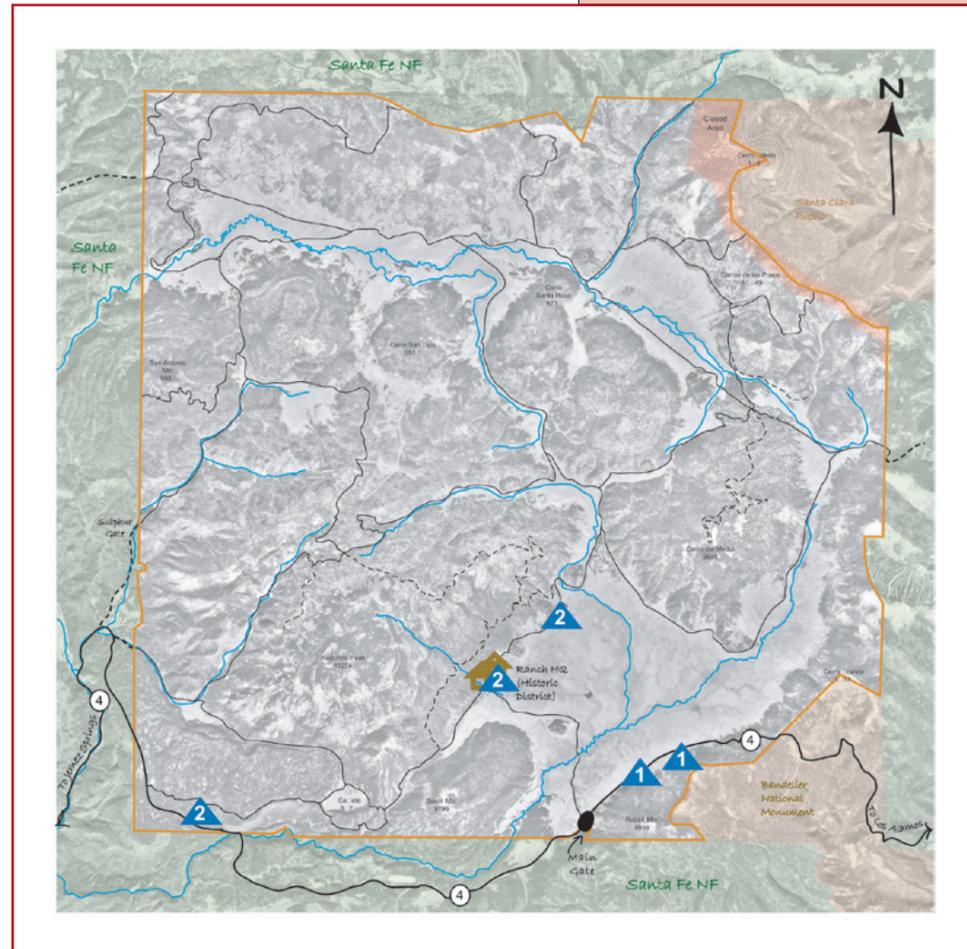


Subtheme	Message	Map Ref	In-Depth Examples	Focused Examples
VCNP protects a remarkably diverse ecosystem of great biotic and abiotic significance.	The Valles Caldera is one of the best examples of a caldera formation in the world.	Orange 1A 1B	Hike along the ridge of the caldera with overnight stops	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 (1page)
- 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