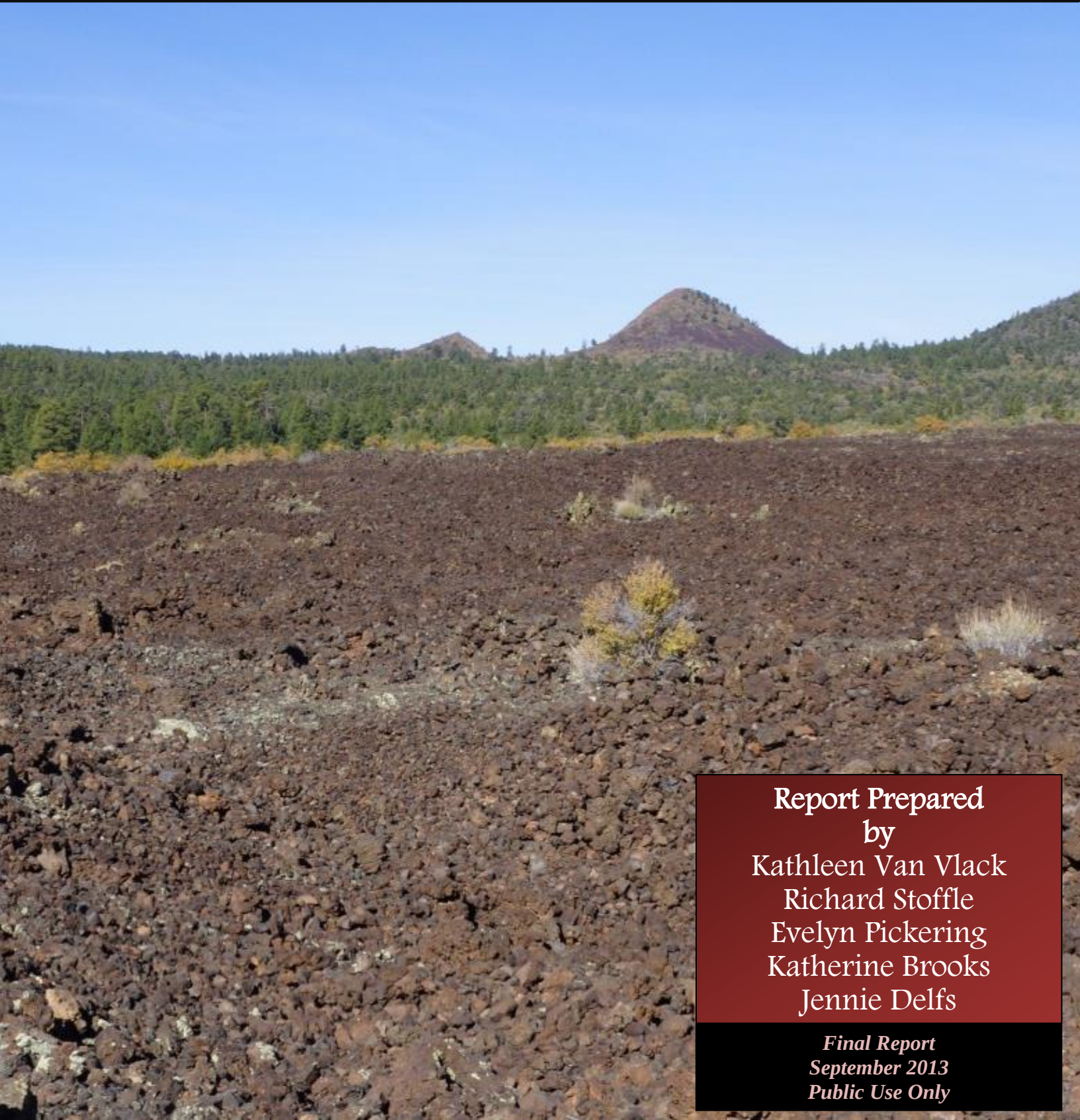


Unav~Nuquaint

Little Springs Lava Flow Ethnographic Investigation



Report Prepared
by
Kathleen Van Vlack
Richard Stoffle
Evelyn Pickering
Katherine Brooks
Jennie Delfs

*Final Report
September 2013
Public Use Only*

Unav-Nuquaint

Little Springs Lava Flow Ethnographic Investigation

Prepared for

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Final Report
September 25, 2013

Project Number:
R8230120034

Kaibab Band of Paiute Indians

RESOLUTION OF THE GOVERNING BODY OF THE KAIBAB BAND OF PAIUTE INDIANS



K-33-13

Little Spring/Mount Trumbull Cultural Landscape

- WHEREAS,** the Kaibab Paiute Tribe is an Indian Tribe as defined under the Indian Reorganization Act of June 18, 1934 as amended and operates and functions in accordance with the terms and conditions of the Kaibab Ordinances and Resolutions; and
- WHEREAS,** the Tribal Council is the recognized governing body responsible and authorized by the constitution to exercise all of the powers possessed by the band; and
- WHEREAS,** the Tribal Council stipulates that the Southern Paiute people used the Little Springs/Mount Trumbull Cultural Landscape from time immemorial, during the Little Springs Lava Flow Event, and afterwards until modern times.
- WHEREAS,** the Tribal Council stipulates that the people of the Uinkaret/Uyu'nait District who lived in the Mount Trumbull area are not extinct, but instead have moved and have been incorporated into their neighboring communities: the Kaibab Band of Paiute Indians and the Shivwits Band of Paiute Indians (now administratively a part of the Paiute Indian Tribe of Utah).
- WHEREAS,** the Tribal Council approves the current ethnographic report (*Unav-Nuquaint: Little Springs Lava Flow Ethnographic Investigation*) as a foundation document for further government-to-government consultation with the Grand Canyon-Parashant National Monument and other federal agencies that manage portions of the Little Springs/Mount Trumbull cultural landscape.

NOW THEREFORE BE IT RESOLVED BY THE TRIBAL COUNCIL OF THE KAIBAB BAND OF PAIUTE INDIANS OF THE KAIBAB INDIAN RESERVATION AS FOLLOWS:

- The Tribal Council requests a co-stewardship or co-management relationship with Grand Canyon-Parashant National Monument (GC-P NM) regarding the entire Little Spring/Mount Trumbull cultural landscape.
- The Tribal Council requests an additional cultural resource study to identify places and features and their interconnections in the Little Springs/Mount Trumbull cultural

Tribal Affairs

1

HC 65 Box 2
Fredonia, Arizona 86022

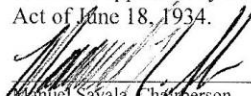
Phone (928) 643-7245
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landscape. This study should involve cultural representatives from other Southern Paiute tribes.

- The Tribal Council requests a field trip and meeting at GC-P NM for the purpose of drafting interpretive text(s) for Monument visitors. This meeting would also provide draft management recommendations that then would be reviewed by the Kaibab Paiute Tribal Council and other tribal members and officially submitted to the GC-PNM.

CERTIFICATION

I hereby certify that the foregoing resolution was regularly adopted by the Kaibab Paiute Tribal Council on **August 15, 2013** at a regular meeting at which a quorum was present with **5 Favor, 1 Absent, 0 Opposed**, pursuant to the Authority vested in the Kaibab Paiute Tribal Council of Article VI, Section 1 (a) of the Tribal Constitution and By-Laws ratified by the Tribe on June 20, 1987 and approved by the Secretary of the Interior on July 14, 1987 pursuant to Section 16 of the Act of June 18, 1934.


Manuel Savala, Chairperson
Kaibab Band of Paiute Indians

Attest:

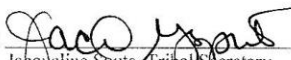

Jacqueline Spute, Tribal Secretary
Kaibab Band of Paiute Indians



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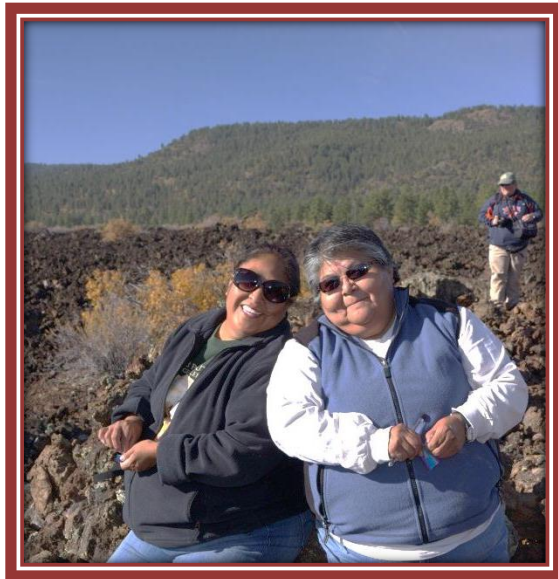
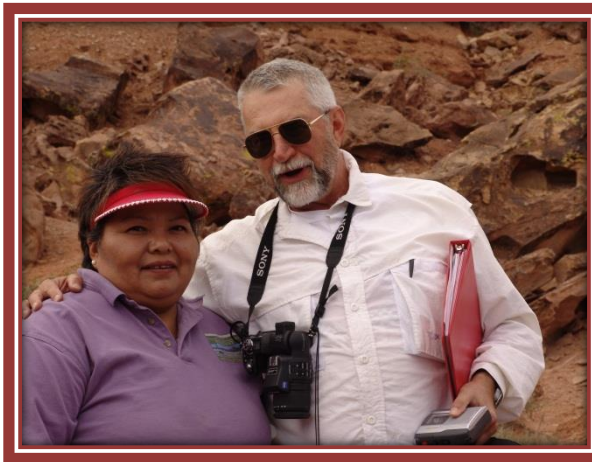
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Most importantly, the authors wish to express their sincere gratitude to all of the Southern Paiute people who participated in the study. We express our heartfelt thanks for taking time away from their families and busy schedules to share their knowledge of traditional life and cultural resources in the Arizona Strip. Without the collaboration and participation of Southern Paiute elders and experts, this study could not have been done. They deserve an equal share of the credit for the data and findings contained in this report.

PREFACE

This is a study about a very unusual place and the innovative American Indian ceremonial response to an event that uniquely occurred at this place. The place, defined here as the Uinkaret Volcanic Field, was always culturally important to Indian people for ceremony. The place is so covered with evidence of past volcanic activity that one can think of it as a place to go to talk with and experience volcanoes. This seems according to Indian testimony to have been its primary purpose for thousands of years before the event.



What is now known as the Little Springs event involved two ‘A‘ā flows that emerged from a collapsed cinder cone mountain around A.D. 1075. The event was special for two reasons (1) it has been rare in North America to have the quiet lava flows occur while Indian people were present and (2) Indian religious leaders developed culturally innovative ways of interacting with the flows. The flows were never left after they began and then cooled. Instead, they became a kind of ceremonial centerpiece within the broader Uinkaret Volcanic Field. For some considerable period after the event, it is estimated at least a generation, Indian people made the rugged ‘A‘ā surface lava flows accessible and thus useable for direct ceremony. Indian people carried an estimated 25,200 burden baskets of clean cinders from the initial cinder cone mountain in order to make up to eight kilometers of trails covering various portions of the two lava flows.

The federal land management agencies who are charged by Congress to protect and provide public access the Uinkaret Volcanic Field and the event flows now have the opportunity to begin developing policies for protecting the whole area and especially the ceremonial areas on and directly related to the event flow. Indian people have brought to these federal agencies their cultural definition of this place and area. This cultural interpretation of place, together with the local Euro-American historic events and an understanding of the special area geology, will

become the foundation for deciding how to interpret and protect the area. The culturally affiliated American Indian people believe that the Uinkaret Volcanic Field and the Little Springs volcanic event were given to them by the Creator to be respected and to serve in the balancing and renewing of people and the land. These Indian peoples, through their tribal governments, are ready to engage with the federal agencies regarding the long-term interpretation and protection of this area.

CHAPTER ONE INTRODUCTION

This study is centered on the Uinkaret Volcanic Field (the dark areas in the center of Figure 1.1), which is a unique part of the Grand Canyon region in northwestern Arizona. Hundreds of volcanic events occurring over millions of years shaped this unique topographic landscape. The Uinkaret Volcanic Field landscape can be further understood through the cultural lens of Southern Paiute land epistemology, especially Shivwits/Santa Clara, Kaibab Paiute, and Unikaret/*Uyu'nait*s (Arrow Quiver people) (Sapir 1930: 115) people who are the aboriginal inhabitants of this landscape (Figure 1.2). The resulting cultural interpretations and behavioral responses to these volcanic places now make up a spatially extensive and complex cultural landscape that is the focus of this study.

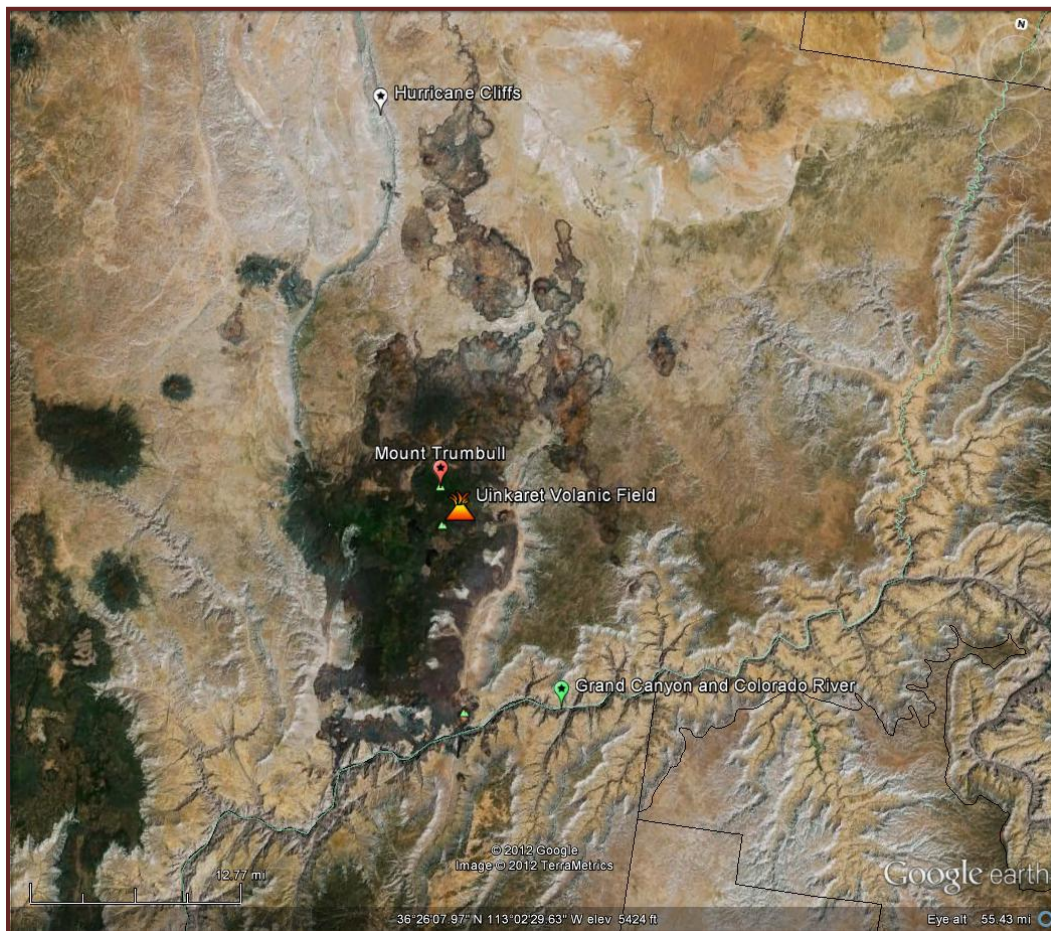


Figure 1.1 The Uinkaret Volcanic Landscape, Grand Canyon, and Colorado River

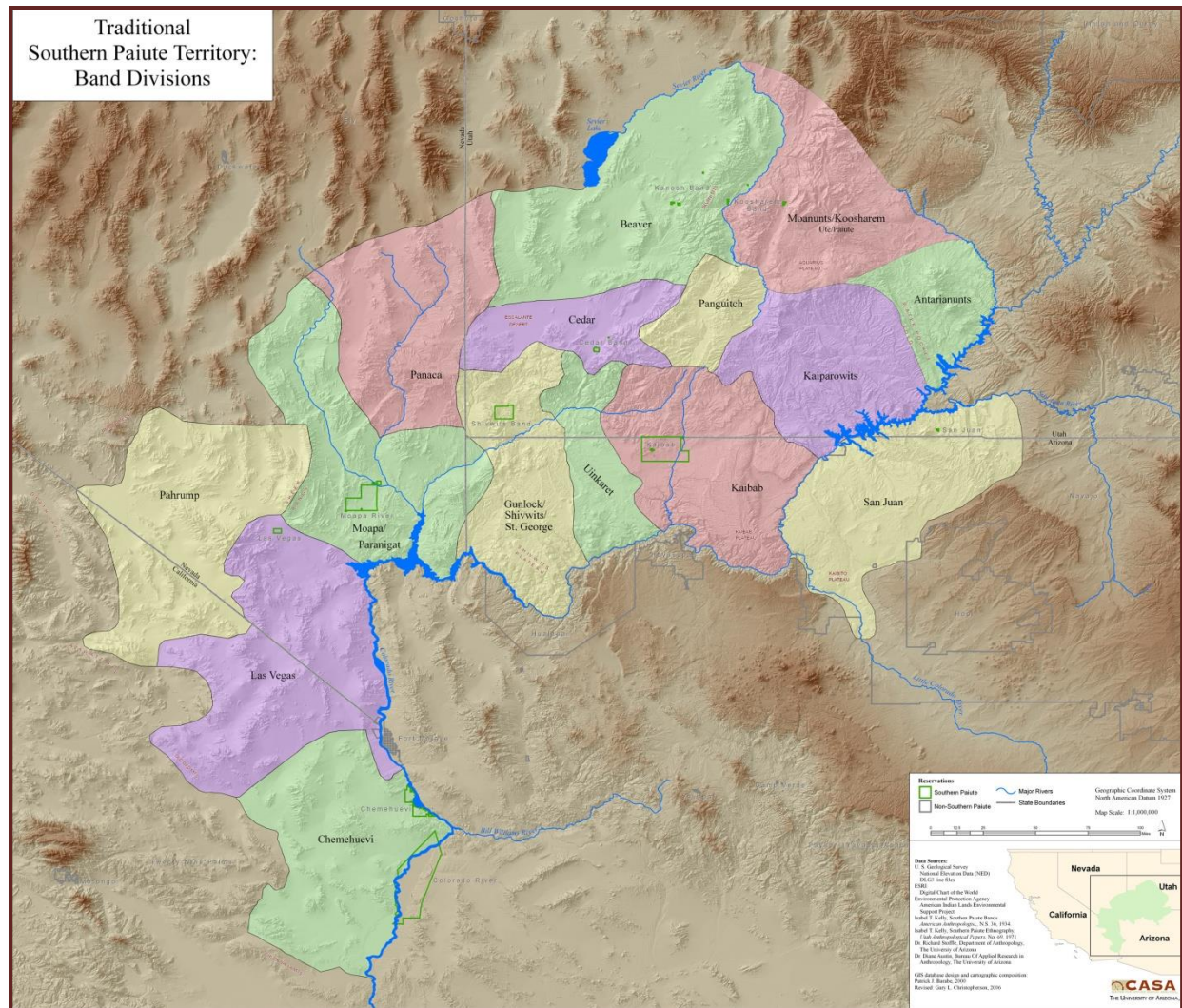


Figure 1.2 Aboriginal Southern Paiute Territory; Uinkaret/Uyu'naits District in Center in Green

The Southern Paiute cultural connections and landscape attachment to the Uinkaret Volcanic Field goes back in time to what Southern Paiute people call the Time of Creation or what legally is called time immemorial. Southern Paiute people maintain that they are the people who were created in and for this cultural landscape. According to Southern Paiute oral history, when the world was formed, the Creator established a set of mutual obligations and responsibilities between Southern Paiute people and this living natural world. As a result, places like volcanoes need to be interacted with, maintained, and respected.

Mount Trumbull is one of the focal points of this ceremonial landscape. It is over 2,440 meters (~8,000 feet) in elevation and is the tallest mountain in the Uinkaret Volcanic Field. The Southern Paiute name for Mount Trumbull was recorded by Edward Sapir in 1910 as *yüw'i'ŋkariRĭ* or Pine Peak (Sapir 1930: 75). Mount Trumbull is located about 22.5 kilometers (14 miles north) of the Colorado River in the center of the Uinkaret Volcanic Field. This mountain is a central feature of both this landscape and the culture of the Indian people who have lived in this area since Creation (Figure 1.3).



Figure 1.3 Mount Trumbull (yiv'i'ŋkarīRī) Looking North from the Little Springs Lava Flow

The purpose of this chapter is to introduce this ethnographic study and to present the background materials needed to understand findings presented in subsequent chapters. The key here is to know a bit about Southern Paiute epistemology, because these insights are useful for understanding the Southern Paiute cultural responses to the volcanic field in general, and specifically to the Little Springs Lava Flow, a product of a recent volcanic eruption. This ethnographic study was funded in two parts by the Bureau of Land Management (BLM) a first portion funded in 2003 (Stoffle et al. 2005) and a second portion funded in 2012.

In January 2000, Grand Canyon-Parashant National Monument was established and it is jointly managed by the BLM and the National Park Service. The monument includes the Little Springs Lava Flow, Mount Trumbull, and much of the Uinkaret Volcanic Field. The initial ethnographic study involved tribal representatives from the Kaibab Band of Paiute Indians, the Moapa Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe. The first study was broad in scope, dealing with both specific places and cultural landscapes in the region north of the Colorado River commonly known as the Arizona Strip. This second and current ethnographic study is focused entirely on the Kaibab Paiute relationships with the Little Springs volcanic event, which occurred about A.D. 1075. This study also brings together relevant findings from various ethnographic studies that were funded by a variety of federal agencies. The report is thus somewhat of a compilation of what is known about the Southern Paiute presence in the Arizona Strip and Southern Paiute cultural connections to volcanic places. Finally, the report draws upon ethnohistorical documents to provide additional perspectives on the relationships between the Paiute people and their cultural landscape since their initial contact with Euro-Americans.

1.1 The Uinkaret Volcanic Field

The primary focus of the second BLM ethnographic study (the current study) is the Southern Paiute cultural response to the spectacular volcanic eruption and subsequent lava flow, which occurred just south of Mount Trumbull around A. D. 1075. Southern Paiute people not only observed this event, but they chose to interact with it. Powerful religious specialists engaged the flow by walking across cooling lava to splattering hornitos and placing pottery on the hornito edges. When the magma splatter hit the pots, they exploded, thus creating discrete stones formed from the now united lava and pottery pieces. Religious leaders knocked these stones off the hornito wall before they fully cooled and became a part of the hornito rim. The sherd rocks (Figures 1.4 and 1.5) were then taken to a nearby structure where, we have reason to assume, the sherd rocks subsequently were used as centerpieces in special ceremonies and kept in ceremonial areas.



Figure 1.4 Southern Paiute Representative Examining the Sherd Rocks



Figure 1.5 A Closeup of a Sherd Rock

The Little Springs volcanic event produced a hot spring and two related but separate and very rugged lava flows. The event was shared as part of the cultural memory held by many Southern Paiute people. Because of the cultural significance of volcanic eruptions, which are commonly viewed by American Indian peoples as the rebirth of Mother Earth, the whole Uinkaret Volcanic field took on additional cultural significance. The new Little Springs Lava Flow literally became a ceremonial shrine as miles of cinder trails were made on its now cooled and rough surface. Grand Canyon-Parashant National Monument archaeologist, Matthew Hintzman (2012) estimated that there are at least eight kilometers (4.7 miles) of trail located on the two lava lobes. Indian people also made hundreds of circular structures along these trails. Evidence suggests that although the area was culturally significant before the volcanic event, its cultural centrality increased afterwards and subsequently became a major destination for people seeking healing and spiritual enrichment.

To understand fully the complexity of the cultural interactions with the Little Springs volcanic event, it is important to have a mental picture of the area. The Uinkaret Volcanic field and Mount Trumbull are geologically situated within the Shivwits, Uinkaret, and Kanab Plateaus, which are sub plateaus of the much larger Colorado Plateaus physiographic province (Billingsley, Spamer, and Menkes 1997), and are part of the Arizona Strip north of the Colorado River. Elevations range from about 2,447 meters (8,029 feet) at Mount Trumbull to about 732 meters (2,400 feet) in Cove Canyon to the southeast. Elevation is a critical element in Southern Paiute adaptation to this area because it directly influenced where and when Indian people could have chosen to farm. Elevation and climate isolation did influence how Indian people used the Uinkaret Volcanic area before and after the Little Springs event.

Surface rain and snow runoff within the study area drain south towards the Colorado River through Hells Hole Hollow, Whitmore Canyon, Toroweap Valley, and Cove Canyon. There are no permanent creeks, streams, or rivers, and there are only three permanent springs in the Uinkaret Volcanic field. This is an especially important piece of information for this study due to the debate over the role of agriculture in this area before and after the Little Springs eruptions.

Knowing about the movement of water across a landscape, regardless of its quantity, is closely associated with the flow of *Puha* (which best translates as power/energy from Creation) and where it concentrates. Generally *Puha* moves as water does in hydrological systems. Thus upper Toroweap Valley, upper Hells Hollow, and Whitmore Canyon are part of the physiographic area of the Grand Canyon and thus are topographical reflections of the flowing lines or paths of *Puha*.

1.1.1 Little Springs Eruption

The youngest volcanic rocks in the Uinkaret Volcanic field were produced when a cinder cone formed about three kilometers (two miles) south of Mount Trumbull (see Figure 1.6). The cinder mountain (or cones) rose on a narrow ridge, which is today about 2050 meters in height. The cinder mountain was taller than its current tallest point of 2094 meters or at least 44 meters above the current ridge. The ridge divides two valleys, the one to the north slopes down ridge 35 meters to about 2015 meters and the one to the south slopes down ridge 159 meters to about 1891 meters. Both valleys are surrounded, and thus defined, by old volcanoes, which are about 2075 meters high. After the cinder cone rose, the magma inside it burst through the north and south sides of the mountain and flowed downhill into the neighboring valleys. When the magma inside the cinder cone broke through, the mountain was largely destroyed. Some remnants of the cinder mountain can be found on the surface of what is now called the Little Springs lava flow, named after the nearby spring. This water source is one of only three permanent springs in the Uinkaret Plateau.

The Little Springs lava flow event is dated at about A.D. 1075 (Ort et al. 2008a, Ort et al. 2008b). Although standard volcanic dating procedures were followed they largely failed to provide an accurate date thus the currently used dates for the flow are largely based on Indian pottery found in Indian made sherd rocks. These are consciously created ceremonial artifacts made by combining various kinds of pottery with the magma/lava that bubbled up at a hornito located well out in the lava flow itself.

Other criteria supporting this eruption date are the freshness of the basalt flow surface, its rough character, and almost lack of weathering as noted by contemporary researchers and explorers in the 1800s (Dellenbaugh 1926). The Little Springs Lava Flow also has many of the same characteristics as the well-dated 1,000-year-old basalt flows at Sunset Crater National Monument near Flagstaff, Arizona. This analysis depends in part on whether or not the Little Springs Event occurred before or after the Sunset Crater event so all of the dates are critical.



Figure 1.6 Remaining two portions of Little Springs Volcano on Horizon as Seen from the Southern Lobe

Details of how the Little Springs event occurred are important for this study because there are multiple theories regarding just how and why the pots and the hornito came to be together. The basalt magma of the Little Springs event originated from two closely associated vents. These vents produced a red pyroclastic cone, which was composed mostly of cinder-like materials and rose as either a single peaked mountain or double cinder cones on top of a magma base. These pyroclastic materials were blown out of the volcano and thus they include red-brown, gray, and reddish-black basaltic scoria, bombs, cinders, and scoriaceous ejecta (Ort et al. 2008a, Ort et al. 2008b).

Even after the cinder mountain was created, however, the lava continued to rise up inside of it. Eventually the lava not only broke out of the cinder cone, and then coalesced into one large pool of lava that spread in a northerly and southerly direction. As the lava continued to well up from inside the cinder mountain it continued to flow both to the north and south thus rafting away the southern and northern part of the pyroclastic mountain. Basalt flowed northwest about 1.8 kilometers (1.1 miles) and spread out into that local valley and southeast about 2.4 kilometers (1.5 miles) down a steep gradient into another local valley. When the eruption finally ended, only the eastern half and part of the southwest edge of the pyroclastic mountain (cones) remained as seen in Figure 1.6 (Ort et al. 2008a, Ort et al. 2008b). Rafted remnants of the pyroclastic cone are scattered at various locations on the two basalt flows (often called the northern and southern lobes) (Figure 1.7).

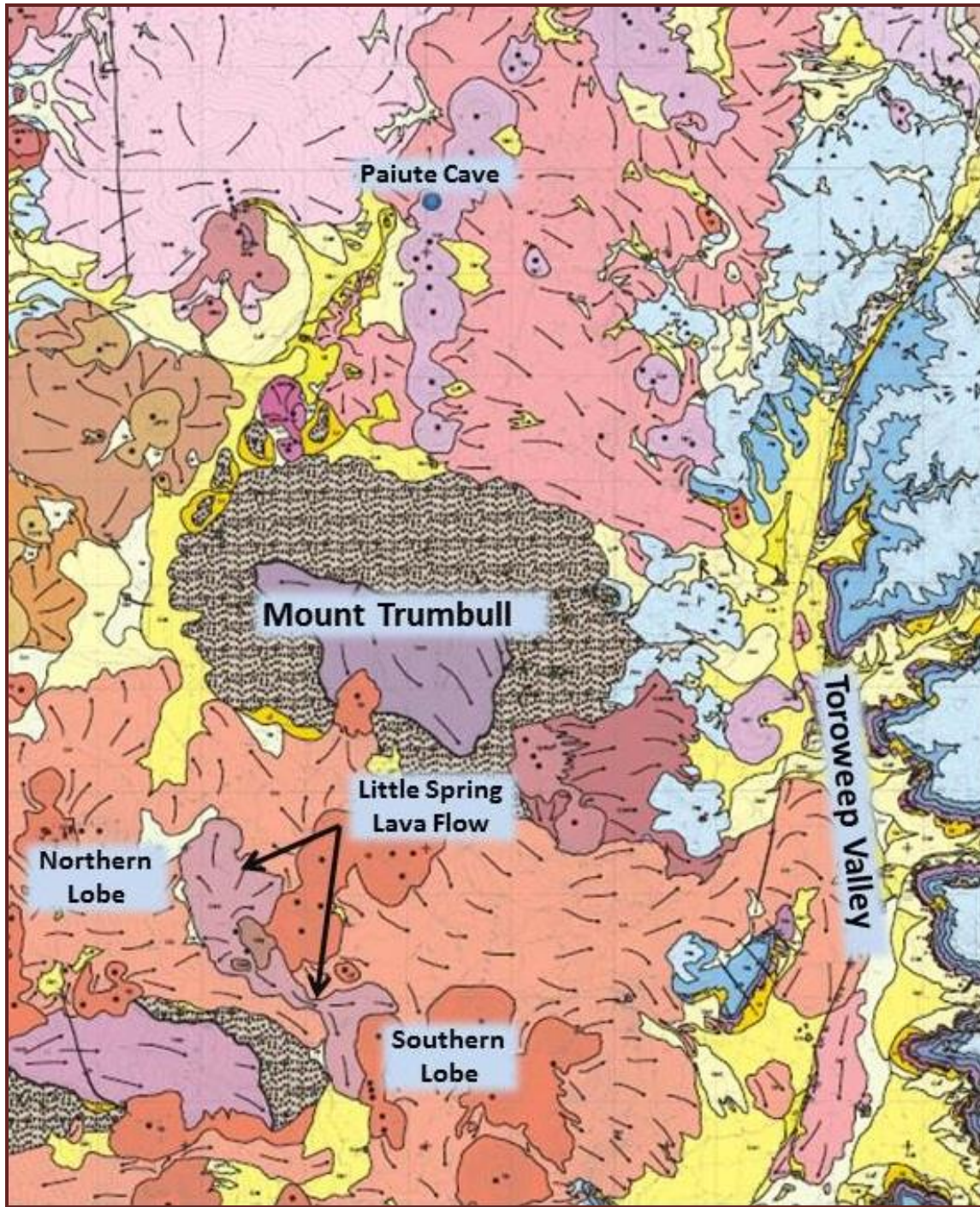


Figure 1.7 Mount Trumbull and Little Springs Lava Flow (Adapted from Billingsly and Hamblin 2001)

Even today, almost a thousand years later, there is no soil cover and very little vegetation on the surface of the two lobes. Vegetation tends to grow today only on the scattered remnants of the pyroclastic mountain materials that were rafted from the vent area on the ridge. The edges of the two flows stand as tall walls of cooled lava in stark contrast with the surrounding preexisting valleys and mountains defining the valleys. Portions of the remaining pyroclastic mountain

subsequently became the materials of choice that would be used by the Indian people to make an elaborate system of trails on the two lava flows.

1.2 Key Issues Confronting the Team

There are only a few published studies (Elson and Ort 2006; Ort et al. 2008a; Ort et al. 2008b), one Master's thesis (Hintzman 2012), a previous ethnographic study (Stoffle et al. 2005), and some agency archaeology site reports (unpublished) that address the human dimension of the Little Springs volcanic event and the Uinkaret Volcanic Field. These studies have used the available archaeological and volcanic data to interpret the American Indian lifestyles and behavioral responses that occurred before, during, and after the Little Springs event. Analysis of this event also lets us better understand how Indian people responded to evidence of earlier volcanic events. The current ethnographic study team has combined these published interpretations with ethnographic observations provided by Southern Paiute tribal representatives to identify what seems at this time to be the key issues for consideration.

Most of the previous accounts agree that Indian people lived in the Uinkaret Volcanic Field area for long periods before the Little Springs volcanic event. Many scholars also agree that the Little Springs event was special because Indian people came to a hornito in the active lava flow(s) and made sherd rocks. It is clear that after the eruption event Indian people made up to five miles of trails on the two lava flows and hundreds of round low wall structures. The cultural meaning and landscape components of the Uinkaret Volcanic field before and after the event, however, is a matter of some scholarly debate. The current ethnographic study provides additional data to be considered in these disputed interpretations. No complete resolution of these questions is possible without further research.

1.2.1 Issue A: Use of Uinkaret Volcanic Field before Little Springs Event (17,000 B.P. to A.D. 1075)

Most scholars agree that there were American Indian people living in the Mount Trumbull and the Uinkaret Volcanic field before the Little Springs volcanic event. Paleo-Indian time-period spears, dart points, and arrow points have been found throughout the Arizona Strip documenting at least 12,000 years of continuous occupation and use by Indian people. For most of this long period there was no agricultural north of the Colorado River, so the most important American Indian subsistence activities were hunting, gathering of wild plants, and the management of semi-domestic cultigens.

In the thousands of years before A.D. 500 evidence suggests (Rhode and Louderback 2007) that Indian people used hundreds of food, medicine, and weaving plants which included amaranth, cheopodium, *Oryzopsis hymenoides*, *Stanleya pinnat*, *Prosopis glanulosa* for seed production, *Ephedra nevadensis* for medicine, and *Harpagophytum procumbens* for weaving. After using these plants in the same ecosystems for thousands of years, Indian people learned how to encourage and modify these plants. Horticulture, defined here as conscious and systematic plant manipulation, thus developed over time due to learning about the physical and biological characteristics of the land and plants. This is often referred to as Traditional Ecological Knowledge (TEK) and the experimentation with various land use strategies helped make both land and plants better able to serve Indian people.

There were, however, no major cultigens like corn, beans, or squash north of the Colorado River before this time (A.D. 500) and no evidence of large-scale irrigated agriculture. By A.D. 700, agriculture had diffused throughout the region. Agricultural production in this region rapidly rose in complexity and spatially expanded corresponding with a climatic shift involving temperature warming and increased rainfall. Pottery production and its elaboration seemed to be directly tied with the more stable community life that is commonly associated with irrigation farming. This emergent lifestyle resulted in a steadily increasing population, a more sedentary lifestyle, the development of social hierarchy, the elaboration of pottery, and probably other elements of culture that do not appear the archaeological record.

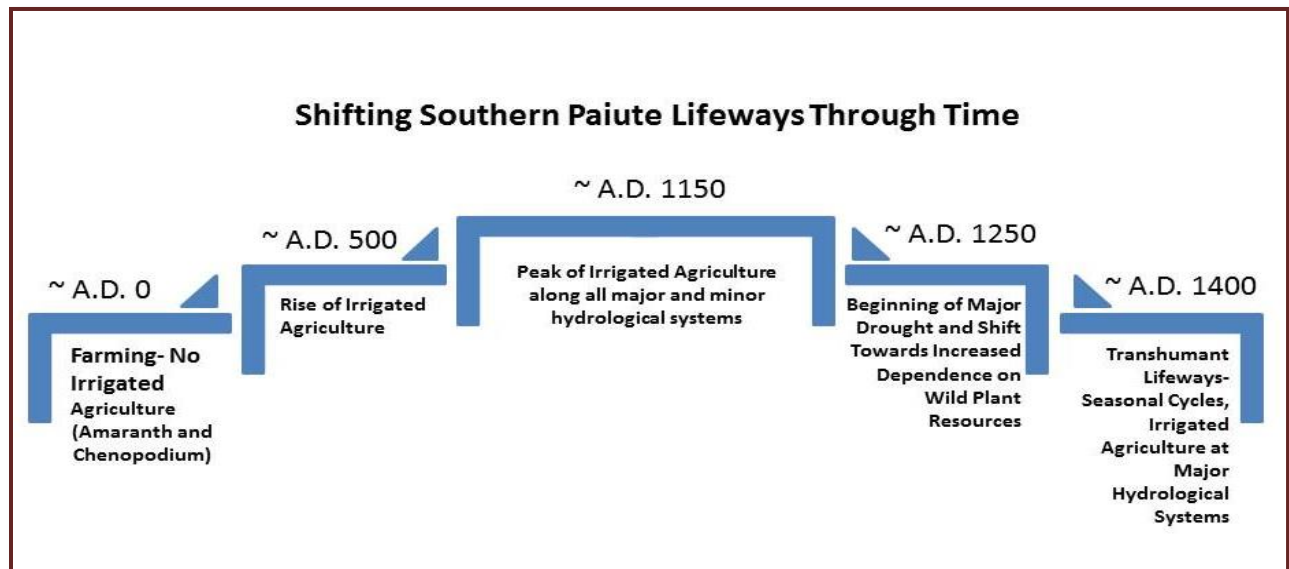


Figure 1.8 Shifting Southern Paiute Lifeways

The peak of this irrigated agriculture based way of life occurred between A.D. 1000 and A.D. 1275. Soon, however, the Little Ice Age currently dated at A.D. 1275 to A.D. 1850 and which now appears to have been caused by volcanic eruptions elsewhere marked another major climatic shift. Regional lifeways in the Arizona Strip would rapidly change again due to the onset of the Little Ice Age. By A.D. 1300, the climate in the region had drastically changed and the medium to small side creeks, which were needed for much of the irrigated agriculture (see Figure 1.9), had dried up and only the mainstream portion of rivers remained. We estimate that by A.D. 1300, up to 79 % of the preexisting irrigated agriculture in the Kaibab Paiute district was no longer possible because of greater aridity and major changes to weather patterns. As an adaptation to the new climatic conditions, Indian people shifted to a more reliable and mobile lifestyle, which was dependent on the use of natural resources and semi-domestic cultigens, although irrigated agriculture continued to be conducted in the mainstream rivers. Pottery was less useful in this less sedentary lifestyle, so basketry was greatly elaborated. The times went from pretty pots to beautiful baskets.

One question, which bears directly on the interpretation of the human response to the eruption event and even the assessment of the timing of the event, is “was this a ceremonial area where some people also farmed or a farming area where some ceremony occurred?” How this question is resolved is important to this ethnographic study because if the former occurred then it

is unlikely that there were the numbers and kinds of religious specialists in the Mount Trumbull and Uinkaret Volcanic area needed for a reasoned response to the volcanic event. If the latter occurred, then it is possible that religious specialists who were focused on volcanic ceremonies could have been in place near Mount Trumbull at the time of the volcanic event. A second question is “how fast did the eruption event occur?” If the full event occurred over a short period (say a few days or a week) then the local people in place at the time would have had little time to make a ceremonial response to the event. If the full event lasted over a long period (say a few months) then time would be available for runners to be sent to distant Southern Paiute and other Indian residential areas to inform them of the impending event and they consequently would have had the time to come to the Uinkaret Volcanic field to discuss appropriate ceremonial responses and carryout these responses during the event itself and subsequent to the event.

Dominant and Minor Area Uses Before Eruption Event		Speed of Eruption Event	
	Use	Fast	Slow
	Farming area, occasional ceremony	A Scenario: No ceremonial response possible	C Scenario: Planned ceremonial response
	Ceremony area, some farming	B Scenario: Possible spontaneous ceremonial response	D Scenario: Elaborately planned ceremonial response

Table 1.1 Indian Behavioral Options Given Different Speeds of Eruption and Previous Uses of Area

Based on our current research on the aboriginal water uses of the Kaibab Paiute people (Stoffle et al. ND), previous research on the aboriginal water uses of the Shivwits/Santa Clara Paiutes (Stoffle et al. 1994b), and research on Zion National Park (Stoffle et al. 1997), it is clear that the Uinkaret Volcanic field was an ecologically marginal area for farming. Instead, for all three Paiute districts, the most productive irrigated agricultural fields were concentrated at much lower elevations along permanent water sources (Figure 1.9). Each district also had one or more upland or hinterland area where various activities occurred which could include ceremonies. The irrigated farming areas and primary residential area for the people of the Uinkaret/ Uyu’nait district were along the lower reaches Virgin River and its immediate tributaries at an elevation of about 3800 feet. Whatever activities occurred in the Uinkaret/ Uyu’nait hinterland, they did so at an elevation of at least 6,500 feet.

Given the marginal farming conditions available on the Uinkaret Volcanic field, it is more likely, based on Southern Paiute cultural logic, that the Uinkaret/Uyu’nait volcanic landscape was primarily used as an important ceremonial landscape rather than a place where many people lived year round. Those people that did live year round or most of the year in this landscape were probably Paiute religious leaders and their families who were here to support the conduct of ceremonies related to both this volcanic landscape, and powerful places located to the south along the Colorado River. It thus is likely that this hinterland was primarily used for ceremony by a wide variety of religious leaders from many Paiute and other ethnic groups. Farming in the Uinkaret/Uyu’nait volcanic landscape certainly did occur on a small scale but a small number of people who lived in this powerful isolated area for ceremonial purposes practiced some form of farming. The residential Uinkaret/Uyu’nait religious leaders and their families probably farmed here to support themselves and groups visiting seeking places for

ceremony rather than the farming here serving as the primary food source for the majority of the Uinkaret/ Uyu'nait people.

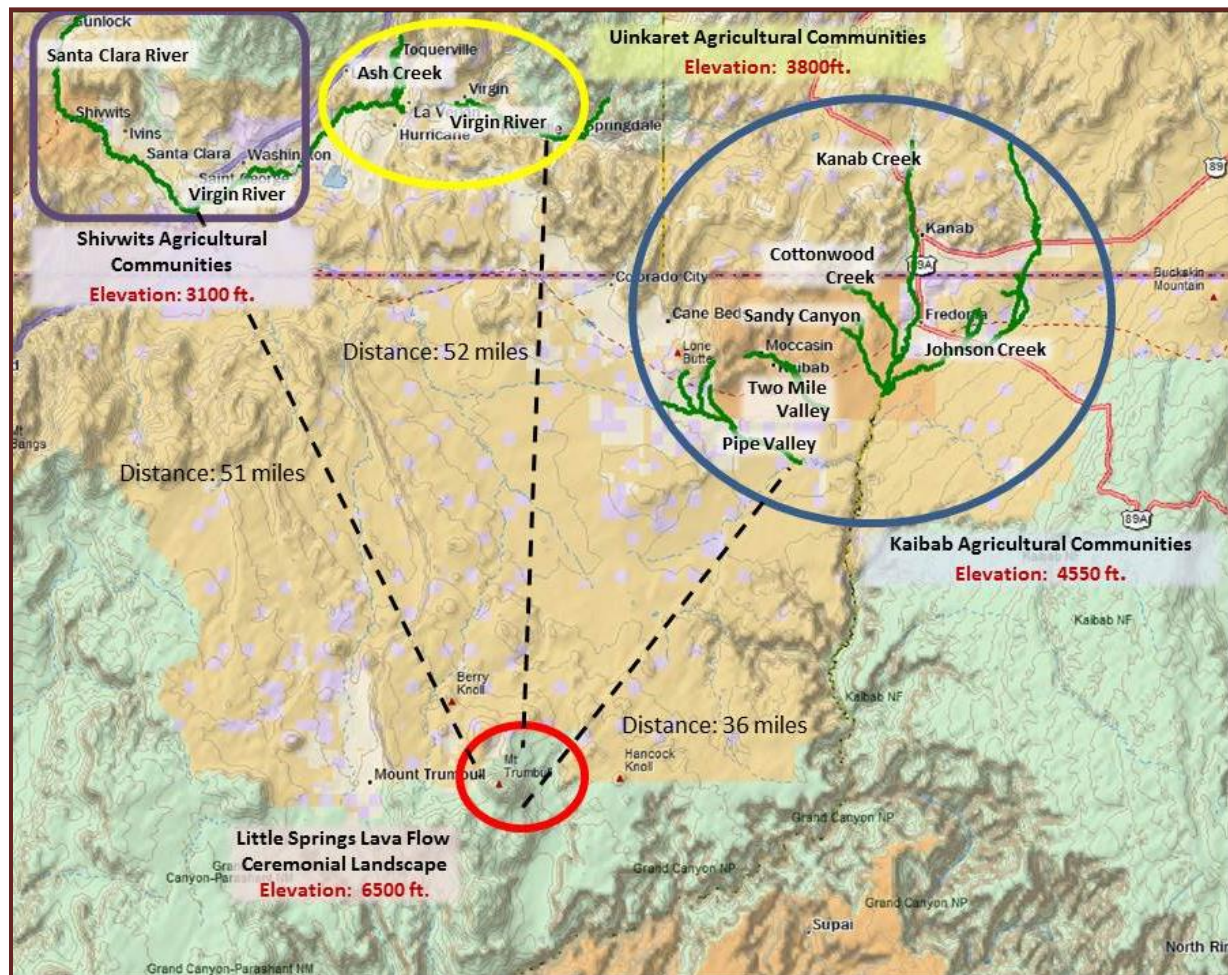


Figure 1.9 Documented Primary Irrigated Farming and Residential Areas for Kaibab, Uinkaret, and Shivwits Districts

1.2.2 Issue B: Little Springs Volcanic Event (~ A.D. 1075)

In the previous Issue A discussion, Table 1.1 uses two primary variables (Speed of Eruption and Previous Indian Uses of Uinkaret Volcanic Field) to frame the various behavioral responses of Southern Paiute people to the Little Springs Volcanic event. In this Issue B discussion, a third variable is considered. The behavioral responses to volcanic event are analyzed in more depth.

Preparation verses a Spontaneous Response

The speed of the eruption is closely related to the range of possible Southern Paiute responses. According to Northern Arizona University volcanologist, Michael Ort the volcanologist, the entire Little Springs volcanic event could have happened over a span as little as few days to a week's time (Ort et al. 2008b). If true, this would not have allowed the Indian

people to prepare a response in anticipation of the event. Were this brief duration to have occurred Indian people would have to have had an almost spontaneous reaction to the volcanic event. It basically would be a “grab a pot and stick it on a hornito and then let’s see what happens” response”. Afterwards the sherds produced at the hornito would have been taken to a pre-existing agricultural structure, which we now call the Lighting Site.

An alternative theory is that the potential of an eruption occurring at Little Springs was signaled by long periods of seismic activity. The presence of the sherds argue for a well planned and culturally reasoned response to the volcanic event. Such reasoning about the possibility of an eruption event would have to have been conducted over considerable time by religious leaders. Were such religious leaders in the area at the time? Perhaps, if volcanic-based ceremonies were already being conducted in the area before the event. A more likely scenario, however, is that there were sufficient warnings occurring over a lengthy time period of an impending eruption. Then local leaders would have sent runners to announce the potential of a coming volcanic event and for volcanic specialists from great distances to travel to the Mount Trumbull area. After religious leaders were gathered, they would have had time to work together on a reasoned response to a potential volcanic event.

A key factor in the second scenario is the presence and elaboration of Indian TEK regarding volcanoes in general and specifically eruption events. It is known that Southern Paiute people had dozens of kinds of medicine specialists and shamans (Kelly 1937), some of whom used volcanic materials such as obsidian in their religious practices. Omer Stewart (1942: 305) documented in the 1930s that Southern Paiute mothers would feed their babies the breast milk that had been placed on a volcanic rock to give the milk and the child strength. It is also known that Southern Paiute people, as most Indian ethnic groups in the western US, went to volcanoes to seek knowledge, heal the sick, and to conduct regional and world balancing ceremonies (See Chapter Six).

The question that is still prevalent is how did Indian people have sufficient TEK to predict the Little Springs volcanic event and to plan a specific set of behavioral responses once it occurred. The most likely explanation is that Little Springs event happened soon after the massive and lengthy Sunset Crater volcanic eruption. Our research team worked with cultural representatives from eight American Indian tribes regarding their interaction with and interpretation of the Sunset Crater event (Toupal and Stoffle 2004). While the relative dates for the two events have not been established, it is known that the Sunset Crater event lasted much longer (up to a generation) than the Little Springs event. It is also known from Elson and Ort’s research that during the Sunset Crater event, Indian people interacted with the active lava flows and made corn rocks along edges of the hornito walls (Elson et al. 2002). These rocks then were incorporated into nearby structures, which appear to have been built for conducting ceremonies. Sunset Crater was where these religious innovations first occurred. There at Sunset Crater, and no time before to our knowledge, religious leaders developed this unique manner of interacting with magma flows to produce corn rocks that subsequently were used in making nearby ceremonial structures. This volcanic TEK was the intellectual foundation for the Indian cultural responses to the Little Springs volcanic event.

The Little Springs ceremony had many similar components of the Sunset Crater event. Instead of corn, religious specialists used whole pots of various styles and conducted the ceremonies in a much shorter time frame at Little Springs. Logically, the religious leaders gathered at Little Springs were planning and innovating based on knowledge and experiences from Sunset Crater.

1.2.3 Issue C: Uinkaret Volcanic Field after Little Springs Event (~ A.D. 1075 – 1850)

Indian people continued to live in and use portions of the Little Springs Lava Flow and the Uinkaret Volcanic Field from the time of the eruption event until modern times. One of the women participating in the study remembers as a child, her aunts taking her to the Little Springs hot springs for healing. Indian people still sing songs that recount the eruption. Mount Trumbull is the location chosen by the Kaibab Paiute tribal government to hold the annual Traditional Camp for their youth. The area occupies a critical place in the past, present, and future lives of the Southern Paiute people.

There are three periods that are useful for discussing the Southern Paiute responses after the Little Springs eruption (1) immediate responses during the first generation after the event or until about A.D. 1100, (2) continued responses from about A.D. 1100 until about 1850, and (3) responses occurring since post European intrusion.

Immediate Southern Paiute Responses A.D. 1075-1100.

There is extensive evidence of post eruption American Indian construction activities throughout both Little Springs volcanic lobes. Even when viewing the area with satellite imagery, some of trails across the basalt lava flows are readily evident (Figure 1.10). More trails, which are not visible with these satellite data, are evident while walking over the surface. In addition to having brought in burden basket load after burden basket load of cinders, Indian people constructed hundreds of low wall and generally round structures along these trails.

So how much effort did it take to make these trails and structures on the two lava flows? It is important to remember that ‘A‘ā (rugged Hawaiian style) basalt lava flows are not smooth, but instead are characterized by sharp vertical knife-like points with deep cracks between. There are very few loose basalt stones and almost no cinders available anywhere on the flows. While the surrounding volcanic mountains that define the two valleys do have cinders these are greatly intermixed with dirt from the forests that have grown upon them. The only clean and abundant source of cinders is the original pyroclastic mountain that was the source of the two lava flows. Construction of both trails and structures created a significant engineering challenge.

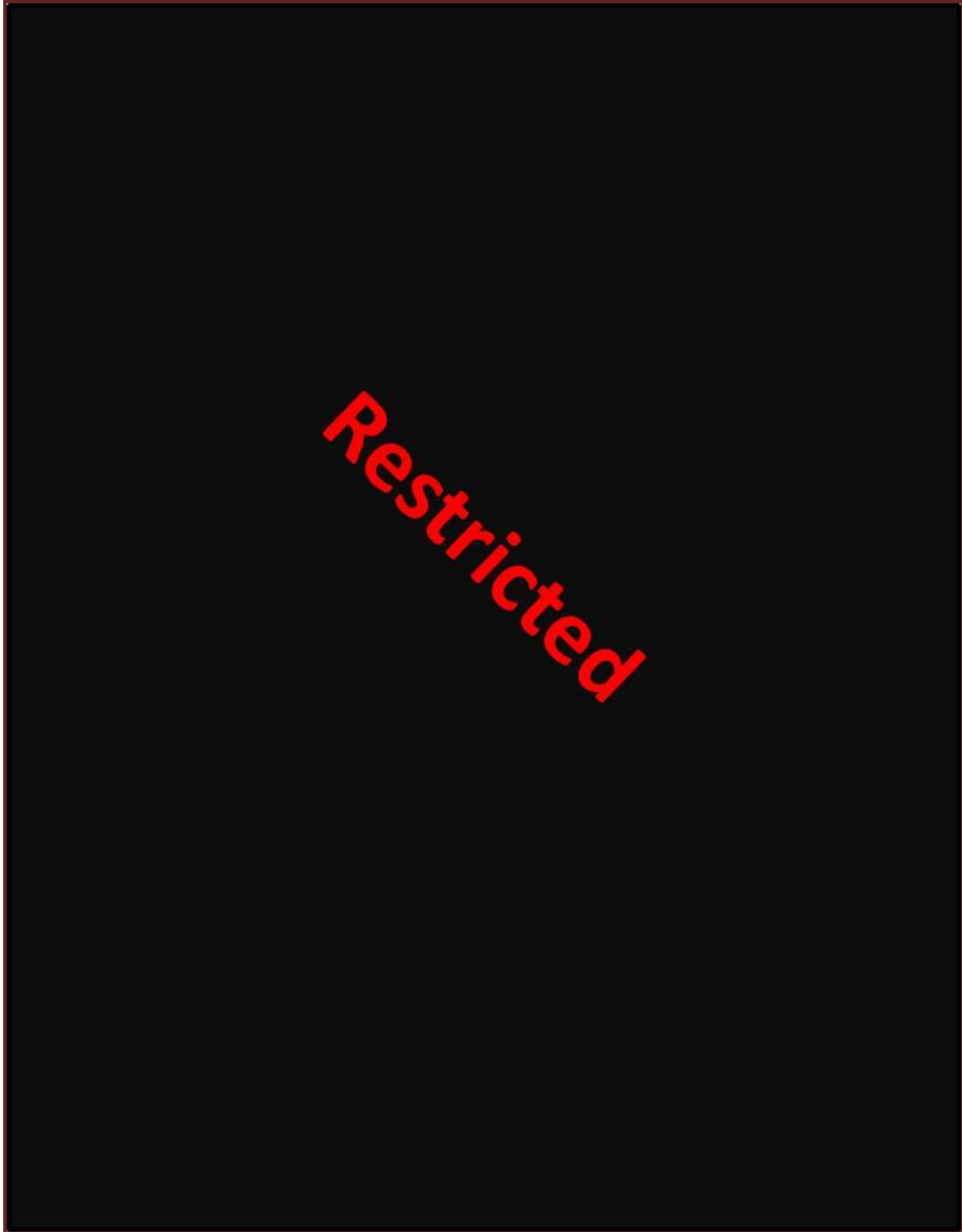


Figure 1.10 Documented Trails on the Little Springs Lava Flow

We know that the trails were made from imported cinders. This fact permits an analysis of what level of efforts were required to move these cinders to the lava flows. We can begin with the means of transporting the cinders. For Southern Paiutes, the burden basket was the only

known carrying device (Figure 1.11). Transportation of basket loads would have been with a tumpline held or positioned across the forehead of a man or woman. A typical Southern Paiute burden basket is 76 centimeters tall and 71 centimeters wide diameter at top and pointed at the bottom. We estimate that this would hold about 2.8 bushels or about 100 liters. The known trails have been estimated at eight kilometers (4.7 miles). If we look at how many cinders it would take to make a meter of these trails we estimate it would take three burden basket loads per meter. Eight kilometers of trail equals 8,000 meters (8,748 yards). When multiplied by 3 loads per meter this suggests that about 24,000 round trips were needed to make these trails.



Figure 1.11 Southern Paiute Burden Basket (NMAI 2012)

On top of the lava flows located along these trails (see Figure 1.12 for a photograph of one of the trails) and throughout the flows are about 100 structures. This figure is a very conservative estimate. Recent archaeological survey work suggests that there may be as many as 250 structures on the lava flow (Hintzman personal communication). The typical structure is approximately four meters (~13 feet) across. Some are smaller and others much larger. Most structures today have evidence that their bottoms were filled with cinders and perhaps dirt. We estimate that up to 0.3 meter (one foot) thick of fill was needed to make the structures usable. Remember that the structures were built directly on the basalt lava flow. These 100 structures would have involved an unknown number of man hours to build the walls from loose basalt

blocks, most of which would have to have been carried from elsewhere on the lava flow. The fill in the structures would have involved the same kinds of efforts as were needed for construction of the trails. We estimate that about 1,200 liters of fill would be needed per structure at a minimum. It thus would take about 12 burden basket loads of cinders to make each structure usable. We estimate that 100 structures would involve about at least 1,200 round trip basket loads.



Figure 1.12 UofA Ethnographer Kneeling Next to a Trail on the Northern Lobe

When we add the basket loads for the construction of both the trails and the associated structures it totals an estimated 25,200 round trips. In addition to the labor needed to construct the walls of the various structures, it can be assumed that the walls were complemented with sidewalls and conical roofs made from plants. More labor was needed to plan and supervise this elaborate series of trails and low walled structures on the two lava flows. All persons involved in the construction would have been fed and attended to by a support community. The constructions on the Little Springs Lava Flow were a major undertaking, but perhaps more import for the cultural assessment of the area is where did the idea for such construction come from and why was this cultural innovation done at all.

The only published theory for interpreting the trails and low walled structures on the two lava flows is by Mark Elson and Michael Ort (Elson and Ort 2006). Their theory is that after the lava flows cooled, Indian people came under attack by others. Their response to this attack was

to build a place to hide in the lava flows. Afterwards once they were threatened by attack they could retreat to the lava flows for protection.

An alternative theory put forth by the Indian people and ethnographers involved in the two BLM funded studies of the Uinkaret Volcanic Field in general and specifically Little Springs Lava Flow is that the area was always culturally special due to the presence of old volcanoes located in high upland near the Colorado River and Grand Canyon. Consequently the area had been used since time immemorial for various kinds of ceremonies and healing. The Little Springs event both validated that previous cultural interpretation and added new energy or strength (Puha) to the area. Indian people who experienced the Little Springs Lava Flow interpreted it as a gift of Mother Earth. The eruption and subsequent flow involved the emergence of Puha from the Earth in this special place. Puha, like all elements of the universe, is gradually reduced in strength so new Puha associated with the emergence of magma in the presence of Indian people is especially important for what it provides for the welfare of humans and the earth's balance. The eruption was a symbolic gift validating the power and cultural importance of the Uinkaret Volcanic field. The only possible response for the people experiencing this gift was to lay the foundation for directly interacting with the volcano and its lava flow. An enormous amount of effort, under the guidance of religious leaders, thus was expended to provide access to special areas on the flow and structures so that religious people were able to spend time interacting with the flows and their Puha. We assume that the construction plans and their implementation occurred soon after the eruption event and took about a generation of concerted efforts. It is also assumed that this was a project that involved all of the Southern Paiute people who would attend to the ceremonial needs of this important spiritual area like they did with other such areas.

Continued Responses 1100-1850

After the construction of trails and structures on the Little Springs Lava Flow these special places were generally combined with those already present before the eruption event especially either the ones going to the edge of the Grand Canyon such as Toroweap or the ones going to Lava Falls via the traditional Indian trail down to Whitmore Wash. Paiute Cave is a natural entrance and exit point for times before, during, and after the Little Springs event (see Chapter Four). The next 750 years after A.D. 1100 the Uinkaret Volcanic Field was visited for ceremony and probably occupied at least a portion of the year by religious leaders and their families who would support visitors to the area.

Some agriculture continued to be possible at this elevation until the onset of the Little Ice Age around A.D. 1275. Even before this time, however, there is evidence of a dryer and cooler climate influencing the Arizona Strip. At the high elevations where the Uinkaret Volcanic Field is located agricultural efforts must have been greatly reduced after A.D. 1275 and may have been all but eliminated by A.D. 1300. The Uinkaret Volcanic area continued to be for ceremony after this time but any semblance of normal Indian life based on farming would have been confined to the mainstream portions of low elevation river basins.

Post-European Intrusion Responses 1850-today.

Beginning before and certainly by 1850, many Southern Paiute people from the Uinkaret/ Uyu'nait District were dislocated from their primary irrigated agricultural residential areas along the branches of the Virgin River and its major tributaries. These Southern Paiute people were dislocated due to Euro-American people, animals, and diseases (see Chapter Six). Many of these and other Paiute people died from exposure to European diseases (Stoffle, Jones, and Dobyns 1995). Residential dislocations would have been to the east to live with Kaibab Paiute relatives and to the west to live with Shivwits relatives, but some Uinkaret/ Uyu'nait District people may have moved to their own hinterlands for protection. The pattern of moving to powerful ceremonial areas for protection is well documented. It occurred for people living near the Spring Mountains by 1870s. In the late 1890s, many Kaibab Paiute people were led into the canyons of Kanab River for physical and spiritual protection. This pattern of relocation redefined the purpose of ceremonial areas to include residential protection of distressed Paiute people. This ceremonial area thus became a Region of Refuge (an anthropological term) or a Zion (a Middle Eastern cultural term) both of which would have been used in similar ways to refer to a place where people can retreat in time of extreme physical and spiritual threat.

We have here a juxtaposition of theories between that of Mark Elson and Michael Ort and the Southern Paiute people involved as cultural representative during the two BLM studies. Elson and Ort's theory has the trail and structure constructions on the two Little Springs lava lobes occurring because local people were under threat from an enemy and retreated to the flows for protection. While the Southern Paiute representatives dispute that theory, it does appear possible that the initial Uinkaret/ Uyu'nait District dislocations along the Virgin River could and logically would have caused some people to move to the Uinkaret Volcanic Field for spiritual and physical protection. This movement, however, would have occurred in response to intruding Euro-Americans, their diseases, and their animals rather than hostile Indian people from somewhere else. The retreat to a sacred and powerful hinterland by the Uinkaret/ Uyu'nait District people would have occurred after the Mormon settlers arrived to forcibly assume control over the Southern Paiute irrigated agricultural field along the Virgin River in the mid-1850s (see Chapter Five).

Although there were various periods of intrusions in the Uinkaret Volcanic field after the mid-1850s clear and widespread intrusion occurred between 1871 and 1877 when the Latter Day Saints (LDS) leadership announce that a new large temple would be built in St. George, Utah (Larson 1961). Because of the need for large strong timber, the trees in the Mount Trumbull area were targeted for various timber operations. A road was construction from St. George Utah to Nixon Spring where structures and two sawmills were built by 1872. Large trees (Ponderosa Pines) were cut, processed and sent from this location, back to St. George where it was used in the construction of the new LDS Temple. After the temple was built the road and sawmill continue into the early 1900s to provide building materials for the area.

Homesteading in the Uinkaret Volcanic flow occurred in the late 1880s and continued to after the turn of the century. Such homesteads were accompanied by cattle herds, which required permanent access to the few springs in the area. So the Indian people were clearly pushed out by these shifts in land use.

There is no evidence that after being dislocated by the timber operations the Uinkaret/ Uyu'nait District people ever again lived full time in this sacred hinterland. Oral history accounts document that some of the Uinkaret/ Uyu'nait District people did relocate and begin to live with relatives at Kaibab or Shivwits. After this time the (the late 1870s) the Trumbull area was primarily used by Southern Paiute people for small-scale ceremonies that could be hidden from view by outsiders and for medicine especially associated with the hot spring. It is also important to understand that after the Ghost Dance movement of 1890 the US federal government outlawed Indian ceremonies ranging from small scale ones like individual patient doctoring by medicine men to larger scale balancing ceremonies like associated with the round dance (Stoffle et al. 2000a)

1.3 Some Study Findings

It is understood that there is great consistency in the widely shared Southern Paiute epistemology of places, especially those associated with volcanic activity. Such areas contain high concentrations of Puha, which are sought for various reasons by persons properly prepared for the journey. Places where volcanic activity has occurred are often associated with ceremony, renewal, and Puha acquisition. All Southern Paiutes and most other Indian ethnic groups in the western United States hold places of volcanic activity during recent time, like Little Springs and Sunset Crater, in great cultural esteem (see Chapter Six for more information).

- The Little Springs Lava Flow are part of a larger regional ceremonial landscape that includes Mount Trumbull, Toroweap Valley, Toroweap Overlook, Vulcan's Throne, Vulcan's Anvil, Whitmore Wash, Whitmore Rapids, the Grand Canyon, and Colorado River, Kanab River Canyon, and Zion Canyon.
- The Uinkaret Volcanic field was used before by Indian people who conducted ceremonies associated with volcanoes, but these people also farmed.
- The trails and structures on the two Little Springs Lava Flow were made by Indian people for the purpose of providing access for religious leaders and a location for them to remain while conducting ceremony.
- The northern portion of the Little Springs Lava Flow was a ceremonial destination place for special Southern Paiute volcano shamans or *Puha'gants* who traveled along a series of pilgrimage trails into the area.
- The lightening house was used for ceremonies, which involved the pottery/lava rocks and the frothy lava rocks.
- Paiute Cave is part of the entranceway into the Uinkaret Volcanic flow. Images found painted on the cave walls are found in other ceremonial places in Southern Paiute territory, including Zion Canyon, Kanab River Canyon, and the Grand Canyon. Southern Paiute Puha'gants who traveled to the Little Springs Lava Flow first visited Paiute Cave as part of ritual preparation and prayers.

- The southern portion of the Little Springs Lava Flow was interpreted by Southern Paiute people as being an important powerful place. They believed that while the northern portion was primarily associated with pilgrimage and Puha acquisition that southern portion was associated with funerals with the deceased being buried in portions of the lava flow. Some Southern Paiute representatives suggested that the Puha'gants who visited the northern portion were buried here so they could forever be close to their power acquisition place.

1.4 Management Recommendations

The following section contains a series of management recommendations provided by both the Kaibab Band of Paiute Indians and the tribal participants. The tribal council approved the following recommendations and this report on August 15, 2013. The Kaibab Band of Paiute Indians recommends the following:

- The Tribal Council requests a co-stewardship or co-management relationship with Grand Canyon-Parashant National Monument (GC-P NM) regarding the entire Little Spring/Mount Trumbull cultural landscape.
- The Tribal Council requests an additional cultural resource study to identify places and features and their interconnections in the Little Springs/Mount Trumbull cultural landscape. This study should involve cultural representatives from other Southern Paiute tribes.
- The Tribal Council requests a field trip and meeting at GC-P NM for the purpose of drafting interpretive text(s) for Monument visitors. This meeting would also provide draft management recommendations that then would be reviewed by the Kaibab Paiute Tribal Council and other tribal members and officially submitted to the GC-PNM.

A copy of the tribal resolution was included in the beginning of this document.

During ethnographic interviews, tribal representatives recommended the following actions regarding management and future studies conducted at the Little Springs Lava Flow:

- Tribal Representatives request that funding be made available for another ethnographic study.
- Tribal Representatives recommend that the Little Springs Lava Flow be protected by either putting up fencing around the lobes or by other means deemed appropriate by the Kaibab Band of Paiute Indians.
- Tribal representatives would like to see access to the area restricted by closing roads around the lava flow and limit off-road vehicle access.

1.5 Ethnographic Recommendations

The ethnographers associated with this and the previous ethnographic study have a few recommendations regarding next steps in the process of more fully understanding and interpreting the Little Springs event and the Uinkaret Volcanic Field from an American Indian perspective.

The Little Spring Volcano and the two lava flows it produced are only partially understood at this time, although the general outline of the event and what it means to Indian people past, present, and future are understood.

- It would be valuable to involve cultural representatives of other Southern Paiute tribes. This was a place used by many people over great periods of time.
- It would be valuable to involve the Hopi, Zuni, and Hualapai tribal representatives. The volcanic area was special before but became extraordinary after the Little Springs volcanic event in about A.D.1075.
- Additional interviews should be conducted using the formal ethnographic methods and interview instruments that have guided the two current ethnographic studies. This will increase the probability that the new interview data will be comparable.
- It is important to understand the cultural logic of the eight kilometers of trails that Indian people constructed on the two flows after the Little Spring event. The trails were constructed with a ceremonial purpose. An ethno-astronomer could provide computer-assisted expertise for seeing if there is a solar or lunar logic to the position of the trails. Such a person is currently employed at the University of Arizona.

CHAPTER TWO

THE *ENUGWUHYPE* (ANCESTRAL NUMIC PEOPLE) AN ETHNOGENESIS ANALYSIS

This essay originally was written for a previous study that affects portions of the northern Arizona Strip and has been approved by the Kaibab Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe. This essay is their official stance on cultural affiliation to the lands that encompass traditional Southern Paiute territory (Map 2.1).

The data and analysis presented in this chapter are more broadly understood as being focused on Southern Paiute *ethnogenesis*. By this, we follow the definition of Jonathan Hill (1996:1, cited in Fowler 2007:428) who notes that cultural anthropologists use the term *ethnogenesis* to describe the historical emergence of a people who define themselves in relations to a sociocultural and linguistic heritage. For such a people there is usually some sort of oral or written canonical text defining a place and a process of emergence that sets these people apart from others. This chapter follows the various lines of arguments as they have been presented in the book *Zuni Origins* (Gregory and Wilcox 2007) and in a published article entitled “Historic Memory” (Stoffle and Zedeño 2001), where we initially provided academic arguments in support of Numic people’s *ethnogenesis* (origin) stories.

Archaeologists in the twentieth century tended to focus on finding scientific proof that could connect archaeological periods (usually having simple names like Anasazi, Sinagua, Hohokam) with contemporary Indian people. When scientific proof was not available then archaeologists either invented a logical connection or said there were no contemporary descendants. As Indian people gained more power in the latter part of the twentieth century, some archaeologists began to incorporate American Indian oral-history based claims of being the descendants of people who lived in an archaeological period, into cultural affiliation discussions. Today, the heritage and biological connections of contemporary people with places, artifacts, and human remains is understood as very complex and difficult to resolve into simple yes or no answers. Thus, archaeologists and Indian people now bring together Indian stories, DNA testing, pottery clay sourcing and other kinds of data in an effort to move towards a better resolution of the question “Who today is related to the heritage of the past.”

This chapter presents the foundation arguments for the above stipulation made by the Southern Paiute Tribes that Southern Paiute people were created in the lands defined by the Federal government as being their aboriginal lands (see Map 2.1). The arguments discuss the following topics: (1) oral testimony and Holy Lands, (2) historic memory, (3) Southwest agricultural complex, and (4) ethnic frontiers. These foundation arguments are followed by a re-analysis of the archaeology of Gypsum Cave in Nevada using the assumption that the materials could have been left by Paiute people over thousands of years of ceremonial activity in the cave.

The chapter ends with a discussion of key points and some new arguments.

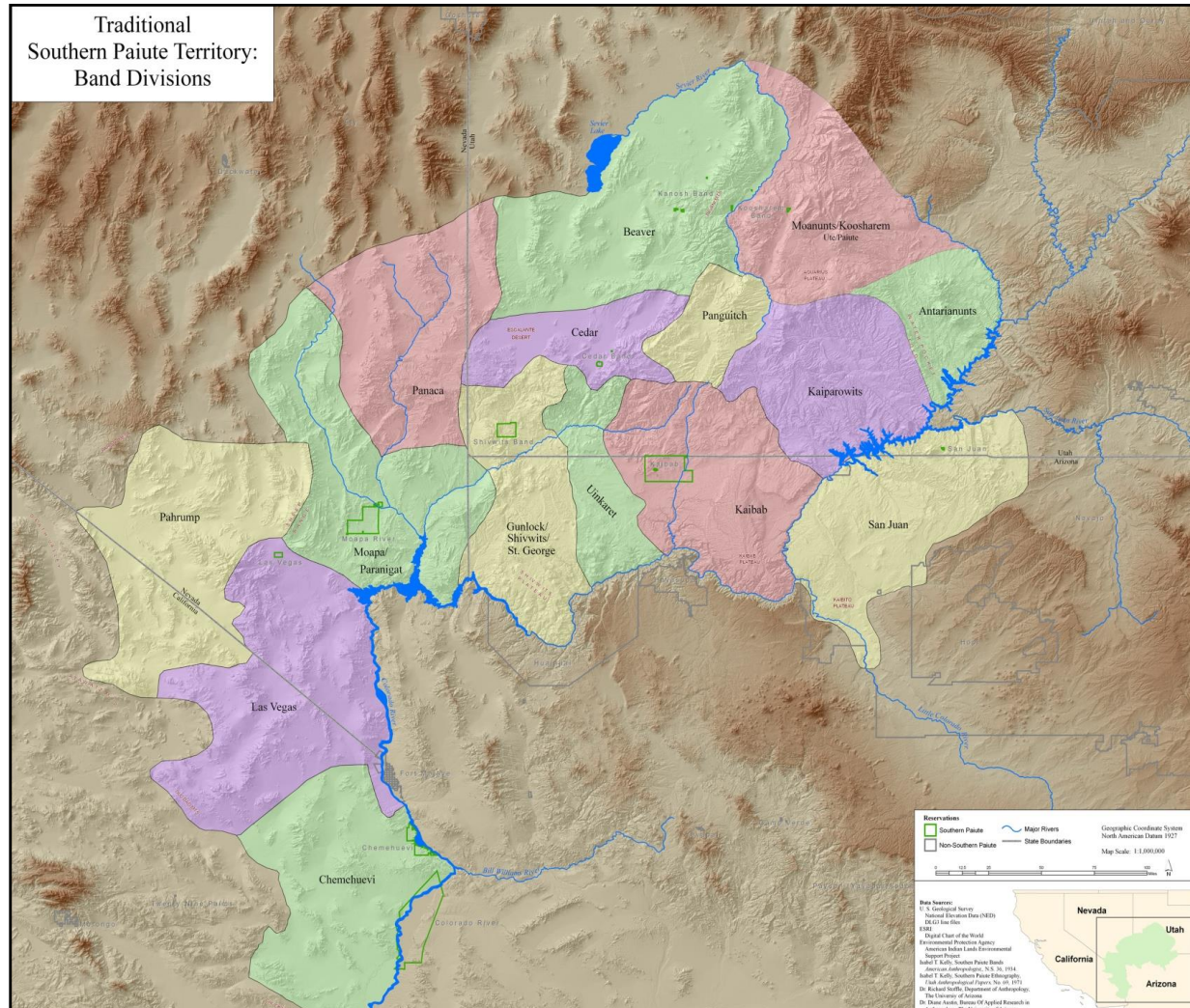


Figure 2.1 Traditional Southern Paiute Territory

2.1 The Southern Paiute Position

The Southern Paiute Tribes have major concerns regarding the use of terminology such as Fremont, Anasazi, Virgin River Anasazi, Kayenta Anasazi, Archaic Indian, Paleo-Indian, and Pueblo. They find these terms offensive and inaccurate because they believe that these Anglo-American terms do not properly reflect the original inhabitants of these lands. The Kaibab Paiute Tribe repeatedly has expressed a concern of over-using archaeological terms which imply false, unproven cultural affiliation between archaeological sites and contemporary American Indian tribes.

The Southern Paiute Tribes assert that Southern Paiute people were placed in their homelands by the Creator at least 12,000 years ago. According to Southern Paiute origin stories,

the Creator made Southern Paiute people the sole owners and caretakers of these lands (Map 1.1.). Southern Paiute oral histories describe how Southern Paiute people have always lived on these lands and how Southern Paiute people have never arrived from someplace else. Southern Paiutes are also the federally recognized aboriginal inhabitants of these lands per the ruling of the Indian Claims Commission.

Because these lands are part of Southern Paiute territory, all Native American sites located within Southern Paiute territory, unless identified and agreed upon by all Southern Paiute tribes as belonging to others, should be defined as Ancestral Numic. The Committee requests that all Native American sites located within traditional Southern Paiute territory be referred to as *Enugwuhype*¹ or Ancestral Numic. The *Enugwuhype* period refers to the time period from Creation to approximately 100 years ago.

2.2 Oral Testimony Argument One

2.2.1 A Personal Connection to *NUNGWUH TUHVEEP* (Paiute Homeland) By Vivienne Jake, Kaibab Southern Paiute

When I stand on the mesa looking into the great expanse of the land, I think of the old ones and how they must have been so caught up with their daily tasks of living, and yet, making certain that the far reaching site of their homeland needed their attention too. In our part of this Earth Mother lays what is now referred to as the Colorado Plateau.

We sadly look upon it from that same mesa top today and see it dwindling away replaced by a strange form of life that is beset on dozing off the mesa tops and replacing the aesthetic quality and experience with their large mansions, golf courses, industrial sites, and such. The influx of a different kind of people coming with their differing views and values, make it very difficult to remain connected. Our spirituality and natural surroundings have been discarded to the wayside for their benefit, as they continue to forget the first people of this land.

Whatever man might plan and think to make of our homeland, isn't always in our best interest. Our ties to the land will always be there. After all, our culture, beliefs, lifeways and identity lie deep within the land. Our ancestors roamed this land before we did, held it, protected it and depended on it for their survival. Today, we continue to revere it because of their dedication and their teachings. Acknowledging that we are spiritually connected to it will never cease.

My personal connection to Nungwuh Tuhveep is confirmed through oral history and genealogical relationships and teachings of the ancestors who came from four directions:

From the north (in Kanosh, Millard County, Utah) lives the Pikyavit Family, of which my paternal grandmother Minnie Pikyavit was a member; in addition to the Pikyavit family was the Huncups (or Ahng-kaap meaning Red One) the clan included Clara or Ah-yah-vee-ya, mother of Roy Tom, and her older brother Isaac lived in the same community as the Pikyavits;

¹ This term is also spelt *Enugwuhipe*.

To the northeast (within the Henry Mountains and Escalante, Garfield County, Utah) lived my maternal grandfather, Yuhnuhvuts or Johnny Dick; His wife, my maternal grandmother, Mollie, raised her children in Orderville, Kane County, Utah; Yuhnuhvuts was later espoused to Tahck or Maggie because Mollie became old and frail needing a lot of care. History and other records show Tahck as Maggie Dick.

To the south (within the Kaivavuts (Mountain Lying Down), Arizona's Coconino and Mohave Counties) region lived my paternal grandfather, Toomh or Jake whose children were all raised on the land encompassing the Kaibab;

Toward the west of this great expanse (the Paranagat Valley in Southern Nevada) lived my other paternal grandfather Pahnahcah or Panaca Tom. My mother's father, Chaneen or Roy Tom, son of Panaca, was raised in the Hamblin and Eagle Valleys of Iron County, Utah who later became enrolled with the Paiute band within Indian Peak (Iron County, Utah).

In the discussion of Cultural Affiliation, my claim, therefore, should never be construed as one location, one people, or even one region. It must be remembered that my ancestors lived within this homeland long before any regional, state, county or township boundaries ever existed. They were shoved around and displaced once their country was discovered and the federal government helped to make it available to others. You know, squat down, get rid of those who are there. Claim their water, land, natural resources and destroy them for who they are.

In these modern times, when so little value is placed on the significance of attachment to Nuhwuh Tuhveep, remember me and others who care, who know, that our stewardship of the Earth Mother, is our dedication to preserving its pristine conditions for the betterment of the future for the Native American children still unborn. We want them to experience the breathtaking views from atop the mesas and appreciate that there were those individual tribal members who fought for the Earth Mother, proclaiming their moral and spiritual ties to her.

At some point in time, all the selfish greed manifested in the name of development has got to stop and slow down otherwise life as we know it will cease and/or we will all be left scavenging around to survive. Un-ni-samp.

2.2.2 Sensitive Lands “A Tribal Perspective” By Calvin Meyers, Moapa Southern Paiute

The Creator had put us on this land, land that you call Southern Nevada. He taught us to keep the land sacred and to keep it healthy. We were also taught the ways to heal ourselves and others. These teachings are what we practice today; it is our way of life. All lands are sensitive and sacred and should be treated with respect. Some parts of the land give us food while other places give us medicine. If these lands are destroyed or contaminated they will not provide for us the things that we need. Some health problems cannot be healed by your western medicine, yet this land provides us the medicine to heal those health problems. This land is sacred and also provides ways for us to travel in safety. I've seen instances where the land had provided my family with a safe journey. I have used medicine from this land and seen how much this medicine works.

We are not the only creatures that this land provides for. The creatures that live in this area, not only on the ground but in the sky and in the water, the land provides for. The plants are also residents of this land. All of these things are alive also the land is alive and it breathes just the same as you and me. Without these creatures and the plants we would be without food, medicine, and shelter. We would not be provided with even the clothes that we had worn, in the past.

2.2.3 Southern Paiute Holy Lands

***** The following recounts a winter story. The Southern Paiute Tribes requests that this story should only be read during the winter months (from the time of the first snow fall to when the reptiles come out of hibernation)*****

Southern Paiute territory was far more to these people than an economically utilized region. It was their Holy Land in as much the same sense that Palestine is the Holy Land of Christians, Jews, and Muslims (Spicer 1957:197, 212-214). It was the portion of earth where they had been created. Southern Paiute Creation stories that have been recorded, albeit in abbreviated forms, resemble Christian Genesis and other myths in terms of placing the people on the earth. According to Southern Paiute belief, originally there was only water. Ocean Woman (*Hutsipamamaun*) (*Sichompa Kagon* in Fowler and Fowler 1971:78) then created dry land (Laird 1976:148-149). Once there was land, Creators Coyote and Wolf lived on Charleston Peak in the Spring Mountain Range located in Southern Nevada -- *Nüvant* (Kroeber 1908:240) or *Nivaganti* (Laird 1976:151) or *Nævagant̕* ("it has snow") (Stoffle and Dobyns 1983).

Creator Coyote later saw the tracks of a woman (actually Ocean Woman), but when he caught up with her, she was a louse (*Poo?wavi*). Coyote propositioned her, and she agreed if he would build them a house. He ran ahead, built a house, and when Louse caught up she magically put Coyote to sleep, and continued on. This happened four times before they reached the Pacific Coast. Louse set out to swim to her home island with Coyote on her back. She dived under water, and Coyote let go and turned himself into a water-spider. He reached the island first, and was waiting for Louse when she arrived. Louse's mother wove a large basket while Coyote enjoyed Louse (Kroeber 1908:240; Laird 1976:149-152).

The old woman sealed the basket, and gave it to Coyote to tow back to land. As a water spider, he did so. As Coyote, he found the basket growing heavy, and full of curiosity, opened it before reaching *Nævagant̕*. Louse's eggs had hatched in the basket, and human beings scattered in all directions over the land. By the time Coyote returned to *Nævagant̕*, only weaklings, cripples and excrement remained in the basket. On Charleston Peak, Wolf used his greater power to create the Southern Paiutes (Kroeber 1908:240 says Coyote; Laird 1976:151 says Wolf), the ingredients accounting for their dark skin color. So *Nævagant̕* (Charleston Peak) and the Spring Mountain Range are, in comparative perspective, holier to Southern Paiutes than is Mount Ararat to Christians.

Logically, *Nævagant̕* remains sacred to Southern Paiutes (Stoffle et al. 2009) and the entire Spring Mountain Range shares the sacredness of the high peak. The summit of *Nævagant̕*

risers higher than any other peak between the Sierra Nevada in California, and the San Francisco Peaks in northern Arizona (Kroeber and Kroeber 1973:44-45 n. 55). Dramatic views of the high snowcapped Nāvagantə serves to remind all Southern Paiutes that they remain within their tribal Holy Land. According to Larry Eddy, the religious leader for the Chemehuevi Southern Paiute people, the Spring Mountain range is a powerful area that is centrally located in the lives, history, and minds of *Nuwuvi* people. The range is a storied land which exists as both physical and mythic reality, both simultaneously connected by portals through which humans and other life forms can and do pass back and forth. This is as it was at Creation (Stoffle et al. 2009).

2.3 Historic Memory: Argument Two

The expanded argument has five main data-based components (1) humans societies can retain memories of critical events for thousands of years, (2) Numic people do not remember conquering previous peoples in the Great Basin and western Colorado Plateau, (3) Numic people do not remember being created somewhere else, (4) Numic people's neighbors do not remember being conquered by Numic people and (5) their neighbors do not claim to have been created within Numic territory.

2.3.1 Comparative Perspectives on Historic Memory

Humans can remember for long periods. They remember where they come from and who they are. They remember critical events like great floods and star bursts. They remember where they were created. If they move (or migrate) to a very different ecosystem they remember the move and the painful process of learning how to succeed in a new homeland. For example, Keith Basso's book, *Wisdom Sits in Places* (1996) documents how Western Apaches not only record stories, teachings, and events by attaching them to a landscape feature and giving it a meaningful name, but also how they order this knowledge chronologically, to preserve the history of changes in their interaction with the landscape, from the time they arrived in the White Mountains of Arizona to the time they finally reached settled life.

Our colleagues in the Bureau of Applied Research in Anthropology (BARA) at the University of Arizona remind us that oral history is much more than words. The late Emory Sekaquaptewa (a Hopi lawyer and tribal judge) said that for the Hopi, oral history is behavioral performance tied to symbols, music, singing, and place; it is not about telling campfire stories to children but about teaching them how to organize their everyday life. James Greenberg (a Jewish anthropologist) says that Jewish history is encoded in ritual. Both agree with Keith Basso in that "wisdom sits in places," indicating that performance and landscape often are closely connected. So, if a people remain in their creation lands they will continue to remember who they are, where they came from, and what has happened to them. If they move, they remember where they were and how they came to be where they are now. A reading of the literature on historic memory documents the following:

The Welsh People

The Welsh National Museum in Cardiff, Wales, displays the contemporary Welsh view of their past. The Welsh acknowledge that their prehistoric origins may date as early as 250,000

years ago, coinciding with the first known evidence of human occupation of cave sites. Below one of the more recent portions of a chronological display is a case that describes in words, maps, and paintings an oral history event. About 4,000 years ago, the Welsh people specially quarried blue stones from southern Wales and transported them to a place we know today as Stonehenge, where ceremonies were held. According to this display, this well-known and documented Welsh oral account has been supported by archaeological evidence.

The Jewish People

The history of the Jewish people is encoded and transmitted in ritual. For example, according to authoritative rabbis, the revolt of the Macabees is encoded in the rituals of Chanukah. The Passover meal commemorates with specific foods particular events. The enslavement of the Jews in Egypt (3100 B.P.) and their exodus is symbolized by: (1) bitter herbs representing the bitter treatment of the people; (2) saltwater representing their tears; (3) charoset meaning the mortar and bricks they used in constructing pyramids and cities; (4) hard boiled eggs indicating sacrifice; (5) the lamb shank representing the Passover by the angel of death, and (6) unleavened bread (matzo) symbolizing their rapid exodus from Egypt. Other ceremonies remember the building of the first temple (2850 B.P.), and the Babylonian captivity (2586 B.P.). Although a portion of these events was recorded in writing, Jewish people maintain that these have been and will be remembered forever through the performance of the rituals.

The Cuba of Zaire

Another of our BARA colleagues, Mamadou Baro (a cultural anthropologist from West Africa), relates that the Cuba people of Zaire remember events that occurred approximately 2,500 years ago, including the development of irrigation systems and the people who controlled them. Even today, Zaireans talk about this period as a positive example of how they had highly complex systems of social organization that compared favorably with those found elsewhere, including Europe.

The Aymara of Bolivia

Archaeologists Karen and Sergio Chavez (1998) involved the Aymara communities directly in the process of identifying, excavating, and preserving 2,000-year-old temples on the edge of Lake Titicaca. Once they were partners in the Yaya-Mama Religious Tradition Archaeology Project, members of the Aymara communities identified the location of the sacred sites and described what would be found during the excavation. After the excavation, the Aymara re-sanctified the temples and asked that they be left open so that traditional ceremonies could be practiced there.

The Mohegan Nation of Connecticut

Archaeologists working in partnership with the Mohegan Nation of Connecticut documented a cabin site that potentially would be impacted by a construction project. In 1997, tribal elders were able to identify the location of the site even though there was no surface indication of a structure. Furthermore, they remembered the name of the person who owned the cabin in the

1690s, 300 years earlier. Subsequent archaeological excavation found the cabin and colonial land ownership documents verified the name of the Indian owner (Bendremer 1998).

The Hopi People

The core area of contemporary Hopi lands was occupied by the *hotsinsa*, the Hopi term for their oldest ancestors, by A.D. 700, and the region was fully colonized by A.D. 1100 (Adams 1982; Gumerman and Dean 1989). Oral history indicates that contemporary Hopis have a memory of not only these earliest ancestors but also the clans who began to arrive at the Hopi Mesas about A.D. 1300 (Courlander 1987; James 1990). These later clan movements coincided with the various population relocations that occurred after the Great Drought, A.D. 1263-1299 (Zedeño 1997). The later clan migration episodes occurred during the Pueblo revolt of 1680 (Rushforth and Upham 1992; Whiteley 1988) and after the 1780 small pox pandemic.

The Ojibwa of the Western Great Lakes

Over a period of more than 500 years, ancestral Ojibwa bands migrated to the west from the ocean. Today, the Ojibwa people remember that they came from the salt ocean, that they moved along the Saint Lawrence Seaway, and that their spiritually guided migration ended at Madeline Island near Ashland, Wisconsin (Cleland 1992). They remember where they stopped along this migration, and today are culturally attached to those places. They remember the people they replaced (who also remember being replaced by the Ojibwa), and see that replacement as a critical part of their history.

Our point here is clear. If people worldwide, including American Indians, can remember historical events further back in time than the hypothesized Numic Spread into the Great Basin and Western Colorado Plateau, then why don't the Numu and their neighbors remember this colonization? If conventional theories are true, then the recent memory of a late arrival should remain alive in their oral history. By the same token, it is highly unlikely that the Numic people would forget their place of origin, were it from somewhere outside this area.

2.4 Southwest Agricultural Complex: Argument Three

Southern Paiutes did farm. We do not know for certain when they learned to farm, but they did farm very well (optimally) when the Europeans arrived. The question which merits detailed archaeological investigation is, how long did they have to farm to develop optimal irrigation systems? For example, the ancestors of contemporary Zuni (or the Ashiwi) experimented with their farming technology, especially the locations of fields and later flood water irrigation systems, for at least 500 years before the arrival of Europeans (Anyon and Ferguson 1984; Ferguson 1995; Ferguson and Hart 1985). Damp (2007:118) argues that Zuni origins are the result of changes in agricultural production that began some 3,000 years ago. So, the ancient Zuni required many centuries and perhaps thousands of years to produce optimal water control and dispersal systems that permitted the establishment of a sustainable and fully sedentary population (Ferguson 1995:6). Once optimized, this system continued to be responsive to changes in climate and soils.

When the Europeans arrived the Southern Paiutes had optimal irrigation systems. Farming had been practiced along the Colorado River and the Colorado Plateau for several centuries. Sometime during this period, Southern Paiute developed optimal water dispersal and irrigation systems. The complexity of these systems suggests that they were developed over hundreds and perhaps thousands of years.

Some of the cultigens associated with farming, especially corn, had mythic time origin stories. When Paiute people were interviewed by John Wesley Powell in the 1870s, he recorded a story called “Corn Is Brought to Earth” (Fowler and Fowler 1971: 96-97) which recounts how *Sinauav* (the Creator) tested a young boy and when assured he was trustworthy gave the boy some seeds of *Kumaa* (Indian Corn) and sent him on his journey. Eventually the seeds were planted and some kept for next year’s planting. The people tended the new plants, watched their growth, and kept away insects and any animals that might destroy them. When *tamun* (autumn) came and the corn was ripe the people gathered together and held a great festival and danced the *Kumaa wepa* or corn dance. That is how *Kumaa* was brought from beyond the skies and made a part of Southern Paiute life.

Clearly in this origin story, *Kumaa* was given to the Paiute people through the intentions and actions of the Creator. When interviewed 140 years ago by Powell, Southern Paiute people did not attribute the origin of *Kumaa*, corn husbandry, or *Kumaa wepa* to Europeans or diffusion from another people. Corn was given by *Sinauav* to his people and with this gift came the responsibility to care for the plant, the land on which it was grown, and the water needed for life. It is also important to realize that *Kumaa* derived from human-plant interactions occurring about 7,000 years ago and both the seed and appropriate agricultural practices spread across North America thousands of years before Europeans arrived. According to Fish (2004:135), throughout the Southwest, environmental locations that proved most favorable for agriculture were persistently occupied by cultivators after the inception of farming. People did not give up more secure ways of living. Fish (2004:136-154), in an analysis entitled *Corn, Crops, and Cultivation in the North American Southwest*, concludes that the Southwest Agricultural Complex includes ritual ceremonies and mythic origin explanations. Accounts of the supernatural bestowal of corn on a favored human group are universal. Cultigens are at the heart of rich, agriculturally orientated ideologies.

2.4.1 Aboriginal Farming—1776

The Southern Paiutes were first encountered by European explorers at the end of the eighteenth century. Earliest mention of Southern Paiute homesteads and farms along a watershed of the Colorado River is found in the observations of fathers Escalante and Dominguez in 1776 (Bolton 1950). When the expedition crossed the boundary of the Great Basin into the upper portions of the Virgin River watershed on the western Colorado Plateau, it met Southern Paiute farmers who held ears of corn in the air as a sign of greeting.

The next day, October 15, 1776, Escalante continued to sing the praises of the area now affectionately referred to in Utah as “Dixie.” At a place along Ash Creek in the upper portion of the Virgin River drainage, the expedition found a well-made mat, and on it a large supply of ears

of green corn. Nearby in the plain and along the river bank the small fields of maize had very well-made irrigation ditches (Bolton 1950:95). “For this reason,” wrote Escalante,

We felt especially pleased, partly because it gave us hopes that we should be able to provide ourselves farther on with assured supplies, but principally because it was evidence of the application of these people to the cultivation of the soil, and because of finding this preparation for reducing them to civilized life and to the Faith when the Most High may so will, for it is well know what it costs to induce other Indians to do this, and how much their conversion is impeded by their dislike for this labor, which is so necessary for a civilized life, especially in pueblos (quoted in Bolton 1950:95).

Thus, the Fathers were pleased at finding a pueblo-like people who were already close to civilization as indicated by their farming practices.

2.4.2 Jedediah Smith Farming Observation—1826

Jedediah Smith was a trapper and explorer who traveled through much of central portion of traditional Southern Paiute territory in 1826 with a crew of more than thirteen men and a large remuda of horses. He kept a reasonably complete diary in which he carefully documented his journey and especially various areas of Paiute farming (Brooks 1977). It should be pointed out that his observations were in the fall, thus some evidence of farming and others kinds of horticulture were missing. For example, when the party reached the Santa Clara River there was evidence of previously harvested corn fields; this led Smith to name the river, Corn Creek (Brooks 1977:57 n. 53).

After providing evidence that the Smith party was friendly, a dozen Paiute men approached bringing in their hands an ear of corn as an emblem of peace. Smith was relieved because “as provisions was our greatest present desire we were much pleased to hear that they had corn and pumpkins close at hand” (Brooks 1977:58) and in sufficient surplus to permit trading food for goods with the party.

While camped along the Santa Clara, Smith traveled about a mile upstream from his camp to visit various Indian lodges and see how they farmed. He observed that:

Their little corn patch is close on the bank of the creek for the convenience of water. The Creek is damed about and the water is conducted in a trunk to a place where it can be spread over the surface. For a hoe they use a piece of wood 3 in Broad and 4 feet Long. The pumpkins and corn were not quite ripe (Brooks 1977:59-60).

Traveling to the south, the Smith party arrived on the Muddy River (Moapa River) near where it meets with the Virgin River. There Smith observed that “[there] was several Lodges of Indians like those on Corn Creek. They had corn (which was gathered) Pumpkins squashes and some small green Water Melons. I soon purchased some pumpkins and squashes and encamped” (Brooks 1977:63).

It is important to note that the Smith party did not purchase corn probably because they had purchased a surplus from the Paiutes living along Santa Clara (Corn Creek) a few days before. Smith also observed a large quantity of rock salt in the village which was from the nearby sacred salt cave. He noted that Mojaves from the Cottonwood Island area traveled to this area to trade items for ceremonial salt and red ochre.

From the Muddy River area, Smith and his party headed south towards the Colorado River. Once they reached the river, he documented an Indian family who was practicing flood water irrigation farming. According to Smith, “They had pumpkins squashes and Beans growing on a small spot of alluvial soil on the River bank. I purchased of the different kinds and he showed me where he had wheat sown on rather planted in the hills 20 or 30 grains in the hill” (Brooks 1977:67). Again, the farmer had sufficient surplus to offer some for purchase to the Smith party. It is also the first observation of the imported cultigens such as wheat being grown by the Paiutes. Note this farmer had already adapted a flood irrigation system to accommodate the new crop.

2.4.3 Santa Clara River—1852

When the Mormons first colonized the area, Southern Paiutes had already been farming all along the *Tonaquint* or Santa Clara River in southwestern Utah. Paiute people were utilizing “irrigation dams and ditches and were also farming on smaller irrigable benches on the upper creek and its tributaries, as well as at springs on the Santa Clara watershed” (Stoffle and Zedeño 2001:232-233).

Population and Irrigated Acreage

In 1852, Mormon elder John D. Lee wrote a letter to the editor of *Deseret News*, in which he reported having seen some 100 acres of land under cultivation by Southern Paiutes along the Santa Clara River:

The Santa Clara River is 1 rod wide and 20 inches pure, clear water-rich bottoms, though narrow, and heavily timbered for the distance of 30 miles. On this stream we saw about 100 acres of land that had been cultivated by the Pintes [sic] Indians, principally in corn and squashes; and judging from the stocks, the conclusion would be that heavy crops are and can be raised in these vallies. This tribe is numerous, and have quite an area of husbandry. (Lee 1852). (Spelling errors in the original)

In 1854, a party of Mormon colonists left Fort Harmony and explored the Virgin River downstream to the mouth of the Santa Clara River and then up the Santa Clara. This party reported that there was a village about one mile upstream from the confluence of the Santa Clara and Virgin Rivers, and a large population center some six miles further upstream from the village. The Santa Clara Paiutes were farming extensively near this population center. The party also found smaller villages and associated agricultural fields dotted along the upper course of the Santa Clara River. Before Mormons began colonizing the region, the local Indian population was

diverting the flow of the river and using the water for crop irrigation at several places along the Santa Clara. The Mormons observed small fields—up to 10 acres each—all along the floodplains of the Santa Clara River. Presumably, each of these fields was the farm of an individual family or group of closely related families. The diary of Thomas D. Brown states that,

There was good crops of wheat ripe in some places which they were cutting and using, and abundance of corn, many beans, and a green substance between the rows which we stooped and wished to pull out, till they told us it was part of their food. Some 10 acres are cultivated here, and as many or more at the settlement below this, indeed all along this river are small Indian patches of 2 to 10 acres cultivated. And some of the missionaries have visited other portions of these bottoms and say there are many more small patches uncultivated (Brooks 1972:57).

The logical inference is that Brown's mention of "uncultivated patches" is a reference to fields the Paiutes left fallow or allowed to revert to natural vegetation. This eyewitness account calls small fields "small Indian patches." So, "small patches uncultivated" presumably refers to old fields. The village near the mouth of the Santa Clara River was described by Brown: "... The road this morning was on the west bench rolling and level bottoms of the Rio Virgin, on the Tornaquint we came to a fine lot of wheat nearly ripe. Still much fruit 'ope'..." (Brooks 1972).

This point viz. nearly at the mouth of the Santa Clara seems an old settlement, as there are many corn lots abandoned, for the same reason I had formerly supposed—the roots. This place seemed more comfortable to me, than any place we had come to. Crops living & many human beings, they were much afraid especially the Squaws and children (Brooks 1972:53).

After supper, some of the party left their camp to visit another nearby village the Mormons called, "Matuprenup's' wickeup — there we found some 8 or 10 men and 2 squaws only, and a 'nantsits' — female child — they were in great fear (*sherreah*) when we approached" (Brooks 1972:53-54).

Here the Mormons were fed with "wheat & seed flour porridge & berries" and also given "home made wine" in a "large spoon made of the horn of a mountain sheep that would hold about a pint" (Brooks 1972:54). ...Another female "pishamon" was drying the heads of green wheat in the ashes, this they had pulled while yet in the milk, they dried it sufficiently hard — the heads tied up in small bunches that when taken out of the husks they could rub the wheat from the husks and thus prepare it for grinding into flour... There appears many patches of good wheat land on this stream (Brooks 1972:55).

The Mormon party appears to have been impressed with the density of the population as they traveled up the Santa Clara River and with the extent and quality of the Indian fields and crops. Eyewitness Mormon accounts from 1854 state that "about 7 miles up this river we found a Central point more extensively peopled & farmed the finest wheat I have seen in these vallies, and much farther forward than here or farther north" (Brooks 1972:68). Jacob Hamblin's diary also notes the extensiveness of Indian farming on the Santa Clara River: "we encamp on the St.

a clara the 10. of June 1854 here the Pieds had quite extensive fields of wheet and corn [sic]" (Little 1969:20). The Mormons estimated that the central village on the Santa Clara River had a population of some 250 men, not counting women and children:

The next day the company camped near the present town of Santa Clara. Here they found a large camp of Indians, the men numbering about one hundred and seventy five.... it was found, in a day or two, that there were two hundred and fifty men belonging to this Camp (Bleak 1928:17-18).

Most of the women and children were hiding until the Indian people were sure the Euro-Americans would not kidnap them and sell them as slaves. Altogether, the Mormons estimated that the villages in the Santa Clara area under the leadership of Chief Tutsigavits had a population of some 800 persons (Bleak 1928:17-18). The Mormon reconnaissance party also found farming settlements along the upper reaches of the Santa Clara River. At one of these villages the local leader Macooveooks reportedly pressed the Mormons to baptize his men. The Mormons obliged, baptizing eleven men. Near the village the Mormons saw an irrigated cornfield and a wickiup camp atop a "very high mountain," beyond the access of man or beast (Brooks 1972:63-64).

In 1857, a Mormon traveler recorded that "Jackson, a chief of the Paiutes," met him on the upper Santa Clara River some fifteen miles above Fort Clara (Martineau 1857). Five miles up river his party met another band led by Chief Kahbeets. Kahbeets invited the travelers to camp near their village and the travelers purchased food:

Their chief, Kahbeets ... insisted on our stopping with them. We accordingly camped, the natives assisting in taking care of our animals, roasting corn for us and inviting us to help ourselves to their corn, some 5 acres of which stood close by" (Martineau 1857).

Here again, Southern Paiutes were apparently producing enough food to offer some for sale to travelers. This reflects both entrepreneurship and horticultural production on a sufficient scale to leave a surplus after meeting their own needs.

Water Management for Irrigation and Flood Control

The Santa Clara Paiutes used dams and canals for irrigation and flood control before Euro-American colonization of the area. Eyewitness accounts document this early in the nineteenth century, and it is acknowledged by Mormon historians. An article by historian Andrew K. Larson notes "the first irrigation in Washington County was carried on by the Indians who lived here before the advent of the Whites" (Larson 1950:36).

A letter by Richard Robinson, member of the 1854 missionary party, records that the Indian people of the Santa Clara River had dams: "They make dams and have water sects, which they make with sticks, which are formed something like a canoe paddle" (Robinson, quoted in Brooks 1950:29).

Members of the 1854 Mormon party were taken to see a large dam and irrigation works constructed by the Indian people of the Santa Clara River near the main center of population. Thomas D. Brown recorded in his diary that after a meeting with about forty Indian people, most of the Mormon party accompanied Chief Tsatsegoup to see the improvements made on the Indian irrigation ditches. They saw a dam across the Santa Clara that was “3 rods” or 48 feet long, feeding into an irrigation canal about three-fourths of a mile long. This canal cut as deep as ten feet at some points along the grade and was constructed with aboriginal hand tools. Brown apparently included a sketch in his diary, illustrated in Brooks (1972:57):

1) being the banks of the river, 2) the dam and 3) the course of water, from 2a, a water ditch or irrigating canal runs for 3/4 of a mile, round the base of rocky mountain in some places cut & worn from 6 to 10 feet deep, all this accomplished with their hands and small sticks, no other implements being among them. There was good crops of wheat ripe in some places which they were cutting and using, and abundance of corn, many beans, and a green substance between the rows which we stopped and wished to pull out, till they told us it was part of their food.

Jacob Hamblin recorded in his diary that in June, 1854, during the first few weeks of the Mormon colonists’ presence on the Santa Clara River, an Indian dam near the main Santa Clara settlement broke and that he helped repair it: “the next Day thare dam brock away. I helpt them repare it [sic]” (Little 1969:22). It is interesting to note that when Elder George A. Smith visited the Santa Clara River in 1857, he reported:

...there were thirteen Indian dams across the stream above the Santa Clara Fort (Smith 1861). Smith criticized traditional Indian irrigation practices as wasteful of water. However, his criticism serves to document the large effort the Indian people put into constructing their irrigation works. It also documents the extensive use they made of the river’s water for irrigation. Smith (1861:1) said that “they irrigated the land by just simply turning on the water, and letting it run to great excess, washing and wasting a great deal of soil” Smith went on to note that the colonists at Fort Santa Clara were teaching the Indian people “to irrigate in a way to avoid the waste of water occasioned by irrigating in their slovenly manner” (Smith 1861:1-2) ... It is possible that Smith and other Mormons overlooked the importance of irrigation water for plant species other than domesticated field crops. The Mormon party saw irrigation works on the upper watershed at the village of Macooveooks. They also saw an irrigation canal roughly half a mile in length on the Virgin River at the village of Chief Toker (Brooks 1977) (Stoffle and Zedeño 2001:235).

The Mormons noted there were many beaver dams along the Santa Clara River. The coexistence of beaver dams and Southern Paiute farming along the lower Santa Clara River suggests that the Santa Clara Southern Paiutes let beavers perform some portions of the dam construction and maintenance in the Indian water management system. As Mormons colonized the Santa Clara, they eliminated the beavers, their dams, and their labor. Nellie Gubler notes that at the time the wife of Thales Haskell was shot by a young Indian man, Haskell was “away up

the creek taking out beaver dams” (Gubler 1950:154). Elimination of the flood control provided by beaver dams was probably one of the causes of the series of disastrous floods that swept away much of the rich bottomland after Mormon colonization began. In any case, the close association of Indian farms and beaver dams suggests that the presence of beaver dams was an intentional part of aboriginal water management strategy. This association is suggested in the eyewitness observation of Thomas D. Brown: “There appears many patches of good wheat land on this stream, across which Beaver dams are built every few rods, & the banks being low, the water overflows much & renders the bottoms good grazing patches” (Brooks 1972:55).

Wild plant species formed an important part of the Southern Paiute diet. Water management that spread the flow of the river and retained the topsoil optimized growing conditions for desirable wild plant species as well as for domesticated crops. Within the Southern Paiute subsistence strategy, planting and irrigation of domesticated plants (including maize, beans, squash, amaranth, and chenopods) shaded into irrigation of undomesticated plants growing wild in the cultivated fields (including *Mentzelia*). Irrigation of wild plants in the cultivated fields transitioned into irrigation of stands of wild plants (berries, wild seed grains, greens) as a result of dams across the river.

Analysis

Most of the Southern Paiute fields along the Santa Clara River and elsewhere were irrigated by stream diversion into primary canals and field laterals. Southern Paiutes adapted their irrigation technology to a variety of environmental conditions in their diverse habitat. The Santa Clara River was small enough that Southern Paiutes could successfully dam it and divert its waters. At peak flow, the Santa Clara River sometimes damaged the Southern Paiutes’ dams, but they repaired them or built new ones. As noted above, Hamblin watched the Indians repair a dam in 1854 (Little 1969).

On the Colorado River the volume of flow was too large to permit Native American diversion. Instead, Southern Paiutes cultivated some of the sandbars after the spring season floods (Brooks 1977:67; Laird 1976:23; Powell 1957:103; 108; Euler 1966:81). Additionally, springs were used for inland irrigation. Spring flows are physically easier to divert and manage. Southern Paiutes diverted water from many springs throughout their territory to irrigate crops (Lyle 1872:84, 85, 90; Lockwood 1872:75).

In 1848, Mexico ceded its northern territories (a region that included the aboriginal holy lands of the Southern Paiutes) to the United States by the Treaty of Guadalupe Hidalgo. Some of the travelers whose reports we have cited traversed Southern Paiute territory as early as 1776 and 1826, long before the Mexican Cession. Others saw pre-conquest Southern Paiute agricultural use of Santa Clara waters in the year 1848 before the signing of the treaty by Mexican and United States representatives. Thus, when the United States gained nominal jurisdiction over the Santa Clara basin in 1848, the Southern Paiute inhabitants already had rights (under the terms of the Treaty of Guadalupe Hidalgo) to continue diverting Santa Clara water with a legal priority date “from time immemorial.” Other travelers traversed the Santa Clara from 1849 to 1854, before Euro-American colonization of the Santa Clara began, and during the earliest phase of Mormon colonization. All of the cited travelers described Southern Paiute use of Santa Clara

River water for indigenous agriculture. Southern Paiutes continued to farm along the Santa Clara in the following decades, though the scale of their farming operations was curtailed by Euro-American encroachment. Colonists who displaced Indian farmers took advantage of the prepared fields in prime agricultural land, thus obliterating most evidence of aboriginal cultivation.

2.4.4 Farming Communities in Pahranaagat—1864

About ninety years after Escalante's journey, William Nye spent the winter of 1864 in the Pahranaagat Valley in southeastern Nevada. In his chronicle, he described this yet unexplored valley as "an Indian paradise" blessed with fertility and abundant water in an otherwise arid region. Nye observed where the Southern Paiutes kept patches of melon and corn on land irrigated by snow-melt streams (Nye 1886:295). In the valley, Chief Pah-Witchit headed a community of some 200 individuals. The Chief asked Nye, "What for you come to our country digging up stones? and your ponies eating up the grass in the valley, and next summer, perhaps, destroying our corn and melon patches," (Nye 1886:295). Nye observed that the Pahranaagat Paiutes stored the corn they produced for the winter.

2.4.5 Farming Everywhere—1871

Another expedition headed by Lieut. George Wheeler for the United States government made a similar observation about Paiute agriculture. In 1871, while traveling from the Owens Valley in California to southern Nevada, Wheeler arrived in Ash Meadows just north of Death Valley and thus entered the western boundary of Southern Paiute territory, where he observed:

We found plenty of excellent grass and water, the latter from warm springs... I then moved southward and crossed a low range into another sandy and gravelly desert, (Pah-rimp Desert,) which extends south for miles, and skirts the Spring Mountain Range. This desert contains several beautiful little oases, the principal on being at Pah-rimp Springs, at which point are located quite a number of Pah-Ute Indians, very friendly and quite intelligent. These Indians raise corn, melons, and squashes. Great quantities of wild grapes were found around these springs (Lyle 1872:84).

In the 1870s a few years after Wheeler passed through Southern Paiute lands, a U.S. Geological Survey expedition headed by Major J. W. Powell and G. W. Ingalls also found Paiute farmers. According to these observers "all Pai-Utes subsist in part by cultivating the soil" (Fowler and Fowler 1971:98); they commented on the well-developed regional sociopolitical organization and the High Chief system which was recognized by different Southern Paiute bands in the area. Powell and Ingalls also found a people who had extensive knowledge about their landscape, ranging from geography and botany to astronomy (as indicated in part by the vocabularies Powell collected). In his writings, Powell elegantly captured the nature and strength of the relationship between the Southern Paiutes and their homeland:

An Indian will never ask to what nation or tribe or body of people another Indian belongs to but to "what land do you belong and how are you land named?" Thus the very name of the Indian is his title deed to his home... His national pride and

patriotism, his peace with other tribes, his home and livelihood for his family, all his interests, everything that is dear to him is associated with his country. (Fowler and Fowler 1971:38).

Powell even recorded a Paiute poem written about Paranagat Valley with the title “The Beautiful Valley (MS 831-c, in Fowler and Fowler 1971:125). Like Powell, Nye (1886:294) was impressed with the poetic faculty of the Indian dwellers in this valley of the mountains.

Paiute farming was so prevalent in Pahrnagat Valley. The official state history of Nevada documented at Crystal Spring located at the head of Pahrnagat Creek a Southern Paiute irrigation canal eight feet wide and six feet deep ran for several miles in 1880 (Angel 1881:186).

2.4.6 Hunters and Gatherers—1900

By the early 1900s, however, anthropologists had adopted a position that defined all Great Basin and western Colorado Plateau people as non-farmers and socially ranked among the simplest people on the planet (Stoffle et al. 1982:110). Both A. L. Kroeber and J. Steward wrote of Paiutes and Shoshones as though they were simple, and quite frankly not very smart. They perceived (or needed to perceive, to make their theories work) the Numic people as dominated by their environment. In *Handbook of the Indians of California*, Kroeber (1925:582-583) concluded that Great Basin Paiute culture is: (1) rude, too flexible to be elaborated, (2) having monotonous simplicity, (3) unintegrated into broad cultural patterns, and (4) interesting only because of its poverty.

Kroeber (1925) further concluded that (1) these people have a scant population, (2) move to the dictates of the environment with (3) makeshift subsistence, (4) are intermittently idle, and (5) have little occasion to use their imagination. Such discounted perceptions of Numic peoples persisted in Steward’s *Theory of Culture Change: the Methodology of Multilinear Evolution* (1955), where he characterized them as having a family level of sociocultural integration – a position not supported by either his own data or that of his first Ph.D. student, Omer Stewart (1980). According to Stewart, Paiute people are like “living fossils,” exemplifying what human society must have been like tens of thousands of years in the past before the advent of agriculture, cities, and any of the cultural traits that defined civilization.

Documentation of Indian irrigated agriculture by the earliest Euro-American travelers clearly shows that Southern Paiutes used river water for agricultural irrigation long before Euro-American colonization of the Holy Land began. Accounts of the early travelers also document that Southern Paiutes were expanding their cultivation before colonization. This shows their ability to adapt their farming operations to the demands of trade and commerce.

2.5 Ethnic Frontiers: Argument Four

In a classic analysis of ethnic groups and boundaries, Frederick Barth (1969) noted that, while many ethnic groups in the world have clear boundaries, many others do not. Barth went on to describe what we call “ethnic co-residence” or the practice by distinct ethnic groups of sharing

territory, resources, and communities. Such co-residential locations can be found deep within each group's territory as well as along the boundary itself. While exclusive rights to, and enforcement of, ethnic-specific land and resource use may have existed among these groups, such rights were generally exercised over specific localities and unequally distributed resources rather than over a continuously bounded space (Zedeño 1997:71). These co-residential patterns were far more common in aboriginal North America—both among mobile and sedentary groups—than is usually acknowledged (Sutton 1985).

American Indian ethnic co-residence is increasingly being recognized by archaeologists, ethnohistorians, and historical linguists (e.g., Cameron 1995; Reid and Whittlesey 1997; Shaul and Hill 1998). A recently revisited case is that of the late prehistoric Hohokam in southern Arizona. The traditional thinking of the Hohokam as a homogeneous, distinctive desert people (Haury 1976) has given way to a far more complex view of this society as multiethnic; this view is supported by archaeological remains (Elson 1998); ethnohistoric documents (Zedeño and Stoffle 1996a); and historical linguistics (Shaul and Hill 1998). It also accords well with contemporary views held by the O'odham tribes (Pima and Papago) and by two Western Pueblos (Zuni and Hopi) who were consulted by the National Park Service regarding their cultural affiliation to Hohokam remains at Casa Grande National Monument in Arizona (Zedeño and Stoffle 1996b). This is only one example of research that formulates historically, linguistically, and ethnographically informed hypotheses and arrives at equally informed archaeological interpretations. Such research efforts have been cited recently by archaeologists who are beginning to doubt the currency of overly conservative approaches to reconstructing the American Indian past (Goldstein 1998; Kelly 1998).

One of the most important implications of new research involving American Indians revolves around how archaeologists conceptualize and measure diversity. We propose, based on mainstream Western scientific perspective of Southern Paiute prehistory, that views favoring homogeneity over broad cultural areas are held when there is insufficient knowledge of an area or a people. As more detailed research is conducted and scientists build interdisciplinary and cultural bridges, a far more complex, rich, and diverse picture of a people's past emerges. This is an obvious observation that nonetheless must be made explicit to better understand the deficiencies and misconceptions that have plagued Western notions of Southern Paiute culture and society. As stated earlier, depictions of Southern Paiutes have been heavily influenced by evolutionary culture area generalizations that lumped them with other Numic groups, thus masking their historically specific developments while delaying a study of co-residential interactions. Although interethnic interactions probably were common to all Numic groups, these were particularly intense among Southern Paiutes living side-by-side with other ethnic groups, including the Hopi and the Hualapai. Furthermore, their proximity and traditional attachment to the Colorado River and its upper canyons likely placed them into contact with people from as far as New Mexico and California, who customarily made pilgrimages to the river shrines and collected resources along its banks. The extent to which co-residence and long-distance interaction among ethnic groups led to specific cultural developments remains to be fully investigated. Here we mention only two obvious connections that are known both scientifically and traditionally.

2.5.1 Hopi and Paiute Connections

Historical linguistics has long demonstrated that the Southern Paiute and Hopi ancestral language derived from the Uto-Aztecan Shoshonean families—they both spoke mutually intelligible language or even the same language (Sapir 1930). This evidence is supported by oral traditions indicating that some Hopi clans arrived at the Hopi Mesas in Arizona, that is the Snake Clan and Horn Clan, came from the north and west, most probably from the upper Colorado River area (Courlander 1987; Fewkes 1897; James 1990). Additionally, Paiute and Hopi share almost identical clan origin stories and particularly snake creation stories. A careful examination of the Basketmaker III – Pueblo I prehistoric occupations in Black Mesa (Powell 1983; Gumerman and Dean 1989) may reveal that these small, semi-sedentary family groups lived under conditions resembling Southern Paiute settlement systems far more closely than those developing at the same time in the eastern Pueblo area. Research along the Moapa and Virgin Rivers (Lyneis 1996) and in Nye County, Nevada (Winslow 1996), also indicates that the westernmost Pueblo ancestors and the Paiute-Shoshone ancestors interacted with each other. One piece of evidence for this interaction is the fairly common occurrence of Pueblo I-Pueblo II Tusayan Whiteware (Black Mesa Black-on-White) and Tusayan Grayware pottery in southern Numic sites. These are just examples of connections between Hopi and Southern Paiute groups along their territorial boundary. Given that both ancestral groups were relatively mobile, it is likely that they shared territory and resources. We have confirmed that this interaction occurred in the Grand Canyon (Stoffle et al. 1994).

In *Big Falling Snow*, the Hopi elder and author Albert Yava (Yava and Courlander 1992), records that at Hopi there are two clans who arrived from the north from the Colorado River area. According to Yava:

Up at Tokonave, Black Mountain, which the white people decided to call Navajo Mountain, there was a village known as *Wuhkokiekeu*, and there were people who spoke some dialect of Paiute. As yet, those people hadn't selected a clan emblem for themselves. After awhile another group from out in California somewhere, a place they called *Taotoykya*, arrived at *Wuhkokiekeu* and were accepted into that village. They also spoke some dialect of Paiute. The first bunch were the ones that came to be known as the Snake Clan. The second group came to be known as the Horn Clan. According to their traditions, the Snake Clan got its name through the experiences of one of their young men who made an expedition down the Colorado River (Yava and Courlander 1992:55).

Both of these clans were ancestral Paiute who arrived speaking that language. They are now incorporated into the Hopi Way of Life as the Snake Clan and the One Horn Clan.

2.5.2 Hualapai and Paiute Connections

Hualapai-Paiute connections are much less known, reflecting perhaps the tendency to assign them into different culture areas. Intuitively, such classification makes sense: they do not speak mutually intelligible languages (Yuman and Numic); their territories are separated by a major river which, according to Kroeber's territorial model, should serve as a clear and sharp ethnic boundary; and they have not always been at peace with one another. Yet these people are

tied together in unique ways.

One way these two ethnic groups are connected is via the trail to the afterlife or Salt Song Trail. This trail is associated with a set of songs called the Salt Songs that are specifically related to places along the trail. The trail to the afterlife passes across both sides of the Colorado River and covers most of Southern Paiute and Hualapai traditional territory (Kelly n.d.; Laird 1976). The significance of this connection may relate to sociopolitical needs to integrate both groups in the shared knowledge that this is the path to the afterlife.

During a recent ethnographic study we conducted at Hoover Dam in Nevada and Arizona, Hualapai and Southern Paiute elders spoke of their traditional interaction, which included the sharing of Bird, Salt, Deer, and Water songs; dances; ceremonial and social gathering places; paint, salt, and plant collection areas along the Colorado river; and fishing areas. Hunting along the territorial boundaries often took people into each other's territory; large hunting parties often were composed of Paiute and Hualapai hunters. In difficult times children were often taken to the Colorado and adopted into surrogate families across the river to protect them. Additionally important Southern Paiute ceremonial sites, such as Gypsum Cave and the hot springs in Gold Strike Canyon in Nevada, and Hualapai sites, including Sugarloaf Mountain and nearby sources of medicine stones and crystals in Arizona, were shared by both ethnic groups (Stoffle et al. 1998:57-81).

There are many accounts of Paiute-Hualapai relationships. One of these comes from the Mormon settler diaries regarding the History of the Las Vegas Mission:

Sunday, Jan. 4, 1857. After meeting, Prest. Samuel Thompson and some others visited some of the Piute wickiups. Shenents, one of the Indians, was quite sick. The brethren took him some bread and administered to him. The natives seemed to subsist on almost nothing. At that season they lived chiefly on a sweet substance they gathered toward the mountains, which they called chump. They begged considerably, but the brethren had little or nothing to spare them. Many of the Indians stayed about the mountains subsisting on chump, and many others went across the Colorado River and lived on the kindness and friendship of the Iats who had plenty of squashes and other things. They went into the Las Vegas camp occasionally, stayed awhile and then returned to their homes. The Indian boys drove an ox from the herd and killed a steer of Elijah K. Fuller's (Jensen 1926:261-262).

It is important to recognize that for the past two years (since the Mormon Fort was established in 1855) the Mormons had steadily usurped more and more Southern Paiute farms in the Las Vegas and Muddy River areas, so the Paiutes were starving while the Iats (their Hualapai neighbors across the Colorado River) had sufficient food to share. During the Hualapai War from 1865 until 1870 at least sixty mounted Southern Paiute warriors fought alongside of Hualapai warriors against the U.S. Cavalry. This was so troubling to the cavalry that they specifically kept track of Paiute activities including where their families were living. Finally, during the 1890 Ghost Dance movement all documented Paiute and Hualapai Ghost Dance ceremonies were jointly sponsored. There is some evidence that these round dance ceremonies were alternatively

moved back and forth across the Colorado River to share the experiences with the home communities of each ethnic group (Stoffle et al 2000). Finally, in the late 1800s, the primary religious *Puha'gant* (where power sits or medicine doctor) who practiced medicine at Vulcan's Anvil in the Colorado River at Lava Falls, left his community on the north side of the Grand Canyon and went to live with the Hualapai where he married two women and became one of their senior religious leaders. This person, and perhaps other Paiutes who also left their northern settlements, went to live with the Hualapai because of extensive Mormon population pressures back home. Culturally, socially, and biologically the Hualapai and the Southern Paiutes have always had friendly relationships thus making artificial taxonomic divisions by archaeologists and ethnographers suspect.

To summarize this argument, scientific sources and traditional American Indian views of the past point to diverse cultural developments among Southern Paiutes that may have resulted in part from ethnic interaction and co-residence with other Numic and Yuman speaking groups. It is possible that contemporary Southern Paiutes have as diverse an ethnic ancestry as contemporary Hopis do, so to ignore the possibility that such variation existed among Numic people in the Great Basin and Colorado Plateau is as misleading as asserting that all "Anasazi" people in the Colorado Plateau were culturally and socially homogeneous.

A line of further research on the origin of Numic people could involve taking their traditional views of ethnic connections as a point of departure for investigating the extent to which these contributed to the generation of cultural and ethnic diversity in the southern Great Basin and western Colorado Plateau areas.

2.6 Using a Numic Perspective to Rethink Gypsum Cave

Here we present an example of how contemporary knowledge about a people's traditional homeland and culture may be incorporated into archaeological interpretation. This unconventional conclusion to an admittedly unconventional argument attempts to bring together a few points made throughout the chapter.

Caves are places of power. They reside in mountains, which have their own power and relate to a cave's power in unknown ways. Also in caves, there are spirits often referred to in English as "the little people." Associated with caves are underground and surface streams, mineral deposits, hot springs, plants, and animals. Each of these resources influenced how caves were used; and, in turn, their location in relation to a cave dictated the ways in which resources were used. Caves served a vital role in the quest for knowledge by *Puha'gants* (also known as shamans or medicine men) because they were seen as the embodiment of an individual's spiritual entity as well as the home of lesser spiritual beings. Thus they were used to seek visions, find spirit guides, and acquire healing power and shamanistic songs (Kelly n.d. 24:7; Laird 1976:38).

Prior to using caves and other sacred places, medicine men would undergo purification rituals, including fasting and prayer, to prepare body and spirit and ensure a safe and successful quest. These rituals often occurred at hot springs, such as those on the Colorado River below Hoover Dam. Before entering caves or other spiritual locations, shamans would deposit food, tobacco, feathers, and other items as offerings to the spirits (Laird 1976:38). One of the most

important caves in our study area is Gypsum Cave, known to have been used up to the early twentieth century by Paiute medicine men who sought shamanistic dreams (Kelly 1939:161).

Gypsum Cave is located in the Frenchman Mountains near Lake Mead, Nevada. It contains evidence of human occupation possibly as early as 6,000 B.C. In the early 1930s M. R. Harrington conducted extensive excavations in the cave. Among the materials recovered by Harrington were abundant plant remains—including corn, four cultivated beans, possible squash seeds, a small reddish cactus, mesquite and screwbean pods, pinenuts, catclaw seeds, eagle, hawk, and vulture feather fragments, groundstone, a sheep-horn spoon, a sheep-hoof rattle, two tortoise-shell bowls, and projectile points (Harrington 1933:89, 150-151). Of all these, Harrington (1933:163) considered only the projectile points, corn, and prepared seeds as possible diagnostics of Southern Paiute occupation of Gypsum Cave. Local informants told Harrington that there was a large “lost chamber” toward the back of the cave. Paiute medicine men were said to have visited this room for the purpose of depositing offerings to small, three-feet high spiritual beings (Harrington 1931:235), which are still regarded by contemporary Paiutes and Hualapais as the little people who inhabit canyons and caves (Stoffle et al. 1998). Unfortunately, he was unable to locate the lost chamber (Harrington 1931, 1933). Harrington concluded that Paiutes visited the cave rarely and only to deposit offerings to the spirits. Yet he interpreted the plant remains as evidence of food preparation and consumption inside the cave, and the presence of points as indicating hunting and related activities.

Harrington’s lack of integration of ethnographic data into his interpretation of the findings at Gypsum Cave is puzzling, given that archaeologists of his time routinely used the direct historical approach to reconstruct prehistoric site and artifact uses (O’Brien and Lyman 1999). Yet, his work is indicative of more general patterns in the interpretation of Southern Paiute archaeology that have survived to this day. A cursory look at classic and contemporary ethnography (e.g., Kelly n.d., 1939; Laird 1976; Stoffle et al. 1996, 1998; Zedeño et al. 1999) provides a more complete and parsimonious explanation for the presence of these remains at the cave than Harrington’s original interpretation.

First, as Kelly (n.d.) and Laird (1976:38) have pointed out and contemporary elders have confirmed (Stoffle et al. 1998), many everyday objects, such as points and foodstuffs, were often used ceremonially and deposited in caves, rock ledges, and crevices as offerings (Carroll et al. 2004). The presence of edible plants in the cave may indeed indicate not only food preparation and consumption as Harrington suggests, but also an activity that required depositing ceremonial offerings, particularly if whole foods—seed cakes—were found. This observation is further strengthened by the recovery of eagle and hawk feathers, which have been exhaustively documented as ceremonial items among Paiutes and Hualapais. Second, artifacts made of animal parts are likewise associated with origin stories and ceremonial healing among Paiutes and Hualapais. Bighorn Sheep figures prominently in Hualapai origin stories. According to a female elder, Sheep was once a handsome man—the horns are now the braids of that man. Sheep horns and other parts have a sexual connotation for women that derives from this origin story. A Paiute male from Pahrump, Nevada, also described to us the religious connotations of bighorn sheep. This animal carries songs and knowledge; when visiting spirit caves, medicine men would become possessed by the spirit of a mountain sheep and would travel to places and receive songs and healing power (Stoffle et al. 1998:82). A petroglyph at the Nevada Test Site shows a

medicine man becoming a bighorn sheep and going on a spiritual journey. The sheep horn spoon and hoof rattle are ritual paraphernalia used only by medicine men; the rattle's noise would chase away evil spirits and the spoon figures in healing stories, such as the following related by a Chemehuevi Paiute elder:

How the Crow became Black. Coyote's nephew, Crow, became very ill. Coyote went to the medicine man, Duck, who agreed to heal Crow. Coyote was instructed to paint Crow black and he would be healed. In return for his help, Duck was paid by Coyote with the gift of a sheep horn spoon. After being painted black, Crow was healed and remains black today (Stoffle et al. 1998:84).

According to contemporary Southern Paiute males, other modified animal remains, such as the tortoise shell bowls recovered in the upper levels of Gypsum Cave, also have ceremonial uses. Two elders independently suggested to us that these artifacts were used for mixing medicinal drinks or potions. The bottom of the tortoise shell was ground into a powder and mixed as a drink, which has healing properties and prevented thirst.

Finally, nine manos were recovered at the cave, none of which resemble Pueblo or Paiute manos from habitation sites in the nearby Moapa Valley. These manos show no evidence of extensive use and may not be associated with food processing. Similar manos have been recorded at the Nevada Test Site near rock art sites and are believed to be associated with pigment processing. It is possible that those recovered at Gypsum Cave may have served a similar function. Alternatively, "manos" made of smooth, flat cobbles could have been used as medicine and sweat stones, as indicated by a Shivwits Paiute medicine man (Stoffle et al. 1998:98).

This brief example illustrates how archaeological interpretation can be refined when the knowledge of the people whose ancestors one studies are carefully taken into consideration. In the case of Gypsum Cave, it is evident that contemporary Indian people hold in their historic memory specific information not only about the uses of caves in general or this cave in particular, but of individual artifacts, even though they are not able to use this site or the artifacts any longer. Furthermore, many details about rituals associated with Gypsum Cave are consistent with those provided two generations ago to Isabel Kelly, Carobeth Laird, and even M. R. Harrington. Throughout the years we have recorded numerous instances of consistently held memories of traditional behaviors and historical events.

A logical next step in the reanalysis of Gypsum Cave, therefore, would be to ask of the archaeological record, how old are these artifacts, these occupational deposits, and this site? What other information about ritual behavior can we find in this site that the original excavator did not find or discuss? Broadening these questions may involve a reexamination of what is currently known about nearby caves, such as Pintwater Cave, in Nellis Air Force Base, or Tippihah Cave, in the Nevada Test Site.

Gypsum Cave also informs us about agricultural products that, according to Harrington, may be either Pueblo or Southern Paiute. Given our earlier discussion on aboriginal farming, a reanalysis of the contexts where these remains were found would help test whether they are

associated with objects identified as Southern Paiute *by Southern Paiutes*. If so, dating of these remains would support, albeit indirectly, the antiquity of these peoples' farming practices.

A less obvious—at least from what we currently know about the cave's archaeology—but equally important question about the site history is, how many ethnic groups actually used this cave? Hualapai elders say that their ancestors shared this cave with Paiute people. Harrington suggests that it could have been used by the neighboring Pueblos. Perhaps the Western Shoshone bands, whose territory bounded with the Southern Paiutes' to the west and who shared camp locales and resource-gathering areas with their neighbors (e.g., Steward 1938:95, 184), also visited the cave. Elder Shoshone men have spoken of shamanistic cave uses in the Yucca Mountain area (Zedeño et al. 1999:110). Finding even partial answers to these and other questions raised by ethnohistorical and ethnographical information may begin to illuminate not only the nature of interethnic relationships along the Great Basin-Colorado Plateau boundary, but provide more detailed information about the origin and antiquity of Numu people.

2.7 Discussion

How and why Numic people moved from being relatively complex people (King and Casebier 1976), knowing a lot about their environment and developing irrigated agriculture, to some of the world's simplest people – who have been called the infamous *Digger Indians* — is beyond the scope of this analysis. Nonetheless, we may suggest that the people's abject poverty at the time the first professional ethnographers reached them, combined with a lack of the historical analysis needed to understand their economic and political deterioration, are two obvious causes for this devolution. Nonetheless, the discounting of Numic culture is something that has influenced generations of Great Basin and western Colorado Plateau researchers. This influence effectively means (to them), that if you find agriculture or evidence of complex ceremonialism, like a solar calendar, it has to be someone else's—it could not have been made by Numic people.

More generally among researchers today, Numic people are getting a second look (e.g., papers in Madsen and Rhode 1994; papers in Clemmer, Myers and Rudden 1999). For example, David H. Thomas' research explicitly tested Steward's views of Western Shoshone organization with archaeological data (Thomas 1973). Thomas further interviewed linguist Sydney Lamb to see what he really meant to say about the Numic spread (Thomas 1994:57). Kim Torgler's work in southeastern Idaho (1995) and David Whitley's (1994, 2000) work on rock art in the Coso Range are also good examples of new approaches to Numic prehistory and history.

Mainstream archaeological, ethnohistorical, and ethnological research tends to operate in isolation from the people whose ancestors are being studied, and yet scholars in these disciplines expect that subject communities will embrace these research findings as factual pieces of their history. Members of tribal societies, on the other hand, have maintained accounts of their own historical facts. We argue that these accounts are critical points of departure for understanding a people's history, while we do fairly concede that some of the oldest pieces of this history may have been lost and portions of other historic accounts may also have been enriched with new memories and increased knowledge of the homeland. Traditional people still residing in their aboriginal lands, however, do not forget or change fundamental aspects of their knowledge about

who they are and where they were created. For most Indian people, academic research findings are not privileged historical truths, but are instead simply the product of a different culture - one that we call Western science.

This chapter addresses the stipulated position maintained by contemporary Numic-speaking people (also called Numu) that they have occupied the Great Basin and western Colorado Plateau since time immemorial – this is their ethnogenesis argument. During this time they have learned about the land and become who they are today. Ethnohistoric and ethnographic data on the Southern Paiute are used to examine the Numic in situ development theory. Some key issues in this argument are: (1) lack of a conquest story in their oral traditions; (2) the presence of optimal irrigated agriculture as recorded at the time of European contact; and (3) complex interethnic connections with neighboring groups. We propose that Numu people's perceptions of their land and ancestors may be taken as points of departure (stipulations) for formulating central hypotheses that address their origins and development.

Don Fowler (2007) concludes his summary of the various and often conflicting linguistic, archaeological, and ethnographic approaches to Zuni Origins with the plea for multivocality. There he agrees with Roger Echo-Hawk (2000) and Joe Watkins (2000) that the more voices there are, the more we will learn about life and times - past and present - in the greater Southwest. Similarly, Ferguson (2007) concludes that the more sources of information we use in studying the past the more we will learn.

CHAPTER THREE METHODOLOGY

This report documents Southern Paiute uses of and connections to the Little Springs Lava Flow, a ceremonial center near Mount Trumbull on the Arizona Strip. Southern Paiute people have identified the Little Springs Lava Flow as a place of particular cultural interest because areas of volcanic activity have been repeatedly identified by Southern Paiute and other Numic-Speaking peoples as places for ceremony, learning and rebirth.



Figure 3.1 The Northern Lobe of the Little Springs Lava Flow, Mount Trumbull in the Background

This study was funded by Grand Canyon-Parashant National Monument, and is the second Southern Paiute ethnographic study in the area. This work serves as a follow-up to the 2005 two volume report entitled: *Yanawant: Southern Paiute Place Names and Cultural Landscapes* (Austin, Dean, and Gaines 2005, Stoffle et al. 2005). During this study, Southern Paiute representatives requested that more ethnographic studies be funded to further understand locations throughout the Arizona Strip, particularly the Little Springs Lava Flow. Information gathered during this study will provide the associated federal agencies with cultural and ethnographic interpretations of the Little Springs Lava Flow and management recommendations for how to best protect and preserve this area for the future.

3.1 Regulatory and Historical Background

When entering into consultation with Native American tribes, there are three levels of guidance that shape the process. These levels serve to guide how tribes engage in the identification and assessment of resources on public lands and define the range of potential agency roles in that process.

The first level of guidance derives from the historic context of the people and the land. The Southern Paiutes maintain that their Creator gave the land to them, and therefore they have a divine obligation to care for it. Although aboriginal title to the area was legally extinguished at the time that the United States Government took possession of the land, and further extinguished by the Indian Claims Commission, the obligation of stewardship felt by the Southern Paiute people cannot be extinguished. These lands are closely connected to the historic memory of the Southern Paiute people, and carry within them many generations of Southern Paiute tradition.

The second level of guidance is the regulatory framework of the United States Government. American Indian Tribal governments have a long-standing legal and political relationship with the United States Government and its federal agencies. Treaties and agreements have established the foundation for government-to-government relationship between tribes and federal agencies. The legal environment has created the requirement of consultation with affiliated tribes based on this government-to-government relationship. Federal agencies consult with tribal governments under the directive of Executive Order 13175 (November 6, 2000), Consultation and Coordination with Indian Tribal Governments, which defines agencies legal obligations of consultation. This Executive Order (EO) also enhances other regulatory requirements such as the American Indian Religious Freedom Act (1978), and Executive Order 13007 concerning Indian Sacred Sites (May 24, 1996). These regulations serve as further guidance to agencies as to their relationships with American Indian Tribes. Since the model of Consultation and Coordination with Indian Tribal Governments was first proposed by EO 13084 (May 19, 1998; revoked by EO 13175), this model has been adopted by the Nellis Air Force, Department of Energy – Nevada Operations, the U.S. Forest Service (USFS), Desert National Wildlife Refuge Complex of the U.S. Fish and Wildlife Service, and the Federal Highways Administration.

The third level of guidance stems from the relationship between the tribes and the agency. In order to conduct research in the Arizona Strip that meets the consultation requirements previously discussed relation to historical and legal guidelines, it is important that Indian people be partners in the process. In the book, *American Indians and the Nevada Test Site*, the term consultation is used to “describe a process by which American Indian peoples with aboriginal or historic ties to public lands are identified and brought into discussions about cultural resources in those lands” (Stoffle, Zedeño, and Halmo 2001: 22). Consultation is a term that has broader legal standing and is recognized in the United States, Canada and much of the western world (Stoffle 2000). Consultation can be accomplished in many ways, but its success relies on the understanding of all interested parties. For example, in addition to the agency learning from the tribes, the tribes learn about agency mandates, processes, and culture through public documents, site visits, meetings and face-to-face interactions with agency representatives.

3.1.1 General Consultation

General consultation allows for the establishment of permanent relationships between American Indian groups that have ties to the managed lands and resources and the federal agencies that have the legal responsibility for managing them. General consultation works best when it is based on extensive research concerning cultural resources that Indian people have identified within the lands of concern; that is to say, general consultation should be based on a strong foundation of culturally diverse information (Stoffle, Zedeño, and Halmo 2001:23).

General consultation has many advantages. It can occur in the absence of a specific project proposal involving the partner agency or a third (private or public) party. It can occur when the agency and the involved Indian people feel it is best not to be constricted by either time or issue. Another advantage of general consultation is that it produces a broad and continuously growing cultural resource information base, which becomes extremely useful when management and mitigation decisions must be made on short notice (Stoffle, Zedeño, and Halmo 2001:23). As stated in *American Indians and the Nevada Test Site* (2001), general consultation is the “only way to build true and stable partnerships between federal agencies and American Indians” (Stoffle, Zedeño, and Halmo 2001:24).

3.1.2 Specific Consultation

Federal agencies that lack government-to-government relationships with Native American tribes usually begin with general consultation as the first step in the consultation process. After general consultations, it is expected that project specific negotiations can and will arise. These latter negotiations bring opportunities to modify and improve existing partnerships through the specific consultation process.

Specific consultations can address issues such as the disposition of artifacts that are protected by the Native American Graves Protection and Repatriation Act (NAGPRA). NAGPRA is a Federal law that was passed in 1990.

NAGPRA provides a process for museums and Federal agencies to return certain Native American cultural items -- human remains, funerary objects, sacred objects, or objects of cultural patrimony -- to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on Federal and tribal lands, and penalties for noncompliance and illegal trafficking (National Park Service 2006).

Specific consultations can also be used to identify and respond to the impacts of small-scale development projects, changes in the interpretation of resources, and policies regarding inadvertent discoveries. Typical cultural resource studies are delineated into the following categories: (1) ethnoarchaeology, (2) ethnobotany, (3) ethnozoology, (4) rock art, (5) traditional cultural properties, (6) ethnogeography, and (7) cultural landscapes. These cultural resources tend to be studied separately, so Indian tribes can send individuals with special knowledge about

the topics. Specific consultations tend to be limited by the scope of the specific law that is being complied with, and by the proposed activity that is being evaluated.

Both general and specific consultations are linked with ecosystem management. Indian people consider traditional cultural properties, power places, sacred sites, and many natural resources to be inextricably linked to parts of an ecosystem and therefore perceive that proper ecosystem management must consider these traditional values.

Cultural resource studies are one tool available to help inform agency management about Native American concerns within a management unit. This project has been designed as specific consultation, which will inform the Bureau of Land Management (BLM) about some of the concerns the Southern Paiute people have regarding this portion of the Arizona Strip.

3.2 Cultural Affiliation

In order to identify, protect, and manage cultural resources, government agencies find it useful to identify the tribes that are affiliated (i.e. culturally connected) with the lands and resources within a management area. Federal agencies use the term affiliation in various ways for different purposes. American Indian tribal governments and cultural resource departments also have their own definition for the term.

At the broadest level, affiliation means that a portion of land has become culturally central to an American Indian ethnic group. Connections between Indian peoples and the land may have been established before Europeans arrived (pre-1492), while Europeans were occupying and claiming the land (pre-1848), and/ or during the historic period following 1849. It is also important when seeking consultation from American Indian people that *aboriginal title* is recognized. Aboriginal title refers to land possessed by a particular tribe (actually ethnic group) at the time the United States government acquired title (Sutton 1985).

In order to identify, protect, and manage cultural resources, government agencies find it useful to identify the tribes that are *culturally affiliated* (i.e. culturally connected) with the lands and resources within a management area. Federal agencies use the term *cultural affiliation* in various ways for different purposes. American Indian tribal governments and cultural resource department also have their own definitions of this term.

At the broadest level, cultural affiliation can be understood as a portion of land that has become culturally central to an American Indian ethnic group. Connections between the Indian people and the land may have been established before Europeans arrived (pre-1492), while Europeans were occupying and claiming the land (pre-1848), and/ or during the historic period following 1849.

A narrow, but sometimes useful, distinction between the terms culturally affiliated (which was established in the more distant past) and traditionally associated (which can be a more recent connection) has been used by some federal agencies. The National Park Service (NPS) has defined these terms as:

Traditionally Associated - For purposes of these Management Policies, social/cultural entities such as tribes, communities, and kinship units are “traditionally associated” with a particular park when the community regards the park’s resources as essential to their development and continued identity as a culturally distinct people. The connections have endured for at least two generations (approximately 40 years); and these connections were established prior to the creation of the park (National Park Service 2006).

Culturally Affiliation - means that there is a relationship of shared group identity that can be reasonably traced historically or prehistorically between a present day Indian tribe or Native Hawaiian organization and an identifiable earlier group (NAGPRA 1990).

The traditional and aboriginal lands of the Southern Paiute people were greatly impacted by the encroachment of Euro-Americans. Although all traditional lands are still perceived as belonging to the Southern Paiute people, they have been divided into tribes, which in turn have been allocated a very small portion of traditional land. The map represents the territories of the thirteen bands of Southern Paiute people as identified by Isabel Kelly (1934) and later revised to fifteen by the BARA research team. These bands exist in contemporary times as eight federally recognized tribes, and one unrecognized tribe:

- The Chemehuevi Indian Tribe
- The Colorado River Indian Tribes¹ (CRIT)
- The Kaibab Band of Paiute Indians
- The Las Vegas Indian Tribe
- The Moapa Paiute Tribe
- The Pahrump Paiute Tribe²
- The San Juan Paiute Tribe³
- Twenty-nine Palms band of Paiute Indians⁴
- The Paiute Indian Tribe of Utah⁵ (PITU)
 - Shivwits Band
 - Indian Peaks Band
 - Cedar City Band

¹ The Colorado River Indian Tribes is a composite tribe which includes Mojave, Navajo, Hopi, and Chemehuevi peoples.

² The Pahrump Paiute Tribe has not been Federally Acknowledged at the time of this report. They are an organization seeking tribal status.

³ The San Juan Paiute Tribe was formally acknowledged in 1990.

⁴ The 29 Palms Band of Paiute Indians were long thought to be Mission Indians by the Federal Government but are currently identified as Chemehuevi. For more information see *Chemehuevi People of the Coachella Valley* Trafzer, Clifford, Luke Madrigal, and Anthony Madrigal 1997 Chemehuevi People of the Coachella Valley. Coachella, CA: Chemehuevi Press..

⁵ The Paiute Indian Tribe of Utah was established by Congress on April 3, 1980. The new composite tribe included five formerly independent Paiute bands which had been terminated. See Bureau of Indian Affairs and Holt, Ronald, 1992 *Beneath These Red Cliffs: An Ethnohistory of the Utah Paiutes*. Albuquerque, NM: University of New Mexico Press, for further discussion.

Kanosh Band
Koosharem Band

Ideally, all tribes would like to participate as full partners in all consultations within their traditional territory. This is sometimes not possible due to expedience, scheduling conflicts, lack of funding, or lack of tribal resources. When it is not possible for tribes to participate as full partners, it is still desirable that all reports and findings be sent to the tribes for Tribal Council review and approval.

The cultural affiliation with the Arizona Strip and its resources has been questioned by some. Generally they argue that Southern Paiutes are recent arrivals in the area and either moved into a land emptied by the migration of its former inhabitants or those inhabitants died out where they had lived for thousands of years. The arguments suggest that the Paiute were a replacement culture characterized by nomadic wandering and hunting and gathering. Either argument can be categorized as a component of the *Numic Spread Theory*.

Study, thus rejects all aspects of the *Numic Spread Theory*. It argues instead that the Southern Paiute people have lived in their traditional lands from *time immemorial* (a term of legal use) or since the time when they were placed on these lands by the *Creator* (a concept reflecting Paiute epistemology), or since the earliest evidence of human occupation which is about *17,000 years ago* in North America (an archaeological approach to the notion of cultural affiliation).

3.3 Tiering and Iterative Studies

The federal government recommends that new research should where ever possible not duplicate previous studies but rather build upon earlier work and reference it. This is a process called *tiering*, which involves building one study upon another to reach a conclusion regarding what resources are present in the potentially affected environment and what impacts to those resources may result from the proposed project. The report meets the Federal tiering requirement by (1) using background essays produced elsewhere and (2) contextualizing some findings with reference to previous studies in the region.

In order to build towards an optimal ethnographic study, it is important to design studies that build one upon one another. These are called *iterative* studies. Lessons learned in one study can influence the kinds of questions asked in the next, so the intellectual foundation of the work itself increases from study to study. Ideally the findings of each study would be placed together for analysis. By creating an electronic database for the initial study, each new study regardless of its scale can add interviews until the optimal study level is reached. When ethnographic studies are viewed from the perspective of being iterative studies, they are viewed as open-ended and waiting for new findings.

The types of questions asked in the course of this study, and to some extent even the exact survey instruments, have been used over recent decades during a number of projects and ethnographic studies situated at the edges of the Arizona Strip and studies that involve Southern Paiute connections and uses of volcanic places. These projects all involved persons from the

current University of Arizona ethnographic team and Southern Paiute people and tribes currently involved in the study.

The following is a list of reports (full references are in the bibliography) that have been used for *tiering* during this study. Ideas and data from these studies have helped to frame and contextualize this ethnographic assessment. All of these studies were reviewed and approved by the tribal cultural representatives involved and the then current tribal governments.

- ND Kaibab Paiute Aboriginal Water Use Study (Stoffle et al. ND)
- 2009 *Black Mountain: Traditional Uses of a Volcanic Landscape Volumes 1 and 2* (Carroll et al. 2006; Stoffle et al. 2009)
- 2005 *Yanawant - Paiute Places and Landscapes in the Arizona Strip. Volume One and Two of the Arizona Strip Landscapes and Place Name Study* (Austin, Dean, and Gaines 2005, Stoffle et al. 2005).
- 2004 *Traditional Resource Use of the Flagstaff Area Monuments*, (Toupal and Stoffle 2004).
- 2004 *Ethnographic Assessment of Kaibab Paiute Cultural Resources in Grand Staircase-Escalante National Monument, Utah* (Stoffle et al. 2004).
- 2000 *Ha'tata (The Backbone of the River): American Indian Ethnographic Studies Regarding the Hoover Dam Bypass Project*. Report prepared for the Federal Highway Administration. Incorporates research results from the Phase I (1998) and Phase II (2000) field projects (Stoffle et al. 1998; Stoffle et al. 2000).
- 1997 *Southern Paiute Ecoscape Perspectives: Applied Ethnographic Study of Cultural Resources at Zion National Park, Utah and Pipe Spring National Monument, Arizona* (Stoffle, et al. 1997).
- 1995 *Itus, Auv, Te'ek (Past, Present, Future) Managing Southern Paiute Resources in the Colorado River Corridor* (Stoffle et al. 1995a).
- 1995 *Tumpituxwinap: Southern Paiute Rock Art in the Colorado River Corridor* (Stoffle et al. 1995b).
- 1994 *Piapaxa 'Uipi (Big River Canyon): Ethnographic Resource Inventory and Assessment for Colorado River Corridor, Glen Canyon National Recreation Area, Utah and Arizona, and Grand Canyon National Park, Arizona* (Stoffle, et al. 1994a).

- 1982 *Puaxant Tuvip: Utah Indians Comment on the Intermountain Power Project, Utah Section of Intermountain Adelanto Bipole I Proposal* (Stoffle and Dobyns 1982).
- 1978 *Kaibab Paiute History: The Early Years* (Stoffle and Evans 1978).

3.4 The BARA Methodology – Interviews and Confidentiality

Interviews conducted with tribal representatives are built upon the understanding that confidentiality was met and will be respected during this and any subsequent ethnographic studies. These protocols have been negotiated with each of the participating tribes. In general, however, some common themes have emerged and have been the foundation for fieldwork, interviews, and report production:

- (1) Each tribal representative is afforded the right to a private interview. No text or tape is released without the full consent of the tribal representative. Text and tapes are returned to the tribal representative at their request.
- (2) Ethnographers extract from the private interview pertinent site interpretations and evaluations of impacts and combine these into a composite text, which can have minority opinions.
- (3) Ethnographers send to the tribal representatives the composite text that builds on the private individual interviews, but reflect some ethnographic synthesis. This text generally does not involve references that could identify the representatives who contributed to the text, but being quoted is an option. Tribal representatives have the right to add, subtract, and correct the composite text.
- (4) Tribal government reviews, evaluates based on any other criteria, and approves or disapproves of composite text. Tribes can elect to identify and recommend selected sites as Traditional Cultural Properties (or eligible for designation as Traditional Cultural Properties) and Sacred Cultural Landscapes. At this point the entity funding the research will receive the text. Once the tribes approve the text, content cannot be altered.

3.4.1 Field Visits

This project was guided by previous research conducted in the Little Springs region. The 2005 cultural landscape study (Stoffle et al. 2005) served as the foundation for return site visits to the lava flow. This effort was supplemented by archaeological survey that had occurred throughout the last four decades (Elson and Ort 2006, Hintzman 2012, Moffitt and Chang 1975). The University of Arizona (UofA) team incorporated this information into the site visits that occurred from October 26 to October 28, 2012. During this trip, tribal representatives visited four places in and around the Little Springs Lava Flow. The follow provides a day by day summary of activities.

October 26, 2012

The UofA team, Grand Canyon-Parashant National Monument staff and Kaibab Paiute tribal members met at the Kaibab Paiute Tribal Office for a two hour project orientation. This meeting allowed for everyone to meet and discuss the overall goals for the project and the field activity plan for the next 2.5 days. During orientation, tribal representatives were given an opportunity to examine the sherd rocks (Figure 3.2) that were found at a site adjacent to the Little Springs Lava Flow.



Figure 3.2 Sherd Rocks

Following the conclusion of the orientation meeting, the UofA team, Kaibab Paiute representatives, and a Grand Canyon-Parashant archaeologist left the reservation for the Little Springs area. During the trip, the group stopped to visit Paiute Cave, a deep underground cave found inside a collapsed lava tube. The cave contained images painted in red, yellow, and white ochres. Members of the group noted that similar images can be found in the Grand Canyon and in Kanab Creek. After visiting Paiute Cave, the group traveled to the Mount Trumbull BLM cabin to set up base camp for the field session.

October 27, 2012

In the morning, the group visited the hot spring and the Northern Lobe of the Little Springs Lava Flow (Figure 3.3). The group hiked onto the lava flow from the trail that begins next to the hot spring and visited a series of structures and hornitos. Afterwards the group climbed off the flow, and some of the tribal representatives requested to be interviewed. Others wanted to hike across another trail to an area near the center of the flow that contains natural

water catchments. Along the trail, the group documented and photographed numerous pieces of pottery, including half a bowl found above one of the water catchments.



Figure 3.3 Tribal Representatives Examining the Northern Lobe

In the afternoon, the group visited the Lightning Site. When archaeologists originally surveyed this site, they documented that the sherd rocks were found in one of the structures. After the tribal representatives examined the site, they opted to postpone formal interviews until after they saw the southern lobe of the lava flow.

October 28, 2012

The group spent the morning visiting the Southern Lobe of the Little Springs Lava Flow. The group hiked across one of the prominent east-west trails across the flow and examined numerous structures at the southern end of the Southern Lobe. The tribal representatives were given as much time as they needed to explore and examine features of the Southern Lobe. When they were ready, the group returned to the BLM cabin for interviews. Following interviews, the group departed the Mount Trumbull cabin for home.

3.4.2 Summary of Interviews

Ethnographic data used in this analysis were collected in 2003 and in 2012. During the 2012, the UofA team revisited Little Springs with many of the same tribal representatives who took part in the 2005 study. The following table (Table 3.1) provides a breakdown of the number of interviews conducted in 2005 and 2012 for the Little Springs area. In total, 58 interviews were conducted.

Site	Form	2003	2012	Total
Paiute Cave	Rock Art		0	4
	Open Ended		4	
Little Springs Hot Springs	Site	13	2	27
	Open Ended		5	
Little Springs Lava Flow- North	Site		2	
	Open Ended		5	
Lightning Site	Open Ended		4	4
Little Springs Lava Flow- South	Site	0	2	7
	Open Ended		5	
Namapaweap	Rock Art	6	0	6
Cultural Landscapes (Toroweap Overlook and Little Springs)	Cultural Landscape	6	4	10
Total		25	33	58

Table 3.1 Interviews Conducted in 2003 and 2012 in the Little Springs Area

3.4.3 Survey Instruments

As part of a mixed methods approach, the UofA team has developed seven survey instruments that have been used at various times during the past 25 years. All survey instruments used by the UofA research team have been developed with the assistance of official tribal representatives and these forms have been approved by participating tribal governments. Many of these instruments have been administered to Indian people during at least 15 different projects since 1997. This equates to over one thousand interviews with Indian people.

During this study, the UofA team used two survey instruments to interview tribal representatives. Each one of the forms provides Indian people to discuss the cultural importance of a place and how it is connected to other areas within their traditional territory and the surrounding local landscape.

Native American Cultural Resources Form

The Native American Cultural Resources form is place-specific and is used to record place use, history and types of ethnographic resources associated with traditional use including water, plants, animals, minerals, landforms, and archaeological remains. With this form, the ethnographer can elicit detailed information on material, behavioral, and spiritual connections among resource types and between each resource and a place. It was used initially in Zion National Park and Pipe Spring National Monument Study (Stoffle et al. 1997). The “Zion Form” has since been successfully applied in numerous federally funded projects that involved tribes in the West and Midwest regions of the United States.

Ethnoarchaeology – Rock Art Form

The second survey instrument is referred to as the Rock Art Form. It is used in the event that the Native American Cultural Resource forms too general and more fine-grained analysis is feasible and useful for a study. This form is specifically used when petroglyphs or pictographs are the dominant resource at a place. The Rock Art form focuses on an individual's and ethnic group's use and meaning of rock art panels and their understanding of how these panels are connected to the surrounding landscape (Stoffle et al. 1995, Zedeño et al. 1999).

Cultural Landscape Form

The Cultural Landscape form was designed with input from agencies who needed to have a way to manage much larger areas as integrated cultural phenomena and with Indian people whose culture is organized in terms of such big areas. At a federal policy level, such efforts correspond with the concept of Ecosystem Management (Yaffee et al. 1996). The Cultural Landscape form frames place and resource-specific information in a broader regional and more abstract cultural context. With this form, we investigate origin and migration traditions, ethnic group settlement, land use history, and specific use patterns of the natural topography. Information regarding trail-systems, including travel across land and through water, and ceremonial trails associated with songs, drum circles, dreaming, pilgrimages, and individual quests are also crucial to unraveling complex cultural connections between places and resources.

Members of the UofA research team have worked with Numic-speaking peoples of the Great Basin and Colorado Plateau for over 30 years and over this period of time, a strong research partnership has been established. This partnership has directly influenced how we approach research projects involving Indian people and tribes and our research methodology. Our research involves the use of mixed methods (Tashakkori and Teddlie 1998; Beebe 2001) and triangulation (Campbell and Fisk 1959). The mixed methods approach involves collecting qualitative and quantitative data, and where there is convergence, confidence in the findings grows considerably (Jick 1979).

Open-ended Interviews

Open-ended interviews have been an important research tool used during this study. Open-ended interviews are defined as a conversation between an ethnographer and cultural representative during which information specific to the project is shared and recorded. Open-ended interviews and discussions can occur for various reasons. Probably the two most common reasons are that the ethnographer and the cultural representative are traveling to or from a place that is being studied or the ethnographer and the cultural representative are walking around a place and examining it together. Either the place or the conversation may elicit a response that is relevant to some cultural dimension of the study. In most cases, the information is offered at a time when it is difficult to record it on a survey instrument, and so the ethnographer instead records the comments by tape or the tribal representative provides personal notes in regards to their thoughts and concerns about a place or an important cultural resource.

It is important to recognize, however, that confidence in the findings derives from an overall triangulation of comparable findings from any of these instruments and oral histories. The triangulation of data involves comparing responses generated with different instruments. When two or more instruments provide the same answer to a research question, then the confidence in the accuracy of the answer is increased. Confidence in the accuracy of responses also increases to the extent that most interviewees provide the same answer.

3.5 BARA Research Qualifications

The Bureau of Applied Research in Anthropology (BARA) was founded in 1952 as the Bureau of Ethnic Research, charged with the responsibility to monitor the socio-economic welfare of Native American communities in Arizona. In 1982, BARA changed its name and vastly expanded its research and training mission. Currently, the BARA faculty is comprised of 16 state-funded and project-funded academic professionals organized around six different programs. For each program, there exists a set of research activities consistent with the BARA mission as well as corresponding academic courses and student participation that contribute in an integrated fashion to BARA's commitment to applied training.



Figure 3.4 UofA Ethnographers, Southern Paiute Representatives, and BLM Archaeologist

The BARA ethnographic team involved with this study directs a program called Native American Cultural Resource Revitalization. Consistent with BARA's founding mission to monitor the welfare and well-being of Native American groups in Arizona, this program focuses on the national need to assure the preservation of Native American cultures and languages. A long history of misguided policy-making and disregard for native cultures in this country has

created marginalized and dependent peoples with severe economic disadvantages and little control over their own destiny. Recent legislation, such as AIRFA (1978) and NAGPRA (1990), has attempted to redress the situation and establish new policy paths that emphasize tribal empowerment and cultural respect. BARA has contributed to these new directions by developing standard procedures that assure the full participation of Native American tribes in the process of identifying and controlling their comprehensive cultural resource inventories. In this program, BARA researchers facilitate the interaction of tribes with government agencies and private organizations. Through the use of ethnography, BARA professionals have assisted communities in the reconstruction of their cultural histories, made Geographic Information Systems (GIS) technologies available to tribes wanting to identify and maintain their cultural landscapes, and worked to address language shifts through the development of dictionaries and the promotion of language literacy on reservations.

This program also has contributed to the development of cultural resource theory within applied anthropology and has generated genuine, mutually respectful, and productive partnerships between the University and Native American tribes. One of BARA's most consistently supported research programs, the Native American Cultural Resource Revitalization, has received long-term funding from tribes, the National Park Service, the Department of Energy, the Department of Defense, the Bureau of Reclamation, National Science Foundation, and other entities.

Kathleen Van Vlack, PhD

Dr. Van Vlack recently received her PhD in the American Indian Studies Program at the University of Arizona. She has a B.A. in Anthropology and a Master's Degree in American Indian Studies, both from the UofA. Her Master's thesis focused on the traditional leadership system of the Southern Paiute Nation. She has worked with members of BARA since 2002 on a number of Native American environmental impact assessments. To date, she has worked with over 20 tribes in the western United States. Her dissertation is focused on cultural resource management and Southern Paiute pilgrimage trails. When not working in Indian Country, Ms. Van Vlack has worked with traditional communities in the Bahamas on environmental conservation issues.

Richard Stoffle, PhD, P.I.

Dr. Stoffle is a senior research anthropologist at BARA. Dr. Stoffle has worked on American Indian environmental issues since 1976, when he participated in the first official American Indian social impact assessment in the United States. This project an Environmental Impact Study of the Devers-Palo Verde Power-Line proposed to run from the Buckeye Atomic power plant near Phoenix, Arizona to the Palo Verde substation of Southern California Edison in California. Since this first study, Dr. Stoffle has worked successfully with over a hundred American Indian tribes and most federal agencies on a wide range of Indian environmental issues pertaining to land management decisions. Dr. Stoffle has a record of scholarly publications and research reports, which are available upon request. His co-edited book (Stoffle, Zedeño, and Halmo 2001) is a model of long-term research and consultation with Numic-speaking tribes and organizations in Nevada, California, Utah, and Arizona.

Evelyn Pickering, BA

Evelyn Pickering has recently started in accelerated PhD program in the School of Anthropology at the University of Arizona. In this program, she is focusing on sociocultural applied Anthropology. Evelyn Pickering has also recently started doing team-based ethnographic research for the Bureau of Applied Research in Anthropology. Before entering the graduate program, Ms. Pickering completed her B.A. in Anthropology at the University of Arizona. Ms. Pickering also focused on sociocultural Anthropology during her undergraduate studies, but did spend time in Rwanda researching various primate species, with a focus on Mountain Gorillas.

Katherine Brooks, MA

Katherine Brooks is a doctoral student in the American Indian Studies Department at the University of Arizona, and has worked with Native communities in the Southwest for the past six years. Ms. Brooks specializes in Southwest societies and cultures; gender and identity; and material culture. Previous degrees include an M.A. in Anthropology from New Mexico State University and a B.A. in History and Anthropology from the University of Missouri-Kansas City. Ms. Brooks has had the privilege of being a visiting scholar at the Smithsonian Museum of Natural History, and the Amerind Foundation. Currently, Ms. Brooks is in the process of finishing her PhD and works as an ethnographer for the Bureau of Applied Research in Anthropology.

Jennie Delfs, BA

Jennie Delfs recently graduated from the University of Arizona with her bachelors in Anthropology. She graduated with honors, and is a member of Phi Beta Kappa. Ms. Delfs has spent many years working on community development projects in the highlands of Peru. Currently, Ms. Delfs is pursuing a career in special needs education.

CHAPTER FOUR

ETHNOGRAPHY OF LITTLE SPRINGS LAVA FLOW

The Little Springs Lava Flow is located on the south side of Mount Trumbull on the southern portion of the Arizona Strip. The lava flow is situated in the middle of the Uinkaret Volcanic Field, which is one of the largest volcanic fields north of the Grand Canyon. For thousands of years, Southern Paiute people have used the Little Springs Lava Flow and the surrounding landscape. This long-term use contributes to the area's complex history and cultural connections.

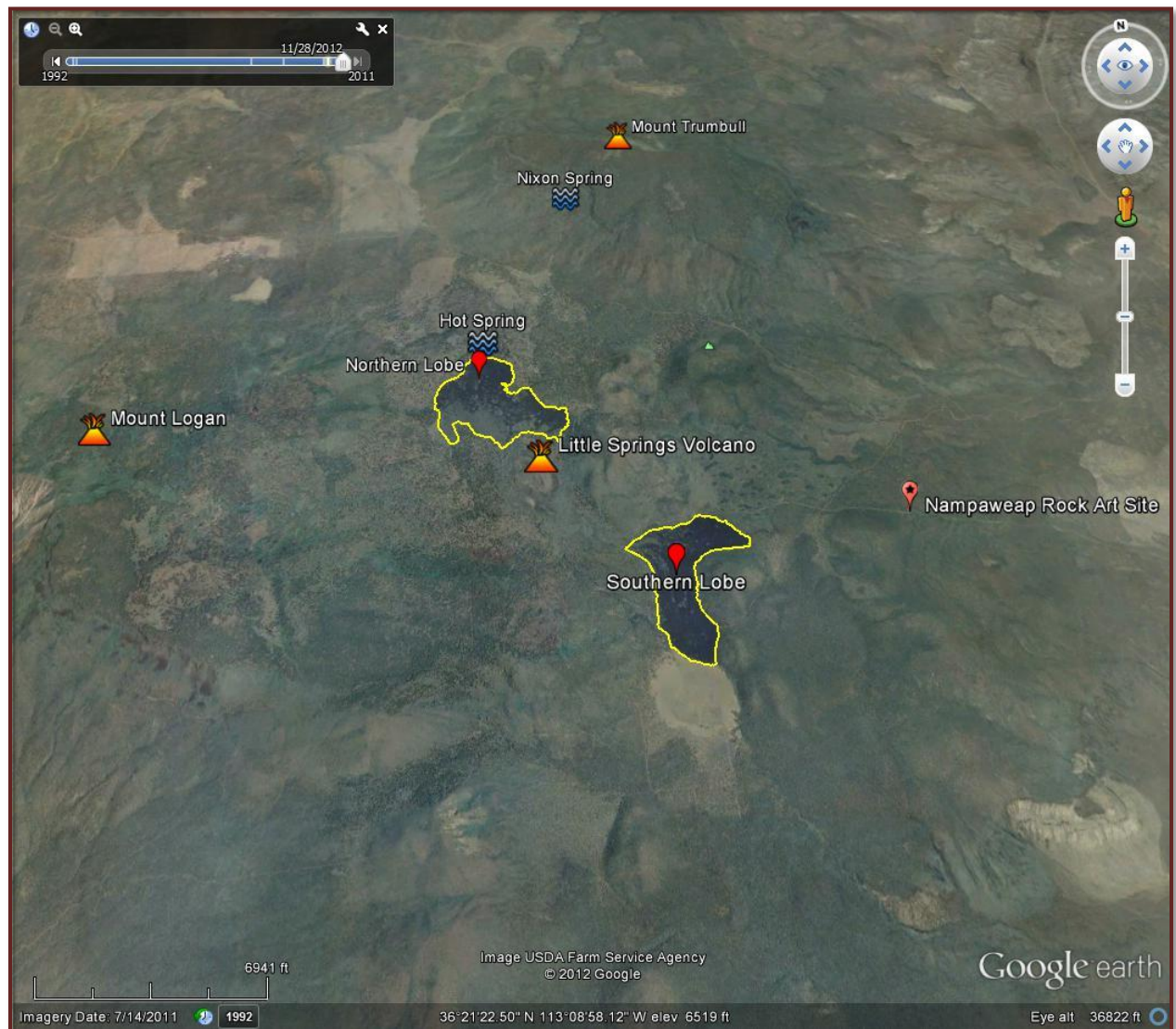


Figure 4.1 Google Earth Overview of the Little Springs Lava Flow and Surrounding Landscape

This chapter presents the ethnographic information obtained during the 2003 (Stoffle et al. 2005) and 2012 field visits to the Mount Trumbull and Little Springs Lava Flow area. Places visited in 2012 were guided by the previous University of Arizona (UofA) study and the numerous archaeological surveys conducted on and around the Little Springs Lava Flow. While archaeological site identification influenced the places visited during this study, it is important to note that American Indian identification and cultural importance at sites extend beyond the archaeological evidence and assigned site numbers. A more holistic interpretation draws on for both physical and spiritual components to account for the importance of sites. This holistic interpretation broadens the understanding of the area that once contained seemingly small and unrelated sites to a series of connected places.

4.1 Situating the Little Springs Lava Flow

The Little Springs Lava Flow is located within the larger Uinkaret Volcanic Field. This volcanic region is located between the Toroweap (east) and Hurricane (west) faults. To the south, the Uinkaret Volcanic Field borders the northern rim the Grand Canyon, and has cinder cones that have produced lava flows that have repeatedly cascaded into the canyon creating temporary lava dams (Billingsley and Hamblin 2001). While most of the volcanic activity in the Uinkaret Volcanic Field dates to the Pleistocene, the Little Springs Lava Flow has been dated to be the youngest rock in the area.

The Little Springs Lava Flow originated from two vents and associated spatter ramparts, which formed from two distinct lobes and a large pyroclastic cinder cone that (Billingsley 2001:4; Elson and Ort 2006:3). When the eruption took place, lava flowed both north and south, filling the two small valleys and covering approximately two square miles (Ort et al. 2008b: 367, 369).

There has been a debate over the general age of the lava flow. Researchers have attempted to use different techniques to date the eruption. Fenton (1859) used cosmogenic 3-helium dating and placed the flow to around 1000 B.P. Others like Billingsley and Hamblin support Fenton's findings based on similarities to the Sunset Crater lava. Michael Ort and Mark Elson's research provide the most recent and most accepted date for the lava flow. They suggest that the eruption occurred between A.D. 1050 and A.D 1200 based on the pottery used in constructing the sherd rocks, which are pieces of lava rocks with embedded Hurricane Black-on-Gray pieces (Ort et al. 2008b: 369).

4.1.1 Situating Climate and Southern Paiute Farming

Prior to the rise of irrigated agriculture, Indian people used a wide range food, medicine, and weaving plants. Research has documented the use of certain types of wild plants since the early Holocene (approximately 8,000 to 9,000 years ago). These plants include, but are not limited to, salt bush fruit, salt bush seed, goosefoot seed, ricegrass seed, dropseed, wild rye seed, grass family seed, sedge seed, bulrush seed, cattail seed, sunflower seed, sagebrush seed, mustard family seed, cactus family seed, greasebush seed, snowberry seed, pea family seed, lily family bulb (Rhode and Louderback 2007: 237-239). Over time, Indian people learned and experimented with the biological and ecological characteristics of these plants and associated

habitats. They conscientiously began to manipulate these plants, and the Indian people became horticulturalists, which was the precursor to the irrigated agricultural lifeway that developed starting around A.D. 500.

By A.D. 500, the Southern Paiutes began to use irrigated agriculture. As technologies and agricultural processes advanced, the Southern Paiute populations became larger and more sedentary. Some of the staple crops throughout the rise of agriculture included maize, amaranth, sunflower seeds, and other cultigens. Around A.D. 1150, Southern Paiute irrigated agriculture had reached its highest point. Southern Paiute territory was optimal for agriculture, until the climate became much more dry and cold. This climatic change caused a dramatic decrease in cultivation, and affected the stability of the agricultural communities. Because Southern Paiutes were no longer able to irrigate to the scale that they previously had after A.D. 1250, a shift in lifestyle occurred. Southern Paiutes became more dependent on wild plants for sustenance, and also became more mobile. After A.D. 1250, irrigated agriculture was only taking place along major hydrological systems in the region, such as Kanab River. Between A.D. 1250 – A.D. 1850, The Little Ice Age took place here and in surrounding regions. Its effects, along with Euro-American encroachment, all but destroyed the Southern Paiute lifeway.

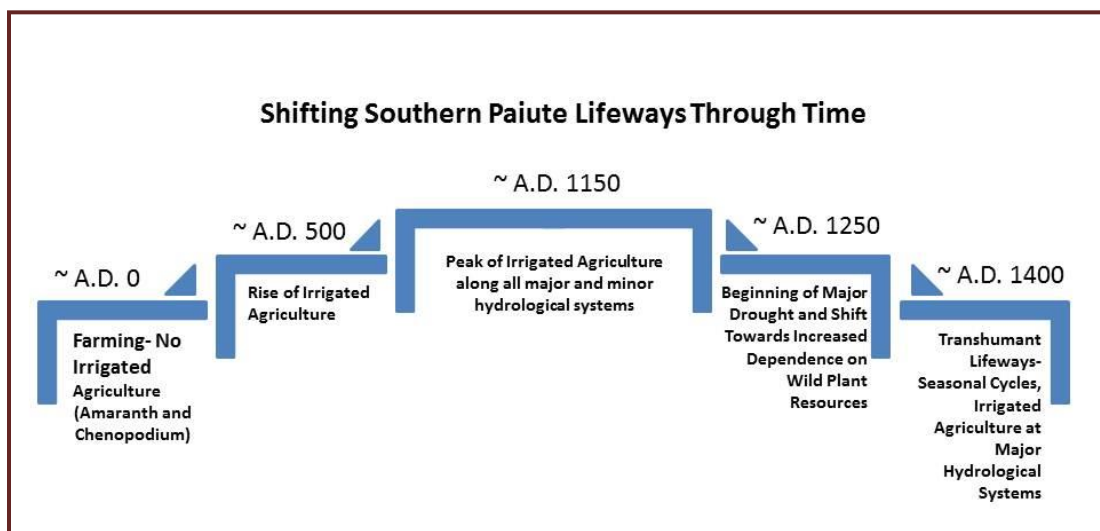


Figure 4.2 Shifting Southern Paiute Lifeways Through Time

The eruption date and following connections with the volcano are in line with the peak of Southern Paiute agriculture. It is important that agriculture was thriving at this time, because it allowed for the complex relationships between the Southern Paiutes and Little Springs Lava Flow to form. It is believed that the communities at Mount Trumbull differ from other Southern Paiute agriculturally based communities, because they were support communities or living spaces for spiritually powerful people who directly interacted with the Little Springs Volcano and associated sites. Similarly, there must have been communities for the other people who were involved in constructing the trails on each lava flow. They cultivated foods here, but not to the extent that the agricultural communities to the north did. Support crops in the Mount Trumbull area were also negatively affected by the on-set of the Little Ice Age. It is unknown how long Southern Paiutes were living here prior to the Little Springs volcanic event, but the Little Ice

Age could have impacted the duration that the religious specialists resided in the Mount Trumbull region.

4.2 Southern Paiute Epistemology and Volcanism

The ways in which societies relate to their environments are grounded in their epistemologies. In Southern Paiute society, relationships and deep connections with their environment were formed during Creation. Southern Paiutes maintain that the Creator gave them the responsibility to manage their environment to promote environmental growth and sustainability. They have developed numerous strategies and activities that increase biodiversity and biocomplexity throughout their homeland. The basic tenants of Southern Paiute epistemology have helped forge the relationship they have with their environment. To Southern Paiutes, the universe is alive and everything is interconnected through all types of relations, what anthropologist Roy Rappaport (1999:263-271; 446) calls “the ultimate sacred postulate.” The universe is alive in the same way that humans are alive, and the universe possesses most of the same anthropomorphic characterizes as well. The universe has discrete physical components such as power and elements. It is a living system. This concept of the living universe is so fundamental that, any discussion of Southern Paiute culture cannot occur without it.

As explained by Liljeblad (1986: 643-644), to the Southern Paiutes, power is everywhere and is “a source of individual competence, mental and physical ability, health, and success.” Power is referred to as *Puha*. This concept is similar to that of many different tribes living throughout the western United States. Other Numic speaking people; such as the Ute, Western Shoshone, Owens Valley Paiutes, and Northern Paiutes have similar words in their languages¹ *Puha* is a fundamental principle of their epistemologies as well. The concept of power is not limited to Great Basin and Colorado Plateau peoples; it is also a core epistemological principle in the cultures of nearby Upland and Colorado River Yuman-speaking peoples such as the Mojave, Hualapai, and Havasupai.

According to Numic beliefs, *Puha* is derived from Creation and permeates the universe, which resembles a spider web. Sometimes it is like a thin scattering, and at other times it occurs where there are clusters of life in definite concentrations with currents. *Puha* exists throughout the universe but varies in intensity from person to person, place to place, element to element, and object to object. This is similar to how strength differs among humans. *Puha* can also vary in what it can be used for, and it determines the tasks certain elements (air, water, rocks, plants, animals) can perform or accomplish. *Puha* is networked; it connects, disconnects, and reconnects elements in different ways. This occurs because of the will of the elements that have the power. *Puha* is present in, and can move between, the three levels of the universe: the upper level—where powerful anthropomorphic beings live, the middle level—where people live now, and the lower live—where extraordinary beings with reptilian or distorted humanoid appearances live (Stoffle, Zedeno, and Halmo 2001).

In his article, “Basin Religion and Theology: A Comparative Study of Power (*Puha*),” Miller (1983: 79-89) noted that:

¹ Ute- *Puwavi*, Western Shoshone- *Puha* and *Poha*, Northern Paiute- *Puha*. The Chemehuevi and Southern Paiute are the same people with a common language. The word for *Puha* is the same.

Power is diffused everywhere in continuous flux and flow, which however, is not haphazard because, as an aspect of memory, power is rational. From all available evidence, the routes of concentrated power within generalized dispersion are web-like, moving both in radial patterns and in recursive concentric ones, out from the center and back again...The web image is reflected in the stories where Coyote assumes the form of a water spider to carry humans to land and Sun takes the form of a spider who is webbing the firmament of the universe...The web of power, however, is not static like that of a spider because the webbing actually consists of the flow of power rather than filaments per se. Rather, the web is pulsating and multidimensional, even having aspects of a spiral, some- times regular and sometimes erratic, intersection with the radials from the center. This spiral movement is represented most graphically by an in-dwelling soul of a person that can be seen escaping the body at death as a whirlwind.

While operating in a dynamic equilibrium within the universe, Puha is also entropic (Bean 1976; Blackburn 1974; Stoffle, Zedeño, and Halmo 2001; White 1963). This means that over time, Puha has gradually diminished since Creation in quality, quantity, and availability. The reason for this is that human beings at various times treated it improperly, and failed to uphold their responsibilities in the relationship they have with the interdependent system. Indian people believe that a very rapid loss of Puha occurred after the European encroachment. Knowledge concerning how to regulate relationships with powerful elements was lost through the processes of colonization. Despite this, Puha is always retrievable in some form, as long as new guidelines are established for obtaining, maintaining, and respecting it.

In Southern Paiute culture, there are rules for handling Puha and powerful objects. These rules function to control the person with the Puha, and prevent him or her from misusing it in one of two ways. First, power can only be used at proper times and in proper places and, it must be used in accordance with standardized procedures, such as preparation and pilgrimage to ceremonial areas. Secondly, people who have obtained and control Puha and its knowledge may withhold information on procedures for acquiring and maintaining power from uninitiated persons or persons who are deemed unworthy candidates. As Stoffle, Zedeño, and Halmo (2001: 65) wrote, “the diversity and unpredictability of power was consistent with an ecosystem that was equally diverse and unpredictable, although often kind and bountiful in the resources provided by nature.”

In her ethnographic piece on the Northern Paiute (culturally and linguistically similar to Southern Paiutes), Catherine Fowler (1992:170-172) described how the people of Fox Peak believe Puha is present in all elements of the Earth:

One of the most basic beliefs that guided the interactions of people with the land and its resources was the concept that the Earth was a living being, just as were the Sun and Moon, the Stars and natural forces such as Water, Wind, and Fire. The life force within all of these, as well as particular geographic features and classes of spirit beings, was power (Puha)... Although power potentially resides anywhere, its association with mountains caves, spirits or other water sources, and the results of past activities by Immortals or humans was particularly apparent.

This discussion of Puha in her ethnographic piece emphasizes that power concentrates in all aspects of the universe and serves as the life force in these elements as well. Fowler also notes that power is attracted to special people who can channel it and use it during prayer and ceremony. For Numic-speaking peoples of the Great Basin and Colorado Plateau, this concept and understanding frames how they relate to, understand, interact with, and use the lands around them.

4.2.1 Ceremonial Activity and Power Acquisition

Numic religion is an intricate system that focuses on Puha by using it in a variety of rituals, such as balancing ceremonies, rain making activities, and rites of passage. These activities take place in specifically defined ceremonial places, which are understood to be an area where there are concentrations of powerful elements². In other words, ceremonial places are bounded by topography and universal elements.

For some, power acquisition is a life-long process and involves pilgrimages to special places like volcanic mountain tops or caves to acquire songs. For young men, this process begins during coming of age activities and continues throughout his life. It is believed that some women have gained power through this process as well, but little is known about it at this time.

During ceremonies, an individual often experiences a vision and acquires a spirit helper. Such a helper resides at a specific place and it there to be drawn on if a more intense supernatural experience were to be desired by the individual. For the most part, vision questing is understood as an activity that is associated with being part of male rites-of-passage. In southern Nevada, some places have been documented as having the necessary cultural conditions for vision quests. The conditions needed for this ceremony include open, elevated, and not readily accessible spaces, such as mountain peaks. Many of these locales are associated with volcanic activity, obsidian, basal flows, basalt boulders, medicine plants, mountains, and vistas. Tobacco, for example, is found growing at these places. Animals such as mountain sheep, rattlesnakes, and eagles are often present.

Few adults made the transition to religious practitioners, but exposure to the spirit helper during rites of passage was common. To formally become a shaman is to remove oneself from the normal activities of society, so most people consciously turn away from acquiring extensive and potent supernatural power. Religious practitioners obtain spirit helpers throughout their lives to aid them in certain ceremonial practices such as curing or rain making activities. Spirit helpers are generally non-human/animal spirits and are only visible to those who possess them. The type of medicine man a person becomes is usually linked to a person's spirit helper. For Southern Paiute people, spirit helpers are known as *tututuguuvi*, and are summoned through song. They come from a number of different places throughout Southern Paiute territory. One place identified by Chemehuevi Paiute, George Laird was a place known as *Huawawangkigari*, which is believed to be the Avwatz Mountains (Laird 1976).

² Elements range from medicine plants like Indian tobacco, geologic features such as volcanic materials, and animals.

Medicine men would call upon certain spirit helpers depending upon the spirit helpers roles. For example, the mouse and the packrat were most helpful in doctoring because, they were able to “steal the disease away.” Some spirit helpers such as mountain sheep were associated with rain making. The medicine men that possessed mountain sheep spirit helpers frequently dreamed of the mountain sheep, the associated songs, the ceremonial activity the medicine man needed to perform, and how to perform the particular task. The mountain sheep spirit helper, along with others such as deer, would be summoned from the Huawawangigari (Laird 1976).

It was common for Southern Paiute medicine men (or women) to live alone, isolated from their local communities. This practice was considered a means of protection. First, the isolation and distance protected those who practiced traditional doctoring and the non-initiated peoples from being harmed by outside forces and large concentrations of Puha. Second, the isolation allowed medicine men to practice their ceremonies without fear of being interrupted; this was critical because, if a ceremony was disturbed, it could result in highly negative consequences causing the participants physical and spiritual harm or even death. In the case of Tuku’nimpⁱ, for example, rattlesnake shamans were involved in important rain making ceremonies, so the success of their activities was critical to the health of the community.

In his Southern Paiute field notes, Edward Sapir has a detailed discussion of Southern Paiute medicine men. According to Sapir, both men and women could be shamans in Southern Paiute culture. It was explained to him that they acquired their powers through dreaming, which occurred sometime after puberty but before they reached 30 to 40 years of age. Each shaman had a spirit helper or spirit guardian, which was summoned through song. Sapir described the use of song as follows:

Every spirit has his special songs; these seem to have no intelligible words. Knowledge of the songs was gained by dreaming of them. One of the most powerful of the medicine spirits was the eagle. As soon as the medicine-man begins his song, the guardian spirit, no matter how far away at the time approaches, and from a distance communicates with the medicine man, telling him of the whereabouts of the sickness (Sapir and Bright 1992: 830-831).

Sapir also noted that an aging shaman could give some of his or her power away by gifting others the songs. If this happened, the power of the medicine man would lessen. It however, would help ensure that knowledge was passed to younger medicine men and the cultural practices continued (Sapir and Bright 1992: 831).

Many medicine people acquired their power and knowledge through the act of pilgrimage. They made journeys to special features throughout Southern Paiute territory. Sometimes, they visited high mountain peaks on vision quests, other times they traveled to small volcanic buttes to acquire spirit helpers, and sometimes they journeyed to caves to acquire songs. These pilgrimages were intended to be difficult journeys that required the travelers to prepare themselves to not only make the trip but to receive large amounts of Puha.

4.2.2 Puha and Ceremony

People use Puha for a number of different ceremonies, each of which occur in unique places and require people to seek those places out for ceremony. One type of place people visited for ceremonies was a place where they could perform activities that brought individuals, communities, and the world in balance, also known as round dances. The place required for a round dance has the following features: large space, flat, has associations with Creation. Round Dance sites are found throughout the Great Basin and the Southwest and they can be sites that involve human participants or animal participants. The ceremony involves a large number of people, all of whom have traveled some distance away from their home community. One round dance site is the Rabbit Circle Dance site in the Spring Mountains (Stoffle et al. 2004). This site was used by Rabbit (a Creator being) in the mythic times to balance the world. Other significant round dance sites in southern Nevada are Corn Creek, Indian Springs and Wellington Canyon.

Another well documented round dance site is found near Kanab, Utah. On January 6, 1872, John Wesley Powell and Fredrick Dellenbaugh saw a round dance at this site. Dellenbaugh stated that the entire Kaibab Paiute band was camped together, which would have been approximately 200 people. At the center of the dance circle was a cedar tree with most of its branches removed. All that remained was a tuff at its top. The entire group formed a large circle around the tree and danced and sang. A man who was in charge leading the group in song stood at the center of the dance circle (Dellenbaugh 1926).

Round Dances were performed seasonally in order to keep the world in balance. Some round dances took place following the harvest of planted crops, or the gathering of wild plant resources like pine nuts or agave. There were other types of round dances performed on an irregular basis such as the Ghost Dance, when extraordinary forces seemed to place the world more out of balance than normal (Carroll and Stoffle 2003; Carroll, Zedeño and Stoffle 2004).

Some ceremonies, like pilgrimages, were performed by a small number of specialized shamans. These activities required physical and spiritual preparation to handle being isolated from normal daily lives, and for making the long difficult journey to high mountain peaks. Shamans also needed to be prepared to acquire large amounts of power during their ceremonial trek. Southern Paiute shamans went on pilgrimage for two predominant reasons—rites of passage activities for young males, and for obtaining knowledge and power to be used doctoring and balancing ceremonies.

The knowledge and power they gained during these ceremonies aided their communities, districts, and the entire Southern Paiute nation. Puha'gants gained the knowledge to conduct rain making ceremonies, heal the sick, and to put the world in balance.

4.2.3 Puha and Volcanism

Volcanoes have a special place in Southern Paiute epistemology, and Southern Paiute people are strongly culturally attached to volcanic places and events. Volcanic episodes are distinctive moments when Puha moves from lower to higher levels of existence, and causes the power to accumulate in these areas (Carroll et al. 2006; Stoffle et al. 2000a; Stoffle et al. 2005;

Stoffle et al. 2009; Toupal and Stoffle 2004; Van Vlack 2012). Puha moves from the lower portions of the Earth to form hot springs, mountains, volcanic cones, basalt mesas, lava tubes, basalt bombs, and obsidian deposits. Volcanic places and materials play important roles in the formation of special minerals and biotic communities found here. Some resources can be found only where volcanic activity has created power landscapes. Southern Paiute people respect and interact with places of volcanic activity; because these places contain powerful forces, spiritual beings who can balance human society at local, regional, and world levels. As one Southern Paiute elder said, “Volcanoes are sacred mountains. The old people knew it was alive, like the mother earth is alive. We have a song about the rocks shooting out of a volcano near home,” (Van Vlack 2012: 224).

Places that contain the presence of volcanic activity are considered sacred and powerful locations. Numic peoples believe that volcanic events are moments when Puha deep inside the Earth is brought to the surface as a way for the land to renew itself or be reborn. Volcanism is also a way for Puha to be distributed across a landscape. Above ground, Puha follows the flow of water, and distributes itself across a landscape. This distribution occurs similarly below the surface, where Puha follows the flow of magma rather than water. As Puha moves through underground channels, it distributes itself and connects volcanic places over vast distances.

4.3 Site by Site Assessment

This section provides analysis for each site visited during the Little Spring Ethnographic Study in 2012. The site discussions are organized from north to south and in the order in which they were visited. Each site discussion contains locational information, ecology (plants and animals), special features (cultural materials, archaeology, unique geological features, viewscapes, trails, etc.), Native American comments, and ethnographic comments. It is important to note that the Native American comments are not edited and are intended to stand alone, representing Indian thoughts and opinions regarding cultural uses of these sites and landscapes. The purpose of the ethnographic comments section is to expand upon major themes addressed in the interviews by drawing upon previously previous Southern Paiute ethnographic studies.

4.3.1 Paiute Cave (NA9106; AZ A:8:29)

During the 2012 ethnographic study, Southern Paiute representatives and UofA ethnographers visited a place that is located to the southeast of Hat Knoll, and is 24 kilometers (15 miles) north of the Little Springs Lava Flow and Mount Trumbull. This site, known as Paiute Cave, is part of the northern portion of the Uinkaret Lava Field. The cave is found at the base of a large volcanic deposit which is bordered by the eastern edge of the Uinkaret Plateau to the east and Black Canyon to the west (Figure 4.3). Given its geological composition and cultural resources, this cave is linked to ceremonial activity at the Little Spring Lava Flow and to places in the Grand Canyon and Kanab River Canyon.

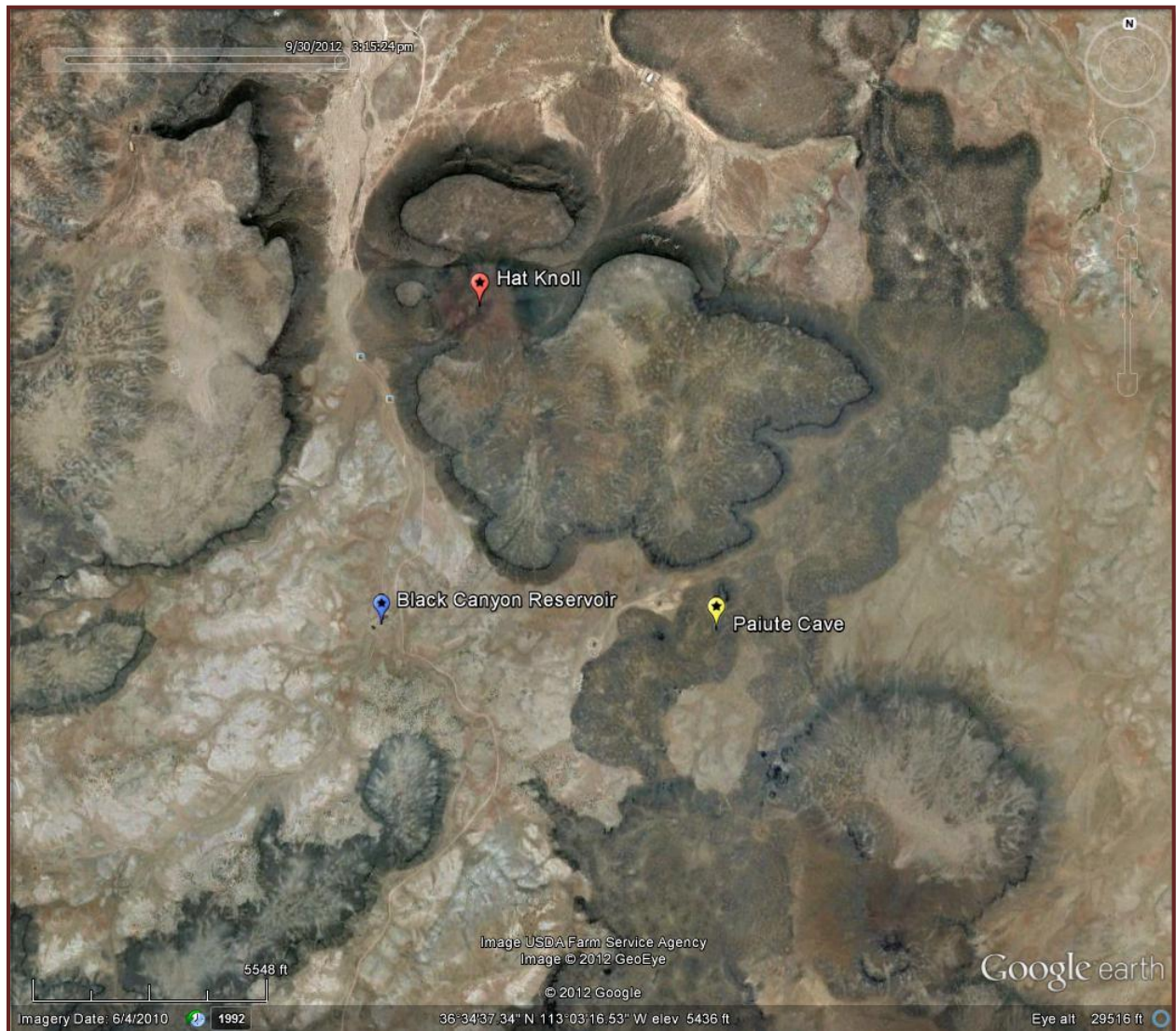


Figure 4.3 Google Earth Image of Paiute Cave and Surrounding Landscape

Ecology

Paiute Cave is situated in the Great Basin Conifer Woodland biotic community. This ecological community spans from Colorado to northern Baja California. (Brown 1994) Juniper and piñon pines are the dominate species of this community, while big sagebrush is the next most prevalent species in this region. Other prevalent species are cliffrose, three leaf sumac, and bitterbrush, which provide for species such as desert big horn sheep, mule deer, and pronghorn antelope. The majority of winter precipitation falls as snow at higher elevations, while overall precipitation varies from approximately 25 to 50 centimeters (10 to 20 inches) of rain per year.

Special Features

Like most of the immediate landscape, Paiute Cave was formed by volcanic processes. The area around and on top of the cave is part of a large pyroclastic deposit. These types of deposits are characterized as being cinder, bomb deposits, and reddish-gray, black, red, and gray tuff. These deposits are found near a pyroclastic cone. This cone is located near one or more vents which overlie the coalescing basalt flows (Billingsley and Hamblin 2001). Paiute Cave is one of these volcanic vents (Figure 4.4). Volcanic vents allow air to flow from deep inside the air outward which from a Southern Paiute perspective is a testament to the Earth breathing and being an active living entity.

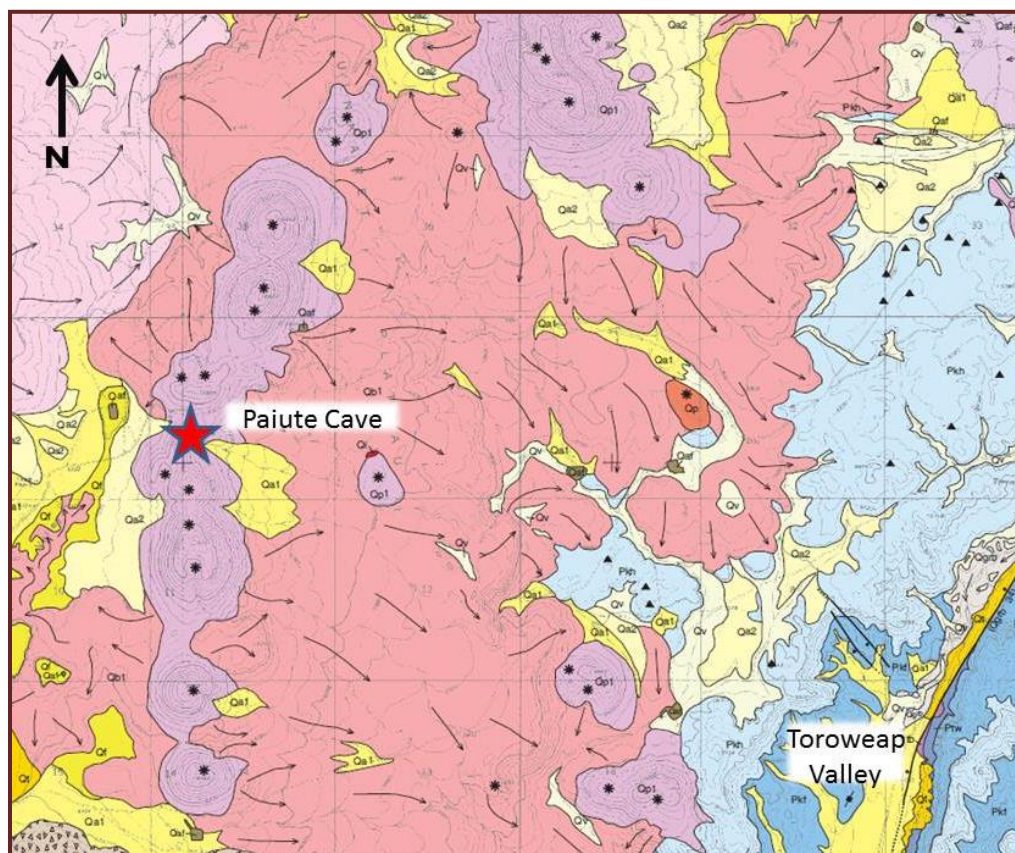


Figure 4.4 Geologic Map of the Paiute Cave Area, Paiute Cave Marked with a Red Star

Paiute Cave, like all caves in traditional Southern Paiute territory, is understood as a powerful sacred places. Caves in general are deemed important because they provide shelter and collect water, both vital for all life. Caves also have a tendency to be dark and moist like what Miller (1983) refers to as the initial world. Caves have been described by Southern Paiute religious leaders as being the mouths of mountains (Stoffle, Zedeño, and Halmo 2001).

Liljeblad (1986) noted that caves were often used during power acquisition ceremonies and that caves served as entrances to underground pathways. Each cave had its own purpose, thus no two caves can be considered the same. Caves were used by Puha'gants (medicine men) to gain spirit helpers or knowledge such as songs or prayers.

Paiute Cave is unique in that it contains red, yellow, and white painted figures at various locations inside the cave. The presence of these images suggests that the cave was used for ceremonial activity. Tribal representatives believe that the ceremonial activities conducted at Paiute Cave were linked to the Little Spring Lava Flow and Puha acquisition.

Archaeologists first recorded this site in 1977 and then later revisited and updated BLM site records in 2009 and 2011. In addition to painted figures, archaeologists noted lithics, a walled structure, and hearth as being present at this site.

Native American Comments

Southern Paiute representatives were brought to Paiute Cave because of its geologic composition and the presence of tumpituxwinap. Tribal representatives were interviewed about how this place is connected to the Little Spring Lava Flow. UofA Ethnographers conducted four interviews and the representatives' responses follow.

When asked if Indian people used this place and if it was connected to the Little Spring Lava Flow, tribal representatives responded:

- *I think that it is connected. The reason being for me is that I think that it was a cave, not how it is now with all of those rocks having to be crawled over all those rocks. I think that it was open where people could rest before making their final journey here or their way back. I think there was water there, and more eating vegetation you know.*
- *They went in there to prepare themselves before going on top of that flow. They went in there, probably to paint themselves, to smudge themselves, maybe to prepare some kind of offering, to sing some songs, in preparation for going in there, you know, doing things like that. And, when they started onto that flow, I think they made offerings. Along the way. And they went on top of that place, following that little path, following that circular structures there, inside the flow. And I think what they did there, those Puha'gants who used it. That was a place to fast, and to pray. And that's where they went to seek the volcanic power, to make connection with those entities that are a part of the power. I think that they stayed there, not overnight, but maybe for a few days. Fasting and praying and doing that kind of thing there. I think that's what those little circular things were, there. I think that throughout the thousand years, different medicine men used that as*

their power place, their place to go and acquire volcanic power, that volcano medicine, that supernatural power. I think, when they were fasting there, they met, those beings um, from the volcano. Being that travel the land. Those beings were represented in the Puha cave, down on the wall. You see them in yellow and red. I think those colors were used because those paints were very powerful paints. I think they went there because the breathe of the volcano probably came out through there, at one time. They went there and they recorded. It was a part of some Puha 'gants power place. And he wrote and put all of those things there, those beings that travel the land, the beings that came with the volcano. He put, I think he even put the direction of the flow in there, and he even put the flow in there. You can see the flow there with the yellow around it. And the direction, the circular direction that the flow took, and the beings that came with it. Supernatural beings, who are all represented there. And that cave is a very powerful place. And I don't think it was used by anybody, it was not just there for any person. It was therefore medicine people, you know, the Puha 'gants, who made the connection, and who sought the power, of the volcano.

- *Paiute cave was probably a stop along the way, same climate, higher than us down there. Paiute cave is very special, very strong area. When we got to the mouth of the cave I just stopped I had this feeling that I shouldn't be in there. Because the further you go in the stronger it feels, and I knew that that wasn't somewhere that I needed to be. It's only meant for a certain type of people, medicine people, which is interesting none of us went in we all stayed back except you guys.*

Ethnographic Comments

Tribal representatives and the UofA team noted evidence of a structure near the cave opening. Inside Paiute Cave, there are a series of painted images. These rock paintings, while sometimes referred to as rock art, should be more aptly called *tumpituxwinap*, which when translated into English means “storied rocks.” *Tumpituxwinap* refers to petroglyphs and pictographs placed on stone surfaces for sacred purposes. In Paiute Cave, the *tumpituxwinap* appear in three colors—red, yellow, and white. Red and Yellow paints are direct products of volcanic processes and are associated with Puha, ceremony, and medicine in Southern Paiute culture. The paints likely came from sources in the Grand Canyon. The white paint likely came from a source in Kanab River Canyon. The *tumpituxwinap* panels are located near the cave opening (Figure 4.5), the left back wall (Figure 4.6) and the center back wall (Figure 4.7).

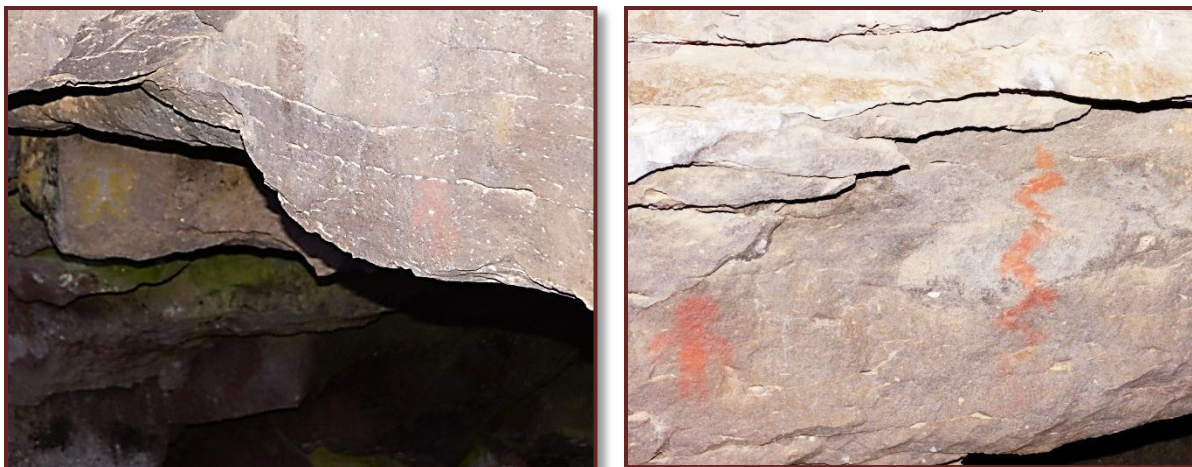


Figure 4.5 Painted Figures at Cave Entrance



Figure 4.6 Painted Figures located on the Left Side of the Cave



Figure 4.7 Painted Figures on the Back Center Wall

It is also important to note that many of the figures found inside Paiute Cave also were documented in Kanab River Canyon (Figures 4.8, 4.9, 4.10), Zion Canyon (Figure 4.11), and in

the Grand Canyon near Whitmore Wash (Figure 4.12). In previous studies, some of the images like the spirals, wavy lines, and the grids of dots have been interpreted to represent the entoptic phenomena of entering in trance like states (Dobyns and Euler 1970:2; Stoffle et al. 1995; Stoffle et al. 1997). This spiritual transition is a key component to the pilgrimage ceremony and Puha acquisition (Van Vlack 2012).



Figure 4.8 Kanab River Figure in Black Paint (L) and Paiute Cave Figure in Yellow and Red Paint (R)



Figure 4.9 Kanab River Figure (L) and Paiute Cave Figure (R)

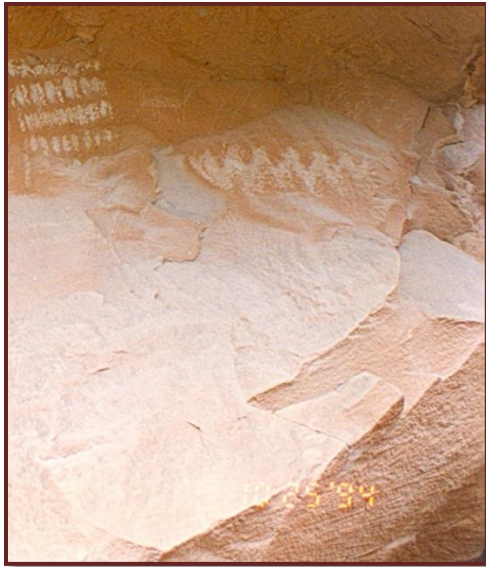


Figure 4.10 Kanab River Pecked Wavy Line (L) and Paiute Cave Painted Wavy Line (R)

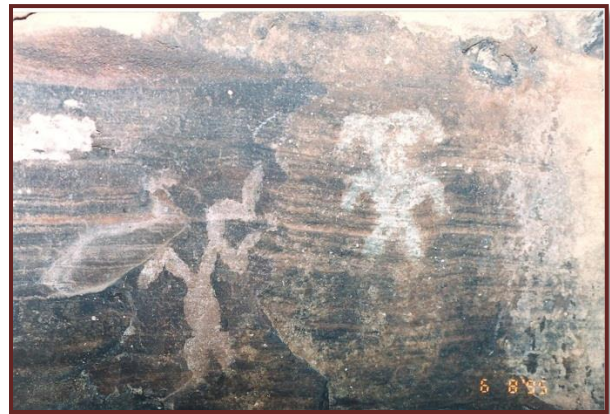


Figure 4.11 Blue and White Painted Figures from Zion Canyon (T) and Paiute Cave Red Painted Figure (B)

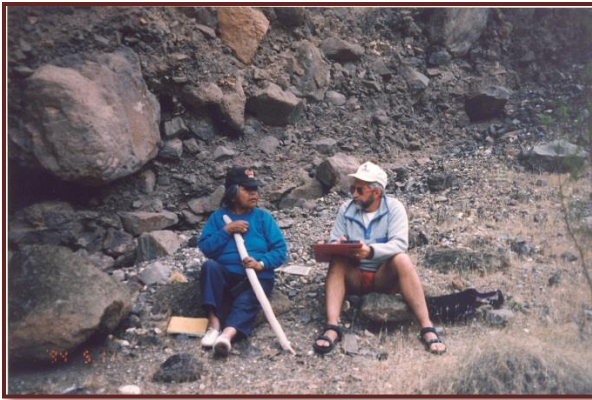


Figure 4.12 Interviewing at Yellow Paint Source (L); Yellow and Red Figures Similar to Paiute Cave in the Grand Canyon (R) (Photo taken by D. Halmo 1994)

Paiute Cave is culturally and ceremonially linked to the Little Springs Lava Flow. As interviews with Southern Paiute representatives pointed out, Paiute Cave was a key ceremonial preparation place used by special Puha'gants along a ceremonial trail to the lava flow. By definition, this action is part of a pilgrimage ceremony where religious specialists travel along a trail (both physically and spiritually) visiting shrines to prepare themselves to receive knowledge or power at a destination place. Southern Paiute pilgrimage trails or Puha Paths follow an inherent cultural logic to them in that Puha Paths throughout Southern Paiute territory contain reoccurring cultural features such as purification places and tumpituxwinap places. Paiute Cave was an important Puha place that was used during pilgrimage.

Places like Paiute Cave serve as areas where a person on pilgrimage would visit to acquire power or a spirit helper to be used in ceremony. Numic-speaking people hold strong beliefs that the rocks are alive, have power, and spiritual value. Pilgrims interact with these places to aid in ceremony and power acquisition to address issues on local, regional, and global scales. Tumpituxwinap places, such as Paiute Cave, act as gateways to the spirit world where religious specialists can enter the spirit world through certain types of storied rocks as part of ceremonial activity.

Paiute Cave is located not only at the northern end of the Uinkaret Lava Field, but it is also situated at the entrance into Black Canyon. It can be argued that Paiute Cave serves as the northern entrance to the Little Spring Pilgrimage Trail. As one travels south towards Mount Trumbull, the valley becomes bounded by high volcanic mountains and flows. These types of constrictions are important physical attributes to Southern Paiute pilgrimage trails. In Southern Paiute culture, narrow or constricted spaces influence cultural meaning, and affect the movement of natural elements like wind and water. Pilgrimage trails pass through or near these narrow spaces, because these are areas where Puha converges and collects in a manner similar to how water will pool in constricted places. As a trail passes through these types of locations, a pilgrim can experience and draw upon the power of the area as he or she progresses on the journey.

4.3.2 Hot Spring at the Northern Lobe of the Little Springs Lava Flow: *Unuvats*

The Northern Lobe of the Little Springs Lava Flow has a hot spring at its northern base (Figure 4.13). The hot spring (Figure 4.14) is currently surrounded by wood beams and reinforced stone walls. According to tribal representatives, the name for this spring in Southern Paiute is named *Unuvats* which means volcanic rock spring. Judging from the depression where the water has pooled in the past it seems that the spring was generally a meter deep. At the time of our visit the hot spring did not have water in it due to drought. Under non-drought conditions, the spring would contain an ample supply of water. The volcanic rock rises steeply just behind the mouth of the hot spring, leading to the top of the flow.



Figure 4.13 Google Earth Image of Northern Lobe Hot Spring

Ecology

The area surrounding the hot spring was forested on one side and the lava flow covered the other portion of the area. The elevation for the hot spring is 2,011 meters (6,600 feet), with

wild grasses and trees located nearby. The hot spring is surrounded by a dense ponderosa pine forest which is home to other culturally important plant species such as cliffrose, three leaf sumac, prickly pear, and bitterbrush, which provide for species such as desert big horn sheep, mule deer, and pronghorn antelope.



Figure 4.14 Hot Spring, Unuvats (Photo Taken From Above in 2003)

Special Features

Springs are important features within Southern Paiute epistemology, and are frequently associated with culturally significant sites and ceremonial areas. The UofA research team and the Kaibab Paiute cultural representatives chose to visit this site based on its location near the base of the lava flow and the fact that it is a hot spring known for having healing properties.

Hot springs are unique in the fact that the water is geothermally heated from the Earth's mantle in volcanic regions. The hot spring located at the northern portion of the Mt. Trumbull lava flow is the product of volcanic activity in the past, and contains a high mineral content which contributes to the therapeutic reputation that the hot spring holds.

The Northern Lobe hot spring (Figure 4.15) was formed from local volcanic activity in the area. When the Little Springs Volcano erupted, the flowing lava altered the area's hydrology. As the lava moved across the landscape, it followed existing surface drainages, causing them to be blocked and forced the creation of new water surface flow patterns. The lava flows are very permeable allowing for the water to be stored in naturally occurring reservoirs and recharge the

water table. The shallow water table that existed at the Little Spring Lava Flow produced new springs at the contact zone between the lava and the pre-eruptive soils.

There are remnants of numerous stone structures located at the base of the flow near the spring. These structures are believed to be associated with ceremonial activity and purification at hot spring for *Puha'gants* or shaman, prior to visiting the lava flow. The Puha'gants most likely used structures in correspondence with the hot spring and this was an intense period of prayer and preparation.



Figure 4.15 Southern Paiute Tribal Representatives at the Hot Spring

Native American Comments

Southern Paiute representatives (Figure 4.15) and UofA ethnographers visited the hot spring during the October field session. Tribal representatives were interviewed about how the importance of this place and how is it connected to the other regions of the Little Spring Lava Flow and nearby living areas. Their responses from seven interviews are detailed in the following section.

When asked if Indian people would have used this site and/or artifacts, the Native American Representatives replied:

- *Now when the hot spring was flowing, active, it was a place of healing. Even the one that they have down in La Verkin, Utah is a place of healing. I remember when I was really young I would go with my aunts, and they would go to sit in the sulphur water, I remember that smell. It was more of a healing thing for their arthritis, rather than*

purification. They always would rather go there first before they would see a doctor. I just remember that it took forever to get up here, that was back before the road was built, that was the early 1970's late 1960s.

- *You will see 'vats', Unuvats, across the Arizona Strip. I think that this was a very sacred place because of that flow. And I believe, in seeking and asking, and making offerings, and asking for the knowledge of that place. I believe that that, was, was a place that was used by many Puh'gants throughout the years. I think that that trail, was a Puha path, that went into that flow. But before any Puha'gant, ventured inside of that flow, what they would do is purify themselves in that hot spring. After purification, they went to that little round shelter next to the hot spring and went in there to prepare themselves before going on top of that lava flow. They went in there, probably to paint themselves, to smudge themselves, maybe to prepare some kind of offering, to sing some songs, in preparation for going in there, you know, doing things like that.*
- *The hot spring is not only just to purify you, it's to heal you. You're sickness, you know, to rejuvenate your body. Because it has all that salt. When we were younger that's where we would go, and up in, Brigham City, over by Windover. My parents knew of these hot springs, and every so often, we would go to the hot springs, we knew it was always there and a part of our lives.*
- *Water is so precious to us, nothing is more sacred to us than water. They always prayed and left an offering at the hot spring. Corn, tobacco, something of that nature. Tobacco, even people today offer tobacco.*

When asked for their recommendation for protecting this place, the Native American Representatives replied:

- *I don't see how you can really preserve it, other than close the area which is doubtful. It's very difficult to close areas of the park. You can't put a fence around it, it would disturb the naturalness of the area. It's really rough terrain. I don't see how much more damage people can cause, the paths are already there. I don't think people would choose this as a vacation spot. I think nature is protecting its self.*
- *I think that those volcanic flows should be fenced off. Just for protection. Just to let people know, this is a place you shouldn't just run all over. I think it would be a good thing, for the knowledge that we have given you guys today, to be shared. Maybe some of it, not all of it could be shared with the public.*
- *Close the roads, we have a lot of areas where we would want them to go, but people tend to not listen, or not notice any signs. A good thing would be to just try and get it back into the original environment with the vegetation. People can look at it and see it's here, but I don't like people picking up anything.*

Ethnographic Comments

Southern Paiute and other Numic-speaking peoples view hot springs as powerful and sacred places, used to heal and purify. According to Numic epistemology, the Puha that emerges from a place can be used to heal individuals and small groups. The power of the place is often supplemented by the presence of medicinal and ceremonial plants, minerals, viewsapes, and other natural phenomenon. These elements and artifacts are made more powerful by their proximity to powerful places.

Water from the hot springs is used in healing ceremonies both at the springs and at other locations. Patients would come to hot springs at the instruction of or accompanied by a Puha'gant. Before entering a hot spring, Indian people would speak to the spirit of the spring, introducing themselves, and explaining why they were visiting. Indian people have traditionally carried water from hot springs back to individuals who were unable to leave home due to age or illness (Stoffle et al. 1997).

Hot springs are recognized as strong sources of healing-Puha that derives from their form and characteristics, such as thermal heat or the location of the hot spring. Indian doctors took patients to hot springs in order to conduct healing ceremonies. Additionally, doctors visited healing places like hot springs to in order to gain insight about how to heal. A Puha'gant is required to facilitate the healing. Powerful minerals like paint and obsidian are used to assist in the ceremony.

Hot springs are places of mixed power. Hot springs, like all water, were created for expressed and varying purposes. They can be embedded in powerful rivers, like the Pumpkin Springs in the lower Grand Canyon, canyons, like those in the Gold Strike Canyon, and small rivers, like those along the Virgin River near Hurricane, Utah (Stoffle et al. 1997). Southern Paiute elders have stated that hot springs were also used by shamans for ritual purification prior to visiting sacred caves, valleys, or other spiritual locations. Such purification was necessary in order to prepare the mind and body for a safe and proper interaction with spiritual beings.

In a previous Southern Paiute ethnographic study, Paiute elders discussed the cultural importance of hot springs. One of places they visited was Pah Tempe Hot Springs in southwestern Utah, near the town of Hurricane. Pah Tempe Hot Springs provides an example of a sacred hot spring used by Indian people for many centuries. Interviews with Southern Paiute elders indicated that these springs were visited regularly by Indian people from as far as Moapa Valley. Indian people used these springs well into this century for relieving various ailments and conducting healing and purification ceremonies (Stoffle et al. 1997).

Pah Tempe Hot Springs is now privately owned and serves as a commercial resort for natural healing and relaxation. Extensive modification has removed the majority of native plant species. Paiute elders, however, have provided information that these springs were once an important location for gathering medicinal plants. The geological, aquatic, and floral aspects of this location combine to form what is still an important sacred location for Indian people (Stoffle et al. 1997).

Hot springs are believed to be connected to each other. This connection was documented by Fowler (1992) for the Northern Paiutes, and is reflected in the Owens Valley Paiute origin story for all the hot springs in the region. According to an Owens Valley Paiute elder, during Creation “the sun fell...and it fell into the hot springs, the water over there [Coso Hot Springs], and made all the different hot springs all over” (Clark 1999:52). The splash that resulted from the sun falling in the hot springs spread toward the north, east, and south. All of the hot springs in this region, including Tecopa Hot Springs, Coso Hot Springs, Warm Springs, Tonopah Hot Springs, Oasis Valley Hot Springs, Goldstrike Canyon Hot Springs, and Thermo Hot Springs, are connected through simultaneous creation and underground waterways.

Reports on the use of the hot spring by Kaibab Paiute elders document its effervescence recently. Even in the 1960’s and 1970’s several of the Tribal members frequently visited and used the springs themselves. One of the Kaibab Paiute Tribal members told the UofA research team about the use of the hot spring as a place where people came and sat to relieve their arthritis pain. It was used for healing other illnesses, with offerings and prayers given in reciprocity. She goes on to say that her aunts bathed her in the hot spring several times as a cure for an illness she had as a child. Another elder noted that hot spring was named *Unuvats* or Volcanic Rock Water.

4.3.3 The Northern Lobe of the Little Springs Lava Flow

The Northern Lobe of the Little Spring Lava Flow (Figure 4.16) is found at approximately 2,018 meters (6,620 feet) in elevation and is situated in a valley between Mount Trumbull to the northeast and Mount Logan to the southwest. The previously discussed hot spring is found at the base along the flow's northern edge. The pyroclastic cone responsible for creating the Little Springs Lava Flow is located approximately 1.92 kilometers (1.20 miles) to the south of the Northern Lobe's northern edge. For the purposes of discussing Indian use and connections to the Northern Lobe, this analysis focuses on two distinct features—the hornito and an area referred to as Coyote's house.

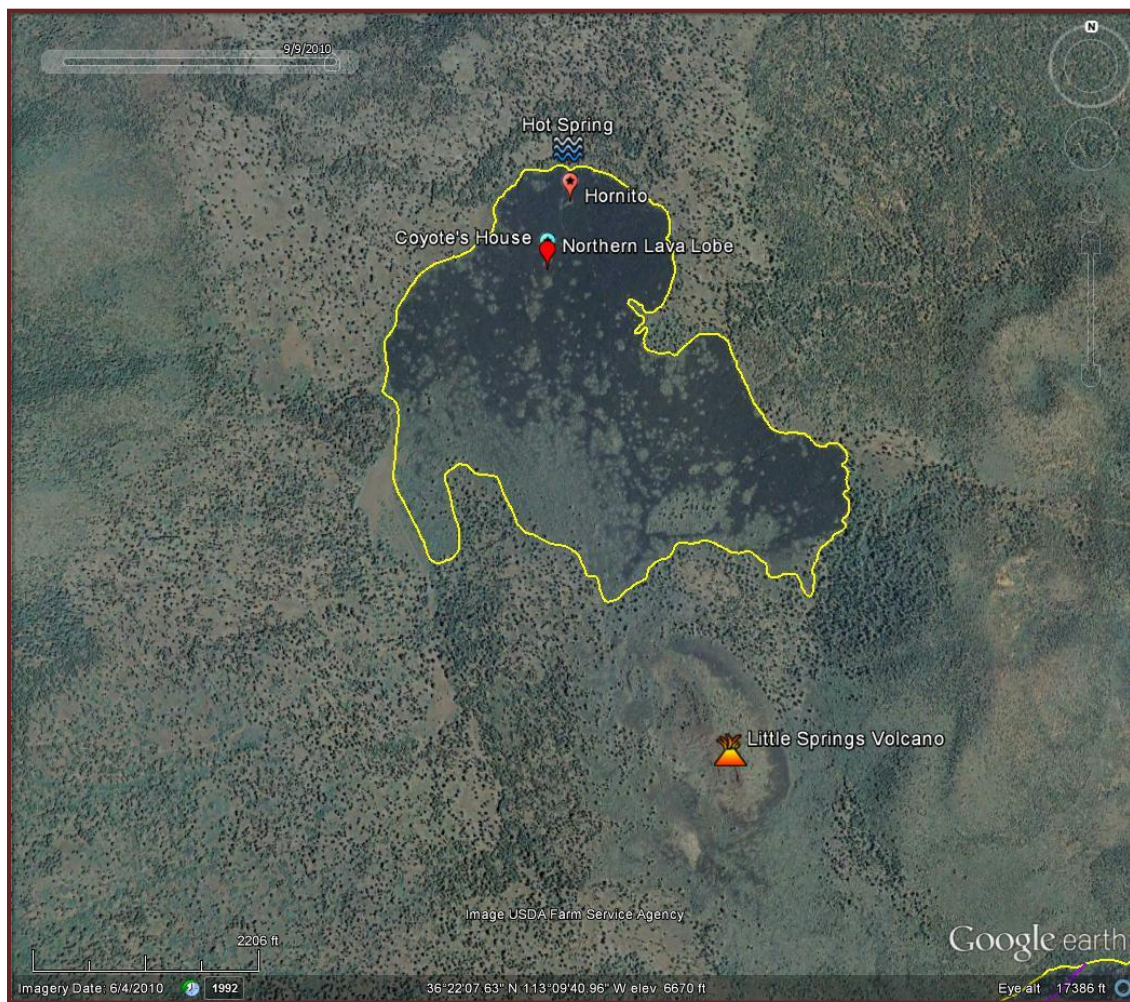


Figure 4.16 Google Earth Image of the Northern Lobe and the Little Springs Volcano

Ecology

The Northern Lobe is situated in the Great Basin Conifer Woodland biotic community (Brown 1994). While this ecological community is known for having large populations of piñon pine and junipers, the regional environment of the Uinkarat Volcanic Field is heavily dominated

with ponderosa pines. In addition to these large trees, plants such as gambel's oak, cottonwood trees, big sagebrush, cliffrose, three leaf sumac, and bitter brush are also common. This provides habitats for numerous animal species such as mule deer, pronghorn antelope, coyotes, and numerous bird and reptile species.

Special Features

The Little Springs Volcano is the youngest volcano in the Uinkaret Volcanic Field. This volcano produced a Hawaiian style eruption that created spatter ramparts and distinctive lava flows, but did not produce significant fallout deposits like other volcanos in the region. The Little Springs Volcano is the largest landform within the flow vicinity. It is approximately 100 meters (330 feet) high and 400 meters (1,312 feet) long. Located on its west side is a vent complex that fed the Northern and Southern Lobes. According to Ort et al. 2008, the eruption was initiated from a north-northwest trending fissure that extended from the main spatter rampart area. The northern vent created by this fissure likely fed the Northern Lobe (Figure 4.17), which spread across the small valley and formed a broad and blocky lava field. Hornitos were created by the breakouts of over-pressured lava through the lava flow surface; these are common features along the Northern Lobe (Ort et al. 2008b).



Figure 4.17 The Northern Lobe with Mount Trumbull in the Background

The Northern and Southern Lobes contained a series of purposely constructed trail networks. In total, both lobes contain almost eight kilometers (4.97 miles) of trails. Specifically, the Northern Lobe contains at least ten trails (Figure 4.18). The trails on both lobes follow the natural contour of the lava and they avoid large gaps and protuberances. The trails tend to run straight but they contain slight bends or curves to bypass the unsuitable construction areas. When

Indian people constructed these trails, they carried and carefully placed certain types of rocks in the paths. These rocks are generally smoother and smaller in size than the surrounding ones (Figure 4.20).



Figure 4.18 Little Springs Lava Flow and Associated Trails



Figure 4.19 Trail Across the Northern Lobe

The Hornito

Along the northern edge, there are two primary trails. The trail closest to the hot spring leads directly to a hornito. It is believed that Southern Paiute religious specialists used this trail to interact with the lava flowing up from the hornito (Figure 4.20; Figure 4.25). While interacting with the hornito, they placed whole pots along the hornito rim. As lava bubbled up, it landed on the pot causing it to break. When the lava cooled, pieces of the now broken pot became part of

the newly formed rock. These shred rocks were removed from the hornito and taken to the neighboring “Lighting Site.”



Figure 4.20 UofA Ethnographers Examining a Hornito on the Northern Lobe



Figure 4.21 Walled Structure with a Filled in Floor

Immediately following the Little Springs Eruption, Indian people began extensive construction of trails and ceremonial structures on each of the lava lobes. As previously discussed in Chapter One, construction involved bringing in cinders from the Little Springs Volcano in approximately 25,200 round trips. This estimate accounts for eight kilometers (4.97 miles) of trails and a conservative estimate of 100 structures. Around the hornito on the Northern

Lobe, UofA Ethnographers and Southern Paiute representatives noted at least ten distinct circular structures ranging from three to six meters wide. Cinders were used in wall construction and floor fill (Figure 4.21). Indian people also used the cinders to fill in the hornito bottom to create stable floor base, so religious specialists could be inside the hornito during post-eruption ceremonial activity.

Coyote's House

The other trail leads to an area on the lava flow referred to as Coyote's House or Coyote Pocket. This feature is a large volcanic outcrop that has a subsurface cave and unique vegetation (Figure 4.22). Along the trail to this location many pieces of pottery were found. Additionally, numerous naturally occurring water catchments (Figure 4.23) are found in this part of the lava flow. A large bowl fragment was found sitting above one of the largest water catchments at this site (Figure 4.24).



Figure 4.22 Coyote's House



Figure 4.23 Water Catchment Areas in the Foreground; UofA Ethnographers and a BLM Archaeologist in the Background



Figure 4.24 Pottery Found at Coyote's House

Native American Comments

During the past nine years, Southern Paiute representatives have visited the Northern Lobe of the Little Springs Lava Flow with UofA ethnographers twice. These two field visits were part of the original Arizona Strip Cultural Landscape and Place Name Study (Stoffle et al. 2005) and the current follow up study. During both ethnographic studies, 20 interviews were conducted. Included in this site description are statements from interviews conducted in 2003 and 2012. They have been divided by study in the following sections.

Arizona Strip Cultural Landscapes and Place Names Study (Stoffle et al. 2005)

In 2003, Southern Paiute representatives (Figure 4.25) visited the Little Springs Lava Flow with UofA ethnographers as part of the Arizona Strip Cultural Landscapes and Place Name Study (Stoffle et al. 2005). During this field visit, UofA ethnographers conducted 13 interviews with Southern Paiute representatives in an effort to document Southern Paiute cultural understandings of and attachments to the lava flow and the surrounding landscape. The interviews conducted nine years ago have been brought forward in this report.



Figure 4.25 Southern Paiute Representatives Next to a Hornito in 2003

Would Indian people have used this area and for what?

- *This could be a place of healing or to get some sort of powers*
- *This place could have been used as a place to get to the other side by the river almost like a place of refuge.*
- *One elder believed that the pottery sherds found near the lava flow showed that people used to come to Little Springs to live, gather plants, conduct ceremonies, and to acquire power.*
- *This place is a place of Paiute living; the high spots are for prayers.*
- *This place is a very secluded area and is part of the lava trail, which is a place to prepare for what is to be part of a person's reason for being born to this area.*
- *They would have used the area for hunting and living, ceremony, and gathering food, and medicines.*
- *It looked like people lived there before and those lava rocks were used for ceremony.*

Is this place part of a series of connected places and why?

- *(Little Springs is connected to) the lava hill about St. George and to the east of Flagstaff and they are connected through the lava rocks.*
- *This place is part of a group of connected places like the Grand Canyon, Kaibab, Kaibab Mountain, Hurricane, St. George, the Virgin River, Pah Koon, and Toroweep. These places are connected through trails, water, oral histories, and language.*
- *I would say it's probably connected to I would say Kaibab.*
- *I think it could be connected with down Vulcan's Anvil and the River. That site could even be connected to Snake Gulch.*
- *My ancestors came from here...my ancestors from the Shivwits side.*
- *This spot is connected to the mountains around it because that spring is dried up but there's still animals that go there.*

Did Indian people use the water source at this site?

- *Because of the spring, there would be water.*
- *Water is needed in everyday living of the Paiute tribe.*
- *That spring...it looked like there was a lot of water that used to run through there.*
- *One thing I noticed is that there is water there and that's a real major element for the source of all life but with the lava up there, I don't see how the water could stay cool so it must have been hot at one time I think.*
- *I think Indian people would have used that area if it (spring) was a hot spring. Probably used to the hot springs for ceremonial purposes and for healing.*
- *It could be an underground water source for hot springs elsewhere. I know as a kid I was told that hot springs are connected through underground water sources.*
- *The water from the spring could have been used for drinking, ceremony, medicine.*

Did Indian people use the plant resources at this site?

- *Indian people use all things (plants), even if it's dry or wet.*

Did Indian people use the animal resources at this site?

- *People would come visit because there was a cooking area right there... that pile of rock near that spring and those pottery pieces that were there.*

Did Indian people use the archaeology at this site?

- *Interesting...was the way some of the rocks were piled up, the way some of them had like...some stones removed from them...so people they might have used them for something having to do with pottery because there was some pottery sherds found.*
- *Pottery...maybe they used them for storing something...maybe they put these people (burials), but there's not bones or anything...there was lava flowing...maybe the Indians see it as something as placing the dead back into the earth because of the lava. The body would burn up faster. Plus, they could have been amazed by how light the rock was compared to regular rock.*

Did Indian people use the geologic features at this site?

- *The lava beds...you can see trails.*
- *You could see trails on the top, which is more visible.*
- *When they use the lava rocks with the water and heat them...that's what makes their steam...maybe those round things that we see might have been used for a ceremony.*
- *The lava stone would have been used (in sweat lodges). I recall sometimes they used to say if you warm up a lava rock, you can rub it on your burns or your sores.*
- *Lava was used in probably a spirit cleansing ceremony.*
- *Tinequint...black flow.*
- *To me, it had to have some sort of spiritual significance or ceremonial type, because that's inside of hard rock. Who lives in hard rock? You had to be there for some special reason.*

Little Springs Ethnographic Study 2012

In 2012, Southern Paiute representatives (Figure 4.26) were brought to the Northern Lobe because of its geologic composition and the presence of unique cultural resources. Tribal representatives were interviewed about how this place is connected to the Little Spring Lava Flow. Their responses follow.



Figure 4.26 Southern Paiute Representatives at one of the Hornitos in 2012

When asked to describe the geography of this area or elements which stand out, the Native American Representatives replied:

- *Well the whole flow itself, the whole flow there.*

When asked if Indian people would have used the place, the Native American Representatives replied:

- *The north area from yesterday was probably used for purification like I said, but the south area may have even been more like the end area for a journey.*

I think it was a living area in the valley that we saw surrounding the lava. The Lava area in particular is not a living place. It's more of a place of offering, prayer or purification. I think the environment is too harsh to have any kind of everyday living.

As far as being a place to hide, that could be a possibility. The area we went to today, more on the other side, I think that that place we went to yesterday [North side lava flow], was more of, because of the hot springs that were located there, was more of an area for purification.

They always prayed and left an offering [at this site]—corn, tobacco, something of that nature. Water, water is so precious to us, nothing more sacred to us than water. Tobacco, even people today offer tobacco. I can see people using this place for pilgrimage, as an offering site.

- *Well, remember, I was talking to Grassy, asking her about climate change. And, maybe that year they didn't have such good vegetation, so where did they come to purify themselves, and to take that offering up there. For us, almost it would be, this is pretty high elevation. And a lot closer, to God. So, or the creator. You know. That could be a reason why they were here. Maybe the whole area was not having as much rainfall or as much vegetation that they could really live on. And where else to go. As if, like now, people are praying wherever they go or it's in churches mostly, or, you know, their sacred sites.*
- *What if it was not just a living place because you got all the formations around you? Maybe to them it was a centralized place because the way they were talking about how, it is a new birth, this land.*
- *It would be interesting to see from those high points this valley, instead of by that digital satellite image. To me, you need to see it from these different angles, because this mountain right here to the west, it kinda bows in like that. It might have been a place for solar maybe? But if you were sitting out here all day, at the highest point, sitting out here you could probably see these rocks, like at Bryce Canyon, that hoodoo thing. It really has that effect.*

You know, there probably wasn't a lot of this vegetation out here. All these plants that you see over here right now, it could relate to those coyotes too. Maybe those people saw them living out here. There's a lot that could happen, a lot that you could see. Maybe the trees out here were a little thicker, because you know, back in those days really no chopping down of trees unless it was necessary; which takes me back to that, from here, that looks like an old volcano. That mountain [Mount Trumbull] is still active. I wonder if it's the spirit of that mountain that is keeping that fire going because it's been burning since September. I don't know if they have any crews up there or not, but it seems to be just smoldering. We are not just looking at this place [Little Springs] specifically. I like the way these rocks roll over like that, it's interesting. I think back when all of this was moving and all of this was coming down. Maybe they had trails with some of the brush so maybe it wasn't too hard on their sandals. So you look at all these trails, cutting down that way and then you get trails coming this way and hate to waste my water but, I was doing this yesterday when we were at that Paiute cave, but if you listen...

[UofA Ethnographer: It's kind of tonal] Yeah. It would be interesting because, you remember the Enoughwuhype, they were more open to noise and sound then we are to what we have every day. Every day to them was more of a learning thing, because it's something new while this landscape was changing. This landscape was changing and it was just something they saw. It takes me back to those songs that Glendora was singing today. There's a lot of meaning and stuff behind those songs when you think about it. Why are those songs staying strong? Why do we continue to sing those songs? Our life is oral history. If we continue singing those songs there must have been a meaning behind why we are continuing to sing those songs. It's like these desert plants you see, the creosote, it's got a lot of strong medicine in it through its different life cycles. I would

love to see it, at one of the high points of this valley. Love to see it. Maybe come hike it. Maybe I will bring my kids down here and come hike up these mountains just to look at this valley. On the other side, remember where we drove the other day, I mean, yesterday-I hiked up one of those hills and you could still see a lot. And then, you can only imagine going up this hill or that one over there. (?) I probably told you this one, this higher point, down to the south of us, the volcanic area, I would go down there because you can see both North and South.

You need to just sit, and become part of the landscape. It also reminds me of those stories, but those Moapa people always talk about those rock people. What if they weren't flesh like you and me? Are there fingerprints anywhere, besides corn? You know, animals eat corn too.

[Is there, well, all the spirit helpers are animals, but is there a helper that's not an animal? Like, maybe a crystal might be. Sometimes crystals are used. Navajos have crystal gazers. But, and then there's the sweat, and the volcanic rocks were brought in, to provide heat. But more than heat right, it's not just about being hot when you are in there.] No, it's about purification because that's what your body does when you sweat. And some of the others, they call them grandfather rocks. That's why when we got out here, Glendora talked to them. Not just to the rocks but the animals. I was wondering, Ila had mentioned, in summer and winter time, this would be a good place too. Because these rocks would hold the heat. There gets to be a lot of snow up here too and wind.

[What do you think about the idea that they sent religious leaders here, when this thing started to become active? Religious leaders to watch it and see what was going on?] I don't think people sent people. I think those religious people came on their own. Because you know, back then, everything is life was observed. Down to the way the way the animals live. The way the plants lived and where they grew. So when we say sent, I don't think they sent them, I think those people made it a job of their own to come over here and look at this. Curiosity, it's human nature, curiosity. But back then, to watch this come out, from a land that you respected probably meant a lot more than anything. That's a place that a person who knew how to use these elements came to. You observed it as a new gift. Or something from the creator that says to observes it. Like your scientists. Everything that comes from it is not just respected; it's something that has a meaning behind it. Without meaning, it's just a city, thriving and moving and going places. It's just what you have to do. But back then, there wasn't no noise, there was no planes in the sky that you can hear right now. But no matter where you go, no matter where you sit, you still hear that. You might not see structures or anything like that, it's probably an imbalance. I didn't see any snakes this way either. You know, with this rock, its good on their scales. I haven't seen any lizards. See a lot of spider webs.

- *Not Indian people, not all people, not all people used those flows. See the Paiutes out here, were in the center of a very powerful place. And that flow was a part of that power, part of the volcanoes. Part of the volcano stood there where the mountain that used to be. You know that one of our volcano songs talks about that—Mountain that used to be, mountain that used to be, one that used to throw rocks.*

They say volcanic mountains are considered to be very powerful places. So, we are in a power site. A very powerful place! You know, because Indian people could hear all those volcanoes, they could feel the movement of them, and breathing places, that they had breath of life. So they knew that these volcanoes are very powerful. And that flow there, that first one that we went to. I told Dr. Stoffle, instead we should name that, instead of Little Spring, what I tell him we should name it—Unuvats, volcanic rock water or volcanic spring. Because most of the springs, across the Arizona Strip. You will see 'vats', Unuvats. I think there, that was a very sacred place because of that flow. And I believe, in seeking and asking, and making offerings, and asking for the knowledge of that place. I believe that that, was, was a place that was used by many Puha 'gants throughout the years. I think that that trail, was a Puha path that went into that flow. But before any Puha 'gant, ventured inside of that flow, what they would do is purify themselves in that hot spring. Probably back in those days, that spring was probably hot because of that lava, after purification, they went to that little round shelter next to it, that little round curvature.

They went in there to prepare themselves before going on top of that flow. They went in there, probably to paint themselves, to smudge themselves, maybe to prepare some kind of offering, to sing some songs, in preparation for going in there, you know, doing things like that. And, when they started onto that flow, I think they made offerings. Along the way, they went on top of that place, following that little path, following that circular structures there, inside the flow. And I think what they did there, those Puha 'gants who used it. That was a place to fast, and to pray. And that's where they went to seek the volcanic power, to make connection with those entities that are a part of the power. And I think that they stayed there, not overnight, but maybe for a few days. Fasting and praying and doing that kind of thing there. I think that's what those little circular things were, there. I think that throughout the thousand years, different medicine men used that as their power place, their place to go and acquire volcanic power, that volcano medicine, that supernatural power. And I think, when they were fasting there, they met, those beings from the volcano, beings that travel the land. And those beings were represented in the Puha cave, down on the wall.

[The shamans who came here] were volcano shamans. And, on this little springs flow here, further down from the first one we went to, there's that path there that also goes inside of there. I think different volcano shamans, used that, at different times. Offerings were left on that trail, as you went along on the ground, those pottery shards, were the offerings that they left as they were making their way. Now that trail, went to a destination point. It didn't just make that in the middle of that flow, just cause. And they didn't throw pottery around just 'cause. They were leaving offerings as they made their way into that flow. They made offerings there at those water sources, and in those days, the water sources had more water in them. Water is also a powerful things. They left those offerings near those places. But the destination site was that little knoll in the middle of the flow that had the oak trees in it.

I think that was probably where the Puha 'gants went to do their Puha thing there. And that Puha thing was either for themselves, or the benefit of the people, but you know,

that's where they went. It was a big rock there on the side of it that had been chipped off there. It was a different color from the volcanic rock and a different texture, and has broken pieces from off of it. And I don't know what they would have used that for, but it was probably part of the Puha thing and you could go down inside of it. You could go into of it. And that's where the coyotes had their den, in there. But it's so tall you can walk into it and stand upright in it, where you can go back up in there, you can feel that cold air coming back up through there.

It could have been something like [a portal], a place to commune with the spirits, a place to do your Puha business. Again, this is another place, not used by everyday people. It was volcano shamans. And that was a pretty powerful sight.

It wasn't a destination point for all people. It was a destination point for volcano shaman. You know people would've known it was a powerful place and would have known, you know, that this is a place where the Puha 'gants, where he obtains his Puha, and it's not a place that I should go. You know, I will get myself into trouble if I go here. Maybe I will get sick or maybe that Puha 'gant will witch me if I go into that place where I know I'm not supposed to be.

When asked if this place is connected to others, the Native American Representatives replied:

- *Well, I think they are all connected. You know, we were people who went from place to place, and not carried so much, I think that this was all connected. Whether or not, warm or, hot, it was cooler here, definitely, maybe the people might have been here for the summer.*
- *You know how we say everything is connected? I think everything is connected. You know we believe in the power of that Vulcan's Anvil? And you know, it's a piece of a volcano that sits there that's in the river. So yeah, it's definitely connected. Connected to that Paiute cave.*
- *[UofA Ethnographer: Do you think this lava flow is connected to Nampawweep?] Yeah I think it is connected to that. I was kinda disappointed we didn't go there, after we came back from there, because that was a ripe time to go over there to make those connections, those pieces....and there's definitely a snake in there too. You know that big rock snake. It's a big snake, he sticks out of the volcanic rocks! And right here, down on his neck. Let me have a paper and draw it for you, let me draw it behind your thing. He stands up like this and pokes his head up. Yeah, right in the middle of the rocks. I don't know if you even remember seeing that. There are little snakes like that...and then over here, to the side, there are people. This is for fertility, and rain, and stuff like that. And these people are made, right where there is a hole.*

[UofA Ethnographer: Do you think the volcano shaman would have gone there to get a spirit helper to take with him?] I think that was a good possibility, because those are

volcanic rocks and all these petroglyphs, are, pecked on. So there's a lot of spiritual things, that have been recorded there.

When asked if Indian people would have used water at this place, the Native American Representatives replied:

- *After you saw this, as hot as it is, to me, that's an offering. Something to be held high. To me, that's where they saw that, that's place that's boiling and bubbling with hot, with liquid magma, that's they would respect it because it also catches water because water is alive.*
- *Yes, well besides that one (the spring on the north end of the lava lobe). You have the areas, catchment type things where water could have been caught from rainfall or snowfall. [UofA Ethnographer: Are those natural catchments?] Yeah. The volcano made them after it blew up and something smooth went through there.*
- *I think the pools of water on the flow were just water catchments. Maybe gathering water to pray with, but not to gather or for everyday living. More for purification because they were very small pools and pockets.*

When asked if Indian people would have used the plants at this place, the Native American Representatives replied:

- *Now it would be because of all the trees that have grown. Wood, oaks. These pine trees, and pine cones, probably could have been here somehow. But you do see a lot of, outside of this lava flow, you see different kinds of vegetation. [UofA Ethnographer: what kinds of plants did you see inside of the lava flow?] I seen those acorn bushes. That's the only thing I seen. I don't think there would be any vegetation in there. It's hot. No soil.*
- *They probably had used something to smudge those bodies with, and to smudge themselves with. Either some of that sage or cedar grew around there.*

When asked if Indian people would have used the animals at this place, the Native American Representatives replied:

- *Mountain sheep maybe, yeah deer, and maybe even those, the ones we see on the flats, antelope? Yeah! Antelope.*
- *Probably. I didn't really think about the animals but they probably were important. Important for the people, some of those animals they were eating, or maybe even some of those animals were used for parts of them could have been used for offerings.*

When asked if Indian people would have used this site and/or artifacts, the Native American Representatives replied:

- [UofA Ethnographer: When we were on top of the flow did you see any evidence of any previous Indian use, like, the rings, or structures, or anything like that?] *I've seen some. Where you could see a portion of the ground, whether people lived there or not, maybe they stayed there a couple of days, maybe they got their vision. What they had to think about in their life or what they had to do, vision we would say. [UofA Ethnographer: But very temporary...] I would think so. But then, when we make our home, those wikipups, there can go with the environment, they blow down, they blow down, it burns up, they burn up. Then there's maybe evidence of pot sherds, or maybe evidence of rabbit bones, or something like that. But I don't see it up there, you know!*

When asked to evaluate the condition of the site, the Native American Representatives replied:

- *I think the lava flows are in good condition. I'm so glad that's its way out here where a lot of people don't go into them. I mean, I know the families of the ranchers have been, for generations have been crossing into look at those places, and have been collecting some of those pottery pieces, the offerings, in there- and they may have even enhanced that cairn, and made it bigger. I mean, because the people around here would have known, what was there. And as a person, that didn't know, and thought this was a cool place, that would have built those shrines, or not shrines, but those tall rock cairns, the rock cairns, to mark the way to show it's a trail. You can go this way to find these neat little round, volcanic places, where Indians lived, or did whatever in there. Or you know, whatever they tell their people.*

When asked if there is anything affecting the condition of the site, the Native American Representatives replied:

- *Only the weather. But that's natural and that's okay. You know, the biggest impact have been ranchers.*

When asked for their recommendation for protecting this place, the Native American Representatives replied:

- *I don't see how you can really preserve it. Other than close the area which is doubtful. It's very difficult to close areas of the park. This being a huge hunting area, because we've seen evidence of hunters throughout, I'm sorry but I don't there's anything they can do to protect it. You can't put a fence around it. It would disturb the naturalness of the area. It's really rough terrain. I'm sure people who were curious would go up there and just see what people who have no knowledge of what there seeing would see, just a constant layer of rock. That its similar all the way through. I don't think they have the eye to see, umm, what really sits here. What archaeologists, or anthropologists see, it's just a skill that you learn, either in school or life like we do. If they wanted to loot it they would*

have looted it long ago. I don't see how much more damage they can cause, the paths are already there. I don't think people would choose this as a vacation spot, It wouldn't be a very popular destination. So, I think nature is protecting itself.

- *I do think it's good education and information for future youth. When we brought the kids out for youth camp and we hiked up to the top it gave our kids a chance to explore and learn what's out there, they gain some knowledge about what's here. We had a talk with them before we all came out, making sure they were prepared, what to expect and they had their paint (oompi) what to expect and things like that.*
- *You know, some people may not agree with it. But I think that those volcanic flows should be fenced off. Just for protection. Just to let people know, this is a place you shouldn't just run all over. And I know that they don't- they have their own interpretation of what's there. And interpretation that other people have given them before. But, I think it would be a good thing, for the knowledge that we have giving you guys today, to be shared. Maybe some of it, not all of it. Shared with the public. But I would really would like it to be shared with other people, like yourself. Like this young archaeologist, who have seen all this, who has never heard an Indian interpretation of it. But only has the interpretation of an old archaeologist, or an old volcanologist. You know, they didn't speak to one Indian person, and had no idea what it was but made their own conclusions, and these young archeologists, should know about the Indian viewpoint about it, about what they are, and not just take it as the truth from these other people. Who knew absolutely nothing about Indian culture, Indian ways, and Indian beliefs.*

When asked if Indian people would want to have access to this place, the Native American Representatives replied:

- *[Coming back to this place] means that someone cares, enough, to walk it, and see how it was, and you know, have it written down somewhere, be able to share it with the future. Or share it with our people. It's important that we have this information, for our people, and for, our history. We, we were once a very populated, southern Paiutes, and had our different areas, where each band was, and you know, for people to know that, it's been really, since I've been, when I was in cultural resources, it really has grown, and you have that internet. Things that are sacred to our people is being shown on the internet. All you have to do is type in something, and there it is. And yes, it is for the people to see. But hey, at least get the approval from native people...whose they are. So I think that this is very important. And, our kids, our young kids, need to realize, we have come a long way, as Native Americans, and Indian people, as Southern Paiutes. It's rare to see someone as I can use her daughter because I know her more, because you know, she's polite, and very wanting to know about the culture. Other kids aren't as wanting that knowledge; they kind of are shaky because of all these things that are out there. But we need to have our youth know about it.*
- *You know what? Not to the burials [on the southern flow]. Paiute people will not want to go around and walk through the burials. They would not want to be disrespectful that way. I think the knowledge of knowing that's what is there will probably be enough. But*

then again, I don't know how our youth, because they are so modern today, maybe they would take that. Maybe they would like to see it. To actually see that kind of thing. But I think if we do that with them. A lot of precaution needs to be taken. You know, the things that we do, painting ourselves and that kind of thing, need to be taught to those young people, who don't know. And as for the shaman, volcano shaman, power place. I think it would be ok, for some person with a calling to be a Puha'gant if he came out here to interact with these volcanoes, to learn the volcano power. I think it would be ok to use this place, but I think he should use it very very carefully. And he should make sure, that this is really his calling, before messing around with it. But other people, like new agers, and all those people, need to stay away from that place. Because they don't understand that Puha. They understand their own spirituality, the way that they were taught, and I'm sure some of them might try to learn Puha stuff from Indians. But that Puha, does not belong to them. That puha could do them a lot of harm. And those kind of people need to stay away from that site. You know, and thats the thing about giving out information on sites like that, that is so scary. Someone could come in there and mess with it, and possibly even harm themselves, because they don't know what they are getting into. Even an Indian person needs to be very careful with that.

- [UofA ethnographer: Do you think more studies like this, there should be more time and resources devoted to bringing folks out here to try to try to understand the place, to document what's out there from an Indian perspective?] *Yes. I really think so. Because too many of the Native American sites are being interpreted by archaeologists, who don't always talk to Indian people.*

Ethnographic Comments

During interviews, many Southern Paiute representatives discussed how the Northern Lobe was a ceremonial destination place used by special types of medicine men or shamans. In order to understand how and why Southern Paiute shamans came to the Little Springs area for ceremony and Puha acquisition, it is necessary to examine the relationship between religious practitioners and Puha. Shamans are predisposed to have certain kinds of Puha, which they can use to accomplish certain things that may or may not benefit Southern Paiute society. Shamans gain access to additional Puha by visiting special places and through the acquisition of spirit helpers. Sometimes, they use their Puha to bring people, communities, or the world back into balance. During these times, the shamans are portals through which their Puha and the Puha of their spirit helpers combine during the ceremony to achieve a cure. The term for shaman in the Southern Paiute language is *Puha'gant* or *Puha'ganti*, and its direct English translation is “where power sits.”

Traditionally in Southern Paiute society, there were many different types of religious practitioners. The Puha'gants used their abilities for a variety of purposes. Some had the power to call upon natural elements like the wind and the rain, while others doctored the sick. In the 1930s, Isabell Kelly documented the different types of Puha'gants amongst four Southern Paiute districts. These districts include Kaibab, Shiwvits-St. George-Gunlock, Moapa-Pahranagat, and Las Vegas. For the Kaibab district alone, she documented eighteen Puha'gants. This number included two women and sixteen men. While this number might appear high to some, it can be

argued that prior to encroachment and mass population loss the number of Puha'gants was actually much higher.

Little Springs Volcanic Event and Volcano Shamans

The Puha'gants who traveled to the Little Springs Lava Flow for ceremony were believed to be special volcano shamans. These Puha'gants acquired their power from interacting with places of volcanic activity. They came to the Little Springs area to interact with the active volcano and lava flow, and risked their lives to place pottery along the hornitos to create the sherd rocks.

In order to create the sherd rocks, Southern Paiute Puha'gants had to plan on how to interact with an erupting volcano and moving lava flow. Prior to the eruption, the Little Springs Volcano gave numerous warning signals that an eruption was about to occur. Paiute religious specialists responding to this event positioned themselves at various locations near the volcano to watch for pending activity. When the eruption began, the Puha'gants began to look for areas where hornitos were forming, so they could get there to interact with them. Given the level of danger involved in interacting with an active lava flow, it was likely that the most powerful and experienced Puha'gant approached a hornito with a whole pot while the others worked as best they could to ensure his safety. The most powerful Puha'gant placed the pot along the hornito rim and waited until the lava flowing underneath was forced up to the surface. The lava then landed on the pot and shattering it into numerous pieces, some of which were now covered in the cooling lava. Once this happened, the Puha'gant had to act at the precise moment when the new sherd rock was cool enough to remove from the hornito rim. Once this process was complete, the Puha'gants took them to a nearby site to use in ceremony.

Post-Volcanic Event Pilgrimage

After the volcanic event ended, Southern Paiute volcano Puha'gants continued to use this area for ceremony. The lava flow became a pilgrimage destination place for those seeking Puha from the volcano and the lava flow. They followed a pilgrimage trail that led them to various shrines for prayers and rituals to prepare them for interaction with the lava flow and receive its knowledge and power. When the Puha'gants reached the northern lobe of the lava flow, they visited the hot spring. They used the hot spring for ritual cleansing and purification, which is a necessary step in the pilgrimage process. The Puha'gants needed to have themselves cleaned of impurities and sickness which could tamper with the ceremonial activities that occurred on top of the flow. During the post-volcanic event pilgrimage, the shamans traveled along the trail (Figure 4.27) that led them to an area known as Coyote's House (Figure 4.28).



Figure 4.27 Trail to Coyote's House

While hiking across this trail, the Puha'gants left offerings at various points along the way. These offerings were pieces of North Creek corrugated black-on-gray pottery sherds. The Puha'gants placed these offerings at chosen spots along the trail and prayed to the Creator and the surrounding places (particularly to their destination). These offerings served in the past and continued to serve today as the physical representation of the pilgrims' prayers; they are the direct link between the people and place. The offerings contain the prayers forever and continue to send their Puha across the landscape long after the pilgrim finished his pilgrimage. The offerings left at these places are linked to Southern Paiute history and cultural memory.



Figure 4.28 Southern Paiute Representative Examining Coyote's House

Similarly, the Puha'gants left offerings at the series of water catchments that are found near the Coyote's House northern face. They prayed and sought the proper permissions to enter into the unique geological structure. Inside the Coyote's House is a large cave where Puha'gants would enter for ceremony. This area could have served as a portal where the Puha'gants left this dimension of the universe and entered into another one to acquire Puha associated with volcanism. The power and knowledge the Puha'gants gained during this portion of the pilgrimage were used in ceremonies in their home communities, or at other ceremonial areas such as places in the Grand Canyon.

4.3.4 The Lightning Site AZ A:12:74 (MNA)

The Lightning Site (Figure 4.29) is located approximately half a mile east of the Northern Lobe. This site sits on a hillside overlooking the lava flow and the Little Springs Volcano at 2,133.6 meters (7,000 feet) in elevation. Archaeologists first recorded this site in the mid-1970s (Moffitt and Change 1978) and it was later surveyed in the 2000s by Elson and Ort (2006) and Hintzman (2012). During the 2012 ethnographic study, Southern Paiute representatives and UofA ethnographers visited this site to understand how it is connected to the Little Springs Lava Flow as part of ceremonial activities associated with the volcanic event.

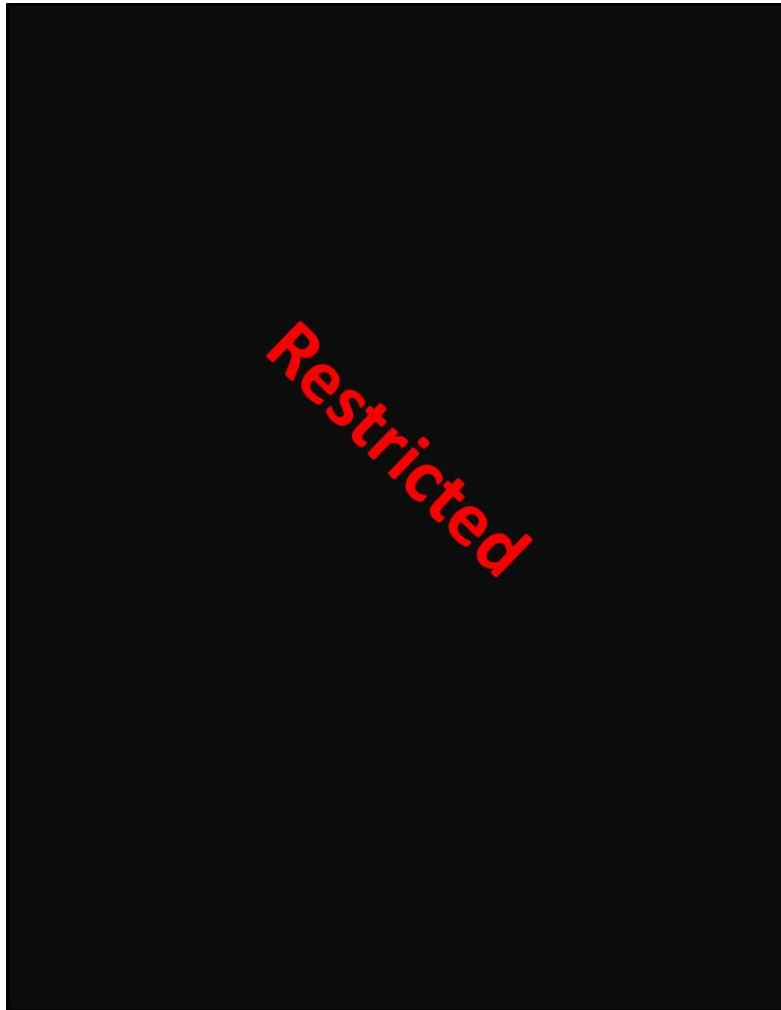


Figure 4.29 Google Earth Image of the Lightning Site and Surrounding Landscape

Ecology

The Lightning Site is ecologically similar to other places visited in the Uinkaret Volcanic Field. This site is situated in the Great Basin Conifer Woodland biotic community (Brown 1994). While this ecological community is known for having large populations of piñon pine and junipers, the regional environment of the Uinkarat Volcanic Field is heavily dominated with ponderosa pines. In addition to these large trees, plants such as gambel's oak, cottonwood trees,

big sagebrush, cliffrose, three leaf sumac, and bitter brush are also common. When the UofA team and tribal representatives visited this site in October 2012, large stands of Indian Tobacco and sacred datura were found near the walled structures at this site (Figures 4.30 and 4.31). Because these ceremonial use plants were found at this site, Southern Paiute epistemology and cultural logic dictate that powerful elements like these two plants are attracted to places with high concentrations of Puha. This contributes to the notion that the Lightning Site had a ceremonial function.



Figure 4.30 Indian Tobacco



Figure 4.31 UofA Ethnographer Kneeling Next to Sacred Datura and Indian Tobacco

Special Features

The Lightning Site (Figure 4.32) is located up top of a roughly 3.5 million year old basalt lava flow. This lava originated from nearby Mount Trumbull, which is located less than one mile to the north. The volcanic activity in this area connects places, people, and objects and the underground magma flows carry Puha and spiritual beings to and from areas located in the Uinkaret Volcanic Field. Southern Paiute people engaged volcanic places like the Little Springs volcanic event for ceremony. Southern Paiute Puha'gants created the sherd rocks on the nearby lava flow and brought them to the Lightning Site during ceremonial activity associated with the volcanic event.



Figure 4.32 Southern Paiute Representatives and a UofA Ethnographer Examining the Site

The Lightning Site contains approximately seven to ten room blocks with upright slabs. The room blocks form a C-shape with a center plaza that faces to the east. The room blocks have two prominent gaps between them in a spot where one would have a view to the west of the Little Springs Lava Flow. This is noted in a drawing of the site in Figure 4.33. Two grinding stones were also found near the room blocks, which may have been used to prepare food items or medicines to be used in ceremonies that involved the sherd rocks.

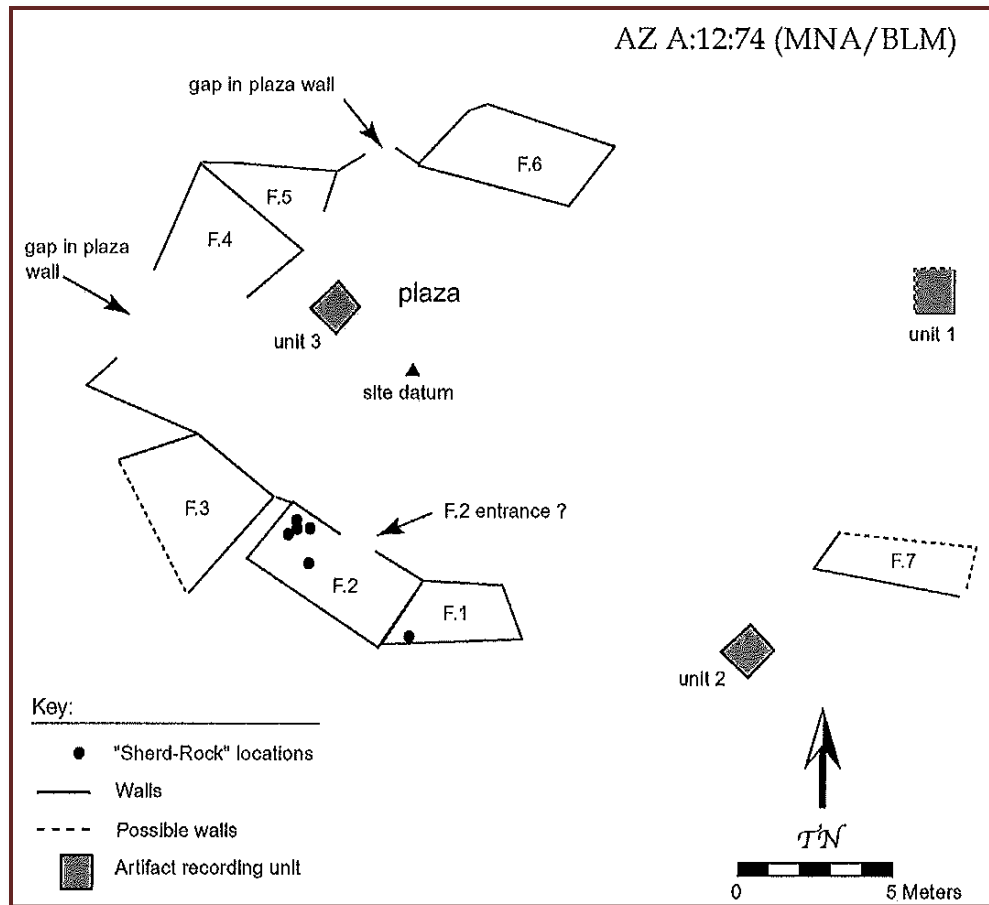


Figure 4.33 Overview of Lightning Site (Elson and Ort 2006; 8)

Southern Paiute representatives described the Lightning Site as being a culturally important place because it is connected to the Little Springs Lava Flow. Southern Paiute Puha'gants brought the sherd rocks to this place to use in ceremony. Elson and Ort (2006) noted that six sherd rocks were found at this site when they surveyed it in the early 2000s. The sherd rocks contain distinct pieces of pottery which were identified to be Hurricane Gray and Hurricane Black-on-Gray (Figure 4.34). When visiting this site in 2012, the UofA team and Southern Paiute representatives also found other types of pottery at this site, such as Hurricane Black-on-Gray Corrugated wares (Figure 4.35). These pottery styles have been dated between A.D. 1050 and A.D. 1150, which correspond to the Little Springs volcanic event and immediate post-event ceremonial activities.



Figure 4.34 Sherd Rocks Found at the Lightning Site



Figure 4.35 Hurricane Black-on-Gray Corrugated with Interior on Left and Exterior on Right

Along with the sherd rocks, other unique volcanic rocks were present (Figure 4.36). These specific rocks differ from the more common volcanic rock in this region. They are light-weight iron rich basalts that were highly aerated. Along with the sherd rocks, these lighter volcanic rocks had to have been brought in to this site from the lava flow. The location and cultural materials at this site indicate that it is a ceremonial area.



Figure 4.36 Volcanic Rock (black, center) Brought to the Lightning Site

Native American Comments

During ethnographic interviews, Southern Paiute representatives (Figure 4.37) believed that this place is culturally important and connected to the Little Springs Lava Flow and Paiute Cave. They believed that this site contained high concentrations of Puha due to the presence of powerful medicine plants, such as Indian Tobacco and Sacred Datura. They also thought that the sherd rocks that were created on the lava flow were brought to the Lightning Site for ceremony immediately following the volcanic event. Representatives also thought that this site continued to be used afterwards for medicine and doctoring. In total, eight interviews were conducted at this site. Their responses follow.

When asked if Indian people would have used this site and/or artifacts, the Native American Representatives replied:

- *I don't know if they would have called it a shrine, but, it could have been a special place where they kept those sherd rocks because it was a powerful thing to have. It came from the volcano, the volcano embraced it, it covered it, changed its texture, using its power on it. See how that piece of pottery changed? They saw that and that was the probably the Puha, that they saw. The change that that volcano made, in that piece of ceramic.*
- *I think it was a living area in the valley that we saw surrounding the lava. The lava area in particular is not a living place. It's more of a place of offering, prayer or purification.*

- *The Southern Paiutes had a lot of different trails to different areas, and they knew where they were when they were hiking, I think that it might have been used, since the volcano came and erupted. I think it could have been a special place.*



Figure 4.37 Southern Paiute Representative at the Lightning Site

Ethnographic Comments

When Southern Paiute religious specialists created the sherd rocks, they brought them to the Lightning Site to use in ceremonial activities. The Puha'gants incorporated them into the structure found at this site, as seen in Figure 4.33. The walls where the rocks were found face the Northern Lobe. It is likely that the placement and location of the sherd rocks contributed to the site's overall ceremonial function.

Parallels can be drawn between the Little Springs volcanic event and the ceremonial activities that occurred at an earlier volcanic episode at Sunset Crater. Like the Little Springs eruption, Indian people came to Sunset Crater to interact with, observe, and study the volcanic event. This type of engagement allowed for religious specialists and leaders from numerous ethnic groups, including Southern Paiute, to gain valuable volcano traditional ecological knowledge (TEK). It can be argued that since Sunset Crater occurred prior to the Little Springs eruption, Indian people used the knowledge gained at Sunset Crater in order to safely engage the Little Springs Lava Flow physically and spiritually.

In order to learn about the flowing lava, these religious specialists approached it in the same manner described previously for the Northern Lobe. Instead of using pottery to create new ceremonial items, at Sunset Crater they used corncobs. The corn was placed on the hornito rims and corn rocks were created when magma that was forced upward landed on the hornito rims and covered the corncobs. These newly created corn rocks (Figure 4.38) were then taken to specially

constructed buildings at Wupatki and incorporated into the structure walls for ceremonial purposes (Toupal and Stoffle 2004).



Figure 4.38 Corn Rock from Sunset Crater (Elson and Ort 2006: 9)

Research has shown that there are many similarities between responses to the Sunset Crater and Little Springs volcanic events in terms of power religious leaders interacting with active volcanos and creating ceremonial objects. This is a result of Southern Paiute Puha'gants applying the TEK gained at Sunset Crater to Little Springs. Southern Paiute Puha'gants used their knowledge base and tried a new approach to the ceremonial activity. Instead of corn, Southern Paiute religious leaders used whole pots. This change is reflective in that the Paiute response to the Little Springs eruption was a well thought out and well planned cultural response to the Earth being reborn.

4.3.5 Southern Lobe of the Little Springs Lava Flow (AZ A: 12:74 MNA)

The Southern Lobe of the Little Springs Lava Flow is located approximately four kilometers (2.5 miles) to the southeast of Mount Trumbull, and 1.6 kilometers (one mile) to the south of the Little Springs Volcano. This portion of the lava flow is about 1.6 kilometers (one mile) in length. This flow was formed during the same volcanic event that produced the Northern Lobe, which took place around A.D. 1075. The Southern Lobe was visited and used by Southern Paiute Puha'gants. These religious specialists constructed an extensive trail network across the flow as seen in Figure 4.39.



Figure 4.39 Google Earth Image of Southern Lobe with Associated Trails and Spring

Ecology

The Southern Lobe is situated in the Great Basin Conifer Woodland biotic community (Brown 1994). While this ecological community is known for having large populations of piñon pine and junipers, the regional environment of the Uinkarat Volcanic Field is heavily dominated by ponderosa pines. In addition to these large trees, plants such as gambel's oak, cottonwood trees, big sagebrush, cliffrose, three leaf sumac, and bitter brush are also common. This provides habitats for numerous animal species such as mule deer, pronghorn antelope, coyotes, numerous bird and reptile species.

Special Features

Like the Northern Lobe, the Southern Lobe (Figure 4.40) was created during the Little Springs volcanic event that occurred around A.D. 1075. The Southern Lobe was created from lava flowing out of a vent located on the southern end of the Little Springs Volcano. The lava flowed down a steep slope towards the open valley approximately one kilometer away. According to Elson et al. 2006, there are sections along the valley slope where many rafted spatter agglomerate complexes occur thus causing the flow to be dammed and to be forced through small gaps. When the flow reached the flat valley bottom, it spread out across the landscape.

Along the southern most edge of the lobe, a spring was created. As the lava moved across the landscape, it followed existing surface drainages, causing them to be blocked and forcing the creation of new water surface flow patterns. Additionally, the lava flows are very permeable allowing for the water to be stored in naturally occurring reservoirs and recharging the water table. The shallow water table that existed at the Little Spring Lava Flow produced new springs at the contact zone between the lava and the pre-eruptive soils. During the October 2012 field session, this spring appeared to have been recently flowing. There was noticeable dense of vegetation growing from the base of the spring, and by a slightly moist area at the bottom of the spring source.



Figure 4.40 Overview of the Southern Lobe Looking North

Similar to the Northern Lobe, the Southern Lobe contains numerous human constructed trails throughout the flow. To date, sixteen trails have been documented along the southern lava flow (Figure 4.41). Along some trails, large rock cairns have been constructed to act as markers (Figure 4.42).



Figure 4.41 Southern Paiute Representatives and UofA Ethnographers Hiking along one of the Trails



Figure 4.42 Rock Cairn Found on the Southern Lobe

Additionally, the Southern Lobe contains numerous high walled structures made from the volcanic rocks (Figures 4.43 and 4.44). Based on early conservative estimates, there are 71 structures found on the Southern Lobe. They are concentrated in two primary areas on the lobe. One is located on the very southern edge and is referred to as the Arkansas Ranch Site, and the other is located on the northeastern section of the lobe (Hintzman 2012). These structures were built in a similar manner to those on the Northern Lobe and required a great deal of effort to haul

cinders from the Little Springs Volcano to the Southern Lobe to build both these structures and the sixteen trails across the flow.



Figure 4.43 Structures Found on the Southern Lobe



Figure 4.44 Tribal Representatives and UofA Ethnographers Examining Features on the Southern Lobe

The Southern Lobe also contained numerous pieces of ceramic sherds (Figure 4.45). Some were placed carefully as offerings in rock crevices (Figure 4.46). Southern Paiute tribal representatives thought that based on what they observed on the Southern Lobe that this area was used for the burial of the deceased.



Figure 4.45 Pottery Found on the Southern Lobe



Figure 4.46 A Piece of Pottery Placed in Small Crevice as an Offering

Native American Comments

Southern Paiute representatives were brought to the Southern Lobe where a number of features were located, including a spring and structures resembling room blocks or dwellings that were constructed from volcanic rock. Tribal representatives were interviewed about how this place is connected to the other sections of the Little Spring Lava Flow and the Uinkaret Volcanic

Field. Southern Paiute representatives were also asked about the uses and function of the site. Seven interviews were conducted and representative responses are detailed in the following comments.

When asked if Indian people would have used the place, the Native American Representatives replied:

- *I think it was a living area in the valley that we saw surrounding the lava. The lava area in particular is not a living place. It's more of a place of offering, prayer or purification. I think the environment is too harsh to have any kind of everyday living. As far as being a place to hide, that could be a possibility.*
- *To me, this is where they went to pray, in those different circular sites. Different volcano shamans used those sites at different times. That's where they went to seek their power, and fast for days on end, and pray, things like that.*
- *Paiutes buried some of our people in these volcanic cinders because it was a good place that was connected to power place, and there were a lot of people living in these areas. A lot of people saw what happened when that volcano collapsed and they saw the things that went on here and they used that powerful place to bury their people. There are many different burials out there.*
- *They believe the rock in this area is very powerful, and I heard stories they had placed people back there buried them because that type of rock was believed to be powerful.*

When asked if this place is connected to others, the Native American Representatives replied:

- *I think it was a living area in the valley that we saw surrounding the lava.*
- *I think everything is connected. You know we believe in the power of Vulcan's Anvil and it's a piece of a volcano that sits in the river.*
- *It's definitely connected and it's connected to Paiute Cave too.*
- *I don't have a lot of knowledge on what the connection might be, but it could be to Sunset Crater.*
- *Paiute cave was probably a stop along the way to get up here, same climate, higher than us down there. Paiute cave is very special, it's a very strong area.*

When asked for their recommendation for protecting this place, the Native American Representatives replied:

- *Overall, the thing I would really enjoy seeing is to not let people go on it. Southern Paiutes, yes, but not other people. And I would ban all off road vehicles.*
- *It really struck me that this is a sacred site, and these volcanic flows really need to be protected.*

Ethnographic Comments

When John W. Powell led his team into the Uinkaret Volcanic Field in 1871 as a precursor to his second voyage down the Colorado River, they set up camp at a place called Oak Spring which later was renamed to Little Spring. While camping at Oak Spring, the Powell expedition visited the Little Springs Lava Flow. Members of his team were struck by the nature of this landscape and noted it in their journals. One account of the lava flow comes from Almon Harris Thompson, a key member of the Powell Expedition. He noted in his journal:

Thursday, March 28th, went up to last crater of volcano. The cone is in two parts, composed of light cellular slag. It was once a cone or perhaps oblong form, say 500 feet high. The lava filled the interior, broke down the north and south walls and flowed into a stream one mile wide and 1 ½ miles long toward the north, ¼ mile wide at a break on the south and 1 ½ miles long dividing the lower end around a hill into two branches. The end of these streams near the cone are of the same light slaggy, cellular basalt as the cone bed increases in density toward the ends which are a solid basaltic lava, with few comparative cells. Trees located on upper portion of stream. Pines 100 years old. A few trees on lower. Nothing about the crater indicates a lapse of more than 300 years since the outflow. The old volcano has a crater extending from Mount Trumbull on the east to Mount Lucy on the west and six miles from north to south (Gregory 1939: 72-73).

Fredrick Dellenbaugh also discussed the lava flow in his journal. He also noted that two local ranchers in the area discovered the remains of a person and a funerary object. Dellenbaugh wrote the following:

Near the Oak Spring camp was an extensive sheet of lava, seeming to have cooled but a year or two before. Its surface was all fractured, but there were no tree on its lower extremity and where it had flowed around a hill its recent plasticity was exceedingly distinct. It had come from a crater, about 500 feet high, two miles north. This had once been a cone but was now disrupted, the lava having burst through to the north and south, leaving two sections standing the stream to the south being one quarter mile wide and a mile and a half long, that on the north one mile wide and about the same in length. The depth of these streams was not far from thirty feet, and in spite of the exceedingly rugged surface the southern stream was marked by deeply worn trails running to and from a small spring situated in the middle of it. Beside this spring, one of the men from the ranch had found a human skeleton covered with fragments of lava with the decayed remains

of a wicker water jug between the ribs, marking some unrecorded tragedy. We estimated that some three hundred years had passed since the last outburst from the crater. As there were pine trees a hundred years old on the lava where it was more disintegrated near the point of outpour, the age of the flow could not have been less than that (Dellenbaugh 1926: 188).

The presence of human remains and the associated basket is important for understanding how and why Southern Paiute religious specialists interacted with the Little Springs Lava Flow. The person who was found buried in the lava flow likely was a Southern Paiute volcano shaman. As noted earlier, this type of specialized Puha'gant received his Puha and knowledge volcanos. In this case, the Little Springs Lava Flow and Volcano were his sources of power. When this Puha'gant passed, he still possessed high concentrations of power, as was the case with all Southern Paiute medicine men. For his family and others who might have aided him, it was seen as appropriate to bury him near where he lived, acquired his Puha, and where he conducted ceremonies, therefore he was buried on the Southern Lobe.

4.4 Cultural Landscape Connections

Native peoples and other traditional peoples around the world form complex connections and relationships with their surrounding environment. Scholars often apply the concept of cultural landscapes to describe these multi-layered geospatial connections and relationships. Hicks, McAtackrey, and Fairclough (2007) write that cultural landscapes are ways of explaining and capturing complex intersections among people, material culture, and geography.

For many American Indian people, these intersections are grounded in their epistemologies and oral traditions (Anyon et al.1996; Basso 1996; Deloria 2003). Cultural landscapes develop from a people's historical memory. Their cultural understandings of the land is shared and is transferred over generations (Hicks, McAtackrey, and Fairclough 2007; Stoffle, Toupal, and Zedeño 2001) through oral traditions and ceremony. Many cultural groups or ethnic groups can hold different understandings of the same land (Barth 1969).

Cultural landscapes differ from a culture's special places, to which one or more cultural groups have attached specific cultural meanings. The notion that not all places within a landscape have the same cultural value or power is central to the conception of cultural landscapes. Value is given to places because of the type of experiences or interactions people have with the location (Zedeño 2000). According to Greider and Garkovitch (1994:8):

Cultural groups socially construct landscapes as reflections of themselves. In the process, the social, cultural, and natural environments are meshed and become part of the shared symbols and beliefs of members of the groups. The natural environment and subsequent changes take on different meanings depending on the social and cultural symbols affiliated with it.

A cultural landscape should make sense from the perspective of the connected human group or groups. Throughout traditional Southern Paiute territory, places are connected through songs, oral history, human relations, ceremony, and both physical and spiritual trails. These connections create synergistic relationships between people, places, and objects.

4.4.1 Cultural Landscape Interviews

During the October 2012 field session, Southern Paiute representatives discussed with UofA ethnographers how the Little Springs Lava Flow is connected to other spiritual, ceremonial, and living areas found throughout Southern Paiute territory. These places include locations in the Grand Canyon, present day Nevada, Utah, and Arizona. Representatives also discussed how the landscape changed physically and culturally during and after the volcanic event. Their thoughts are as follows:

When asked if there were Native American Villages in relation to the area, the Native American Representatives replied:

➤ *I think so. Yes.*

- *Yep, there were thousands of villages.*
- *Yes, many. All around. And the reason for my thinking that is because the Southern Paiute nation itself considering all the boundaries, the Southern Paiute boundaries and the maps that have been made of other Paiute people, there were a lot of Paiute people. Not just a handful or so there was a lot before invasion.*

When asked if these villages were connected to villages elsewhere, and if so how, the Native American Representatives replied:

- *I think so yeah. They were similar to our current connections between Kaibab and Shivwits, and Cedar. We're all still connected just spread out.*
- *Yep, they were connected. They were sister tribes, sister bands*
- *Yes. Well, before the lava in that valley, and then the surrounding area, maybe by each mountain*
- *Yes they were connected on the Shivwits Plateau and the Kaibab Mountains and the Hualapai and the Supai (Havasupai) of course.*

When asked if there were seasonal Indian camps in relation to this area, the Native American Representatives replied:

- *I would imagine so, yeah.*
- *This area of Mt. Trumbull, I think, no.*
- *I would think, yes. Yes that's why they had more growth here than they had that year maybe down at the bottom or down where it's warmer.*

When asked if these camps were connected to camps elsewhere, and if so how, the Native American Representatives replied:

- *Yes. Seasonally, I would say seasonally, this is pretty high elevation.*
- *This area of Mt. Trumbull, I think so.*

When asked what Native Americans would have done in this area, the Native American Representatives replied:

- *Farming, hunting, gathering, there's a lot of plants and animals up here. Good soil for farming. I think it was a living area in the valley that we saw surrounding the lava. The lava area in particular is not a living place. It's more of a place of offering, prayer or purification. I think the environment is too harsh to have any kind of everyday living. As far as being a place to hide, that could be a possibility. The area we went to today, more*

on the other side, I think that that place we went to yesterday (North side lava flow), was more of, because of the hot springs that were located there, was more of an area for purification. The areas from today, not so much because the trails were leading all to one spot, in that one spot very specifically made areas.

- *They farmed, and they lived. I'm not going to say they survived, they lived here. [UofA Ethnographer: So, as far as not surviving, what does that mean?] Survive means like it was like an everyday life, you had to go out, and you had to harvest, and all this other stuff. It was, it was a way of living. It would be as common as going back to your apartment and going to work. As common as that is, we tend to think it as survival, because we're here now. You know, you can walk to the gas station and grab a snack or a pop, out here we tend to not visualize how convenient it is.*
- *[UofA Ethnographer: So do you know what the Indian people did when they were here, either the ones that lived here all the time, or the ones that came in, what kind of activities?] We will start with the ones that were here before the eruption itself. They were probably farming and gathering all of the foods that were offered to them here in this area from vegetation all the way to the tiniest berry. Before the eruption I think it was just having gatherings, where you know they can do and talk with whoever they want to. You know they had a relative other there or a relative over here, you know even if we were all related in one way or another they were all able to communicate.*

[UofA Ethnographer: Would there be any special ceremonies that would be common at those gatherings? Anything that they would do that was ceremonial opposed to just having fun?] No, I would think that they would have an honor; you know to honor the area, umm giving something to the mother earth before they do anything, praying, and things like that. When, nowadays, people, well, I can't say nowadays, but as I was growing up, we had we always used that water, and then prays that would help my family or the family. My family consisted of not just my family but other relatives who were close, so I think that they had to do something before they started.

Then after, after the eruption, it would be for me just the berries and the things that were around here, you know the pine nuts and the rice grass and other berries.

[UofA Ethnographer: Did the leaders ever get together and talk about politics?] I think they got together to see where maybe one area had more vegetation than the other or vice versa if the others had it you know or something like that, or maybe they had written something in between each Paiute village. They might not have lived so close to each other, they might have moved further apart from each other so there was a way for them to communicate to let each other know what was going on. But then after the eruption to me this would have been a place of honor, of being able to make that journey here and being able to see what the mother earth has done for us, she has poured out her liquids to us to help us in some way or another. That would be my thing at the time of the lava flow itself. You know sometimes when we do things we like to purify ourselves, maybe that, some of the places we've been to is to start that purification before they do go on the lava. The heat itself on those lava beds is very very strong, and it's not just a heat it's

more of a, what do I want to say, umm, like air we have to have that to breath, this mother earth could have been showing them the Indian people something at the time. But I also remember too my dad, my dad and mom both saying to me, there's those little lava spread right there back up Santa Clara. They used to say, I don't know what those people are building there for, but I know they're going to find a body in there somewhere, but I never heard of anybody finding anything yet, so that in turn tells me this lava place was a very strong place, and people who were very strong in their beliefs and what they understood of life, then would've loved to been buried here. It was the heat the strength of mother earth.

When asked if there were any songs associated with the study area, the Native American Representatives replied:

- *I've heard of them, I do not know them. I've heard songs about the volcano and the rocks.*
- *Yeah, there are songs. Quite a few songs—talking about the landscape, and the surroundings, the animals.*
- *Yes, there are but I'm not a singer. I don't know them, so I can't sing them. [UofA Ethnographer: Would you call those Round Dance Songs, or Ceremony Songs?] I would call them Gathering Songs. And I know my dad used to say that there were ceremony songs, but only certain ones could sing them—meaning people who were more set in their life. I don't want to say shamans, or I want to say just that person who was very knowledgeable.*

When asked if there were any ceremonies associated with the study area, the Native American Representatives replied:

- *Personally no, I'm sure there are, I'm just not knowledgeable about that.*
- *No, but just being here you can tell. What type of ceremonies there were like honoring ceremonies, collecting ceremonies, ceremonies for healing and purification. And with the last site we saw on the South end, I would have to say burial ceremony.*

When asked if this was a Creation place of their people, the Native American Representatives replied:

- *Yes.*
- *No. But I think it would be where, some of our people went back to. As far as burials, and stuff like that.*
- *Well, if you look at every mountain, there is someone there, but it's in probably one of their paths, but our creation story is more carried. That's what I want to say, yeah.*

When asked if this they knew of any other Creation places of their people and if yes, where, the Native American Representatives replied:

- *Yeah, there are places. Southern Nevada—wherever you would see lava flows.*

When asked if there were any historical events associated with the study area, the Native American Representatives replied:

- *I just know it's a sacred area because of the type of rock in this area.*
- *Probably just the lava flowing, the lava flowing and a lot of earth moving.*

When asked if there were any connections between study area and the surrounding mountains, and if so which ones and how, the Native American Representatives replied:

- *Yeah, they all came from lava flows, from buildup, the geology, the land forms.*
- *This Trumbull, and Dellenbaugh, but most places of high area, are important to Southern Paiute people, to get closer to the Creator and the spirits.*
- *It might have been a long time ago because the Southern Paiutes had a lot of different trails to different areas, and they knew where they were when they were hiking, and they knew what was missing if it was missing, they just, they just knew. I think that it might have been, since the volcano came and erupted. I think it could have been a special place, where they all probably, probably where they would all want to meet or come to see that, in your words, magnificent place, you know but would want to come see that place that was so, so warm and so welcoming for people to see this mother nature thing, what she gave us, what they could use it for.*

When asked if there were any connections between study area and the surrounding rivers, creeks, springs and washes and if so which ones and how, the Native American Representatives replied:

- *That Little Springs has a connection. And this spring that's right over here at this cabin place does too. It is connected because of the natural source, and how much water came out.*
- *Yeah, the Grand Canyon. And not just this place, but again through Toroweap, and up along the Kaibab Mountains, all the way up to Lee's Fairy, and all the way down to Diamond Creek, well maybe it goes up to Lake Mead, but I get off at Diamond Creek. And, I think there were more, for me a long time ago, I think there were more water holes than people umm tend to think there are here. I think there was a lot of water around this area.*

When asked if there were any Indian trails connected to study area, the Native American Representatives replied:

- *Oh yeah. Paiute trails that run into the canyon, and there are some trails that run out of the canyon.*

When asked if this area was connected to any other place or event that had not been previously discussed, the Native American Representatives replied:

- *I would say they were more for, taking families to other areas, for gathering, South of here, they take you to socialize with the Hualapai, the Hopi, and the Havasupai, and other bands, like the Shivwits, and the Kaibab.*
- *When you say spiritual, umm, the whole area is spiritual you know, and to me you can't just say one place was spiritual. God gave us this, the Creator, and Mother Earth was just helping, trying to help us so spiritual to me is everything, it's not just in one place, but it could be stronger in areas, like this. The flow could be a lot stronger.*
- *[UofA Ethnographer: Do you think this area, this lava flow, is connected to the Grand Canyon, and the rock shelter, and Vulcan's anvil?] Yeah, you know how we say everything is connected? I think, everything is connected. I think, it does. You know we believe in the power of that Vulcan's Anvil? And you know, it's a piece of a volcano, that sits there that's in the river. So yeah, it's definitely connected. Connected to that Paiute cave.*

4.5 Little Springs Lava Flow and Regional Pilgrimage Trails

Southern Paiute society, like many other communities and societies around the world had religious specialists who engaged in the act of pilgrimage. This ceremonial journey required these specialists to travel to unique and powerful places and landscapes. They followed complex trail networks that had long been established as ceremonial pathways. These specialists are sometimes referred to as Puha'gants. Those on pilgrimage visited and interacted with places along these trails in order to prepare themselves to reach their destination.

When the Puha'gants visited these places they conducted rituals that helped them establish and maintain long term relationships. These included building connections between the group of pilgrims traveling together, the places visited, and the objects used in medicine or as offerings. Each pilgrimage depended upon relationships formed amongst not only those who traveled along the trail together but also relationships the pilgrims formed with places visited and objects (resources) used. Relationship formation was a complex process necessary for pilgrimage ceremonies because without these relationships, pilgrimages could not be successful.

Southern Paiute people have maintained that when seeking Puha and knowledge the people-people interactions are not the only important component to pilgrimage. People-Place and People-Object interactions are equally important and necessary for pilgrimage completion. These types of relationships are related directly to how Puha is disturbed to places and objects and how

Southern Paiutes view themselves within their universe. From a Southern Paiute perspective, the universe is a living entity and all elements within it are alive and have Puha. This keeps the universe in a state of dynamic equilibrium (Bean 1976). Humans, in order to engage with a place or resource to use it in ceremony or in daily activities, need to respect that resource or place's Puha by praying to it and leaving offerings. Southern Paiute *communitas* is formed from the establishment and maintenance of these synergistic relationships through time and movement along pilgrimage trails.

The Little Springs Lava Flow has been linked to three distinct and possibly interconnected pilgrimage trails (Figure 4.47). The trails link together places found throughout the Uinkaret Volcanic Field to places associated with the Grand Canyon and the Colorado River. These trails began at the Puha'gants' home communities, which were agricultural centers, located near permanent water sources like Kanab River, the Virgin River, and the Santa Clara River. The three pilgrimages are discussed in the following section and reflect ceremonial use of the area post-eruption.

4.5.1 Little Springs Lava Flow as a Pilgrimage Destination Place

The first pilgrimage trail is centered around the Little Springs Lava Flow serving as the ceremonial destination place for volcano shamans seeking special kinds of Puha and knowledge. Places found along this trail have been discussed in detail earlier in this chapter and has been the focal point of this report, however it is important to demonstrate in a concise manner how these places are culturally and sequentially linked.

Based on current ethnographic interviews, it is believed that those who came on pilgrimage to the Little Springs Lava Flow entered the Uinkaret Volcanic Field from the north. Puha'gants first stopped at Paiute Cave. The red, yellow, and white painted figures in the cave are indicative of ceremonial activity and suggest shamans used the cave in order to acquire possible spirit helpers, songs, and Puha needed to continue on their journey. Once the Puha'gants conducted their activities in the cave, they traveled to the west and then southeast through Black Canyon. At the end of the canyon, they turned southwest towards Mount Trumbull. The Puha'gants likely established a ceremonial support camp at the base of the mountain just below Nixon Spring at a place called Uinkaret Pueblo. The support camp is near the actual destination place but is removed sufficiently from that location to afford the person seeking power and knowledge privacy. At the support camp, a group of Puha'gants monitors activity that is occurring at the destination place. Those at the support camp helped the seeker finalize his or her preparations to visit the destination place. They advised the seeker on what he or she has or will experience, aided in interpreting what is happening, and made sure that the vision seeker does not become comatose or hurt by acquiring large amounts of Puha.

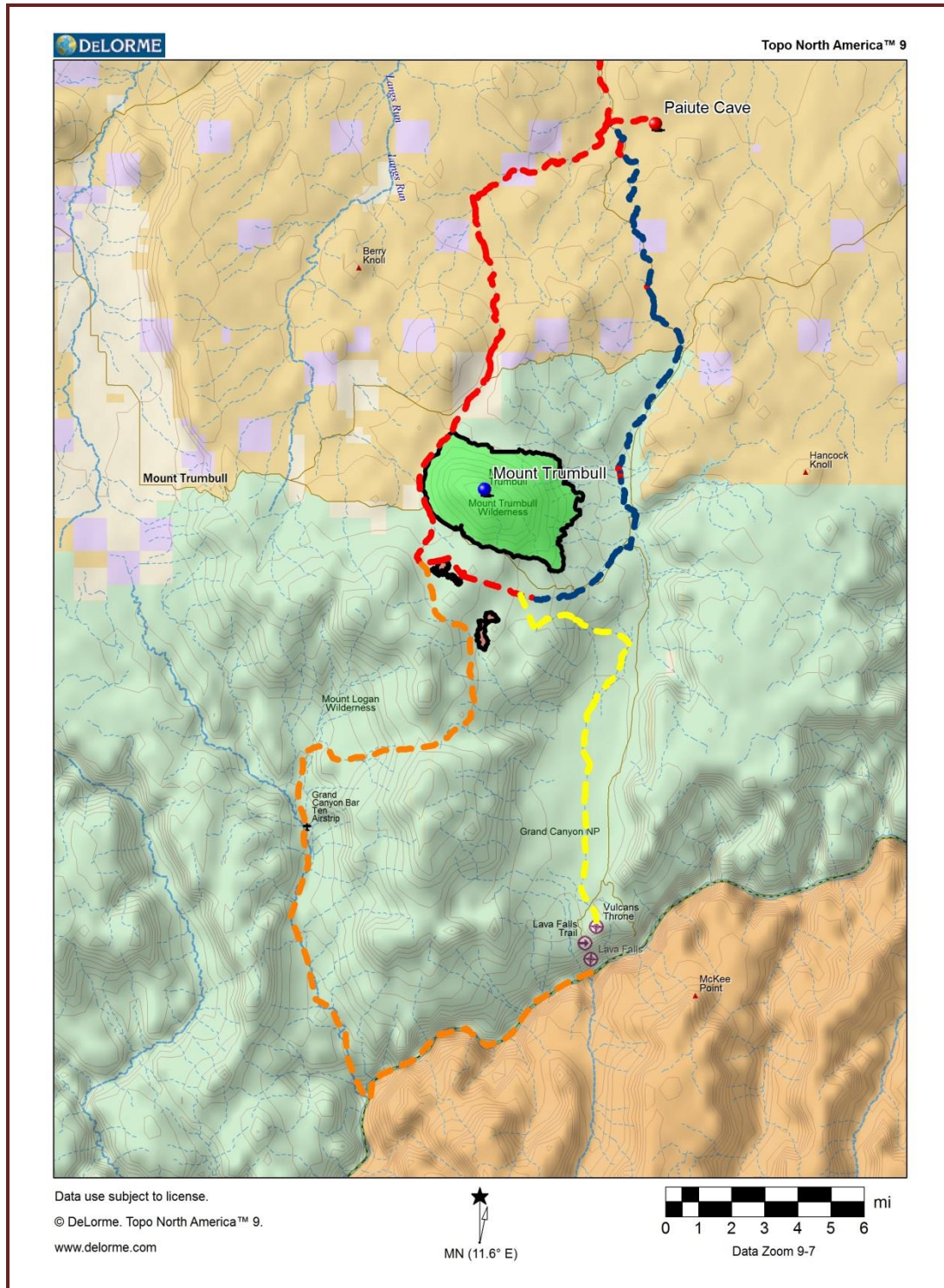


Figure 4.47 Pilgrimage Trails Associated with the Little Springs Lava Flow

From the support camp, the Puha'gants traveled 1.6 kilometers (one mile) to the Northern Lobe of the Little Springs Lava Flow. When they approached the lava flow, they first visited the hot spring located along flow's base for ritual cleansing and purification. After bathing in the hot

spring, the Puha'gants went onto the Northern Lobe to complete their journey. They traveled along prominent trails at the northern end of the flow to the area identified as Coyote's House. Ceremonies conducted at this location would have lasted for a series of days in order for the pilgrims to acquire the knowledge and Puha they were seeking. Once this ended, the Puha'gants began the journey home and the transition back to normal daily life. This meant that places visited on the way to the Northern Lobe were revisited and the Puha'gants said exit prayers and thanked the places for helping them on their journey.

4.5.2 Toroweap Pilgrimage Trail

For those on pilgrimage to the North Rim of the Grand Canyon, the Little Springs Lava Flow was an important stopping place along the trail. The Puha'gants traveling this trail would have interacted with places located along and on the Northern Lobe. They used the hot spring to cleanse and purify themselves for their journey. The hornitos located throughout the lava flow would have been ideal places for ceremonial sweats since the lava rocks are well suited for holding heat. While they prepared for the purification rituals, Puha'gants sang songs and said prayers to the lava flow, the mountains, the water, the plants, and animals. They asked for a safe journey to the North Rim and back, for the protection of their families and for the safety of the environment around them. Puha'gants collected water from the spring and brought it with them to Nampaweap and the North Rim. This water would have been used during a ceremony to bless places and leave as an offering.

Prayers at Nampaweap

From Little Springs, the Puha'gants would travel roughly three miles to Nampaweap, a small basaltic canyon that constricts the obvious trail to the North Rim. The upper portion of the canyon has a series of peckings, a rock shelter, and a spring, thus it has high concentrations of Puha. Tribal representatives believed this place was associated with ceremonial activity. According to those who visited the site, Nampaweap was where people came to seek knowledge and power and communicate with spiritual beings.

When people came to Nampaweap, they would have interacted with it as another place where people prepared themselves for their arrival at the North Rim. People would have first offered the place the water brought from Little Springs, and then they would explain the purpose of why they were there and seek the Puha they would need to continue to the North Rim area. The small canyon may provide a song to be sent to the big canyon and used during another ceremony. Additionally, more water was collected from the spring found above the rock art panels, which would have served both as an offering and for physical needs at the vision quest support camp.

Vision Questing on the North Rim

Following prayers at Nampaweap, people would head east towards Toroweap Valley and then south towards the North Rim of the Grand Canyon, covering a distance of twelve miles. While traveling down the valley, the Puha'gants continued to pray and interact with the landscape. They had to announce to the canyon and the mountains why they were there, and ask

for permission to enter the area. The Puha'gants may have waited for a sign, like an eagle flying by, which would have signaled they had permission to enter the area.

Upon reaching the North Rim and receiving permission to enter, the vision seeker could have gone to two locations to obtain their vision: Vulcan's Throne and Toroweap Overlook. From these locations, there are impressive views of the Grand Canyon, the Colorado River and places located along the South Rim.

Vulcan's Throne is a basaltic cinder cone located on the North Rim near Toroweap Overlook. This old volcano, which erupted on five separate occasions, is a feature in the volcanic system that is responsible for filling the Grand Canyon with lava twelve times during the last 1.2 million years. The lava flows created a series of dams in the Grand Canyon, which were responsible for creating a series of lakes that extended to the head of today's Lake Powell. The Vulcan's Throne flow was approximately eight to ten miles long. The flows from Vulcan's Throne are some of the oldest and largest in terms of volume in the Grand Canyon (Hamblin 1951: 190-192).

From the southern edge of the volcano one can look at Lava Falls and Vulcan's Anvil. As discussed earlier, volcanoes are unique places where Puha from inside the Earth is brought to the surface; therefore people would have stopped at this spot to interact with it. They would have prayed to the mountain and explained their purpose for being in the area. Also, they could have brought *Puha-pah*, plants, and stones to this place to leave as an offering to the mountain.

At Toroweap Overlook, people have a clear view of Vulcan's Anvil and Lava Falls, two important powerful ceremonial features located within the Grand Canyon. It is important to note that Toroweap Overlook is the only place where a person can look from the upper rim of the Grand Canyon directly down at the Colorado River. This allows the Puha'gants to have a clear view of the powerful places below. A Puha'gant would be able to talk directly to the Colorado River. He or she would be able to draw from its Puha to achieve or acquire a vision, song, or a spirit helper. These, in turn, help him confront new problems facing him or his community. In addition, the Puha'gant is preparing himself to go into the canyon for the ceremony at Lava Falls.

A small camp would be set up to serve as support for the vision seeker. This location would be near to the place where the vision seeking would occur. The camp was a safe distance away from the destination place in order to give the vision seeker privacy. Little is known about vision quest support people except they had two roles: (1) to advise the seeker and to help interpret what was happening and (2) to assure that the vision seeker did not become comatose. The vision was sought over a period of two to three days. When the vision was achieved or at such time that, the support person suggested the time to leave had come; they would leave the North Rim area and make their way back to their villages. The Puha'gants would stop at Nampaweap and Little Springs to say exit prayers thanking the spirits for protecting them during their pilgrimage and providing enough Puha to withstand the intensity of the vision quest. It was very likely that the returning Puha'gants collected water from Little Springs to bring back to their communities. The water would have been used in curing and blessing ceremonies.

4.5.3 Vulcan's Anvil Pilgrimage Trail

The second pilgrimage trail connects places on the North Rim with an area centered on Lava Falls located along the Colorado River directly below Vulcan's Throne. During the Arizona Strip Landscape and Place Names study (Stoffle et al. 2004), the efforts focused on locations along the North Rim of the Grand Canyon and Arizona Strip; however, Southern Paiute people stated that it is now important to discuss the relationships between places in the Arizona Strip and those within the Grand Canyon.

The Colorado River as it passes through the Grand Canyon is a spatially bounded ecosystem that is viewed by Southern Paiutes as a culturally special landscape comprised of many culturally important and interconnected places. Since Creation the Grand Canyon has played a critical role in the lives of Southern Paiutes. The canyon and the Colorado River define the boundary of four Southern Paiute sociopolitical districts - Shivwits/Santa Clara, Uinkaret, Kaibab, and the San Juan.

A network of more than twenty-three trails permitted free movement across the Grand Canyon and the Colorado River (Stoffle et al. 1982). This allowed Paiutes to have access to many things within the canyon such as farming, hunting, trade, and ceremony with the Hopis, Havasupai, and Hualapai.

This section focuses on a particular local landscape involving places on the North Rim and a series of locations found within the Grand Canyon, associated with Paiute doctoring, ceremonies, and the acquisition of spirit helpers. This landscape is linked to ceremonies discussed for the previous local landscape. This landscape contains steps in preparation for ceremonies at Vulcan's Anvil near Lava Falls. Vulcan's Anvil is a powerful doctoring area, which would require long periods of preparation and ceremony before a person or persons could enter the area.

This pilgrimage landscape involves the Mount Trumbull area which was discussed in the previous sections, and places located in the Grand Canyon and Vulcan's Anvil served as the ceremonial destination place. The places involved along this Pilgrimage trail are (1) the Puha'gants' home areas as preparation sites, (2) Mount Trumbull-Little Springs Lava Flow, (3) the trail into the Grand Canyon at Whitmore Wash, and (4) Vulcan's Anvil-Lava Falls Ceremonial Complex that includes a water baby place, a warm mineral spring, a paint source wall, a ceremonial rock shelter, and Vulcan's Anvil.

Given the importance of the Vulcan's Anvil area, it is possible that people would have begun to ready themselves by first taking a pilgrimage to the Toroweap overlook discussed previously. Upon returning home from this trip, people would have begun another series of preparations, which included more prayers and purification through songs and sweats. Once the Puha'gants received a sign, whether it was a dream, an appearance of a certain type of animal or some other part of the landscape signaling them, they would proceed back to the North Rim for the second portion of their pilgrimage.

As people left their villages and began to make their way towards the North Rim area, they followed the major trail system that crosses the Arizona Strip. As mentioned earlier, many of the major Anglo-named trails were once well-traveled Indian trails. Given the great distances people would have traveled to access these places, it is necessary that the Puha'gants would have a place to stay before they proceed with their journey. They would have returned and stayed in the Mount Trumbull area. The camp would have served a similar purpose as it did during the previous pilgrimage. Along their way, the Puha'gants would have sung songs and said prayers to ensure a safe journey and protection for themselves, their families, and their environment.

Trail into the Grand Canyon

From Mount Trumbull, Puha'gants would have proceeded to Whitmore Wash. This area is the location of one of the major foot trails into the Grand Canyon and was noted by members of the second Powell expedition (Dellenbaugh 1926). The trail leads directly to Whitmore Rapids and a shallow rock shelter located about thirty meters above the river. On its walls are hundreds of red and white pictographs, including some identified as part of the Ghost Dance ceremony. At one point, the shelter contained a large amount of charcoal, animal bone, cordage, corncocks, and matting. The archaeological evidence shows that the Puha'gants stopped at this location to say prayers before continuing their journey either up or down the Canyon (Stoffle et al. 1994b: 165).

Vulcan's Anvil-Lava Falls Complex

The Vulcan's Anvil-Lava Falls complex was also known as a powerful doctoring site. A well-known Southern Paiute religious leader was associated with this area. Eventually he moved across the Colorado River and married two Hualapai women; because of this, he became one of their primary medicine persons. As such, he became an important figure in both Hualapai and Southern Paiute history. His connections to Hualapai society strengthened ties between them and Southern Paiute people. These two ethnic groups, while speaking different languages, have a long history of coming together for ceremonies and social gatherings.

This area is part of the ceremonial landscape that connects the North Rim to places in the Canyon. The Vulcan's Anvil-Lava Falls Complex is composed of locations that are connected to ceremonies performed at Vulcan's Anvil. Once Puha'gants descended into the canyon, they proceeded up river stopping at a series of Puha places to prepare themselves for going to Vulcan's Anvil.

Water Baby Peckings

At a place immediately down river from Lava Falls, the Puha'gants would stop to interact with three rock peckings below Lava Falls. These peckings were placed on a large boulder in a small cave located just below Lava Falls. These peckings probably occur at a place where the trail crosses the river. The peckings were interpreted as indicating the presence of water babies, extremely powerful spirit beings associated with flowing water or magma.

People came to this location to say prayers of introduction and to request protection while crossing the river. It is possible that some spiritual leaders came to this spot to receive a water

baby as a spirit helper. The Puha'gants drew upon the Puha from the peckings to continue their journey to the Anvil and in return, they left offerings of tobacco or water for the water spirits represented by the peckings.

Warm Mineral Spring

From the cave with the peckings, the Puha'gants swam or floated directly across the river to the warm mineral spring. It was likely that the warm and heavily mineralized water of this spring was not used for drinking, but was used instead for prayers and purification. Water was collected at the spring and brought to a ceremonial rock shelter where the Puha'gants would have used it as an offering.

Yellow Paint Source Wall

From the spring, Puha'gants traveled to a deposit of yellow ochre. The yellow ochre deposit in this wall was formed as magma flowed past the wall. Some of the non-volcanic materials were altered due to the intense heat and pressure thus creating the paint source. Yellow ochre, like red ochre, is a powerful element associated with ceremony. The yellow ochre wall is covered in red ochre blessing smudges. The yellow ochre was used in medicine and ceremony conducted at Vulcan's Anvil. To be used in ceremony the pigment had to be mixed with water to make the yellow paint. In order to collect the pigment, the Puha'gants would have left water from the spring as an offering as they collected the pigment. Once the pigment was gathered, the Puha'gants ventured to a nearby ceremonial rock shelter.

Preparation Rock shelter

At the ceremonial rock shelter, which is located directly above the yellow paint wall and Lava Falls, the people continued their preparations for ceremonies at Vulcan's Anvil. The rock shelter contains paint figures made in part from the yellow paint. Inside the rock shelter, the Puha'gants would have prayed and prepared themselves for ceremony. They used the water brought in from the mineral spring. After prayers, the Puha'gants would have waited for the right moment to proceed with their journey. It is possible that people could have received songs during this period to take with them to Vulcan's Anvil. According to Southern Paiute epistemology, rock shelters are powerful places that people visit to acquire Puha and songs. Once the Puha'gants received Puha from the rock shelter, they could continue to Vulcan's Anvil. The Puha'gants' support person would remain on shore, perhaps in the rock shelter, during the Puha'gants' time on Vulcan's Anvil.

Vulcan's Anvil

In order to reach Vulcan's Anvil (Figure 4.48), the Puha'gants (including patients if doctoring was the purpose of the pilgrimage) would have to swim to the center of the Colorado River where Vulcan's Anvil occurs as a large volcanic plug or throat. Vulcan's Anvil is surrounded by a calm and very deep portion of the Colorado River created in part as the backwater of materials that constitute Lava Falls. Vulcan's Anvil is the only rock of its kind

along the entire Grand Canyon Corridor. Vulcan's Anvil can best be described as a power rock in a power place making it a very special destination for Puha'gants.



Figure 4.48 Vulcan's Anvil

When the Puha'gants reached Vulcan's Anvil, they climbed from the water up its vertical slick sides to the wide flat top. On top, a person had a view of the Grand Canyon and the Colorado River up- and downstream. Looking up, the Puha'gants would view the vertical canyon face containing evidence of a dozen previous volcanic dams and hundreds of separate lava flows. Here people could draw from the power of the rock, the river, the canyon, and the presence of volcanoes.

CHAPTER FIVE

AN ETHNOGRAPHIC AND ETHNOHISTORICAL PERSPECTIVE ON SOUTHERN PAIUTE SOCIO-POLITICAL UNITS

The chapter presents an overview of where and how Southern Paiute people lived and perceived their world. This essay discusses the social and political divisions in traditional Southern Paiute society. The information presented in this chapter has been taken from ethnographic or ethnohistorical accounts and is largely based on what Euro-Americans documented about Paiute people. Nonetheless, the analysis corresponds closely with and helps to contextualize information presented in previous chapters.

Perhaps the most useful aspect of this chapter is that it brings up and then sets aside many of the major misperceptions Euro-Americans have about Southern Paiute people. These misperceptions are critical because they have been passed from generation to generation of Euro-Americans until the incorrect information about Southern Paiute people was better known than accurate descriptions of how they once lived, how they organized their societies, and what they believed about themselves and their world. They have been characterized as hunters and gatherers, yet all Southern Paiutes practiced irrigated agriculture. In 1776 when the first European, Father Escalante, recorded meeting Southern Paiutes, they held aloft ears of corn as a sign of greeting. Southern Paiutes have been characterized as having one of the lowest population densities in North America, yet they held some of the finest natural resources in the Southwest and the Great Basin against intrusion by other Indian people. Southern Paiute held almost 965 kilometers (600 miles) of Colorado River shoreline, much of which was farmed. They have been characterized as having simple forms of social organization, yet they had national political leadership that survived into the 20th Century. A system of trails and runners formed essential lines of communication which continued into the 20th Century. They have been characterized as having recently arrived in the region, yet linguists, some archaeologists, and Southern Paiutes themselves say they have been here much longer than the 800 years defined by archaeologists.

These are critical issues for the federal agencies involved in this study, as well as for other Federal and state agencies. The functioning of government-to-government consultation relationships established between land management agencies and Indian tribes is influenced by the points described above. Years ago the relationship between land management policies and the ways Paiute cultural resources are viewed and evaluated was discussed (Stoffle, Jake, Bunte, and Evans 1982: 108-114). Simply put, if Paiute people are perceived as incapable of producing anything more than a rude, unintegrated, and poor culture as both Kroeber (1970: 582-583) and Steward (1938) maintained, then why should Federal land managers today be interested in preserving any aspect of this culture? On the other hand, if Paiutes were sophisticated animal and

plant managers, creating a complex culture that not only permitted them to flourish for thousands of years in this environment, but were more adaptive than that of other Indian groups around them, then aspects of their culture may be worthy of both preservation and simulation by land managers today.

Beyond cultural preservation is the issue that perhaps Southern Paiutes have something to contribute to Federal and state land managers. Critical here is the possibility that Indian people learned, during thousands of years of living in these lands, how to care for the plants, animals, water, and spirituality that occurs here. These lessons learned, bound in the culture of Southern Paiutes, can potentially be incorporated into how Federal agencies approach the management of these natural resources. Especially important are Indian perspectives that approximate in scale and functional integration those currently being attempted under the new ecosystem stewardship approach of the Federal government. This chapter, and much of this report, attempts to share some of these alternative perspectives on Paiute culture and its potential contribution to contemporary land management issues.

5.1 Holy Lands and Creation Stories

Southern Paiute people have resided in their traditional lands for many generations. According to archaeologists, Paiute people came into the region by at least A.D. 1150 (Euler 1964, Shutler 1961). Their ethnic group boundary has been defined by travelers' observations in the late 1700's (Bolton 1950), by Euro-American settlers' diaries, official government surveys in the mid-1800s (Little 1881; Powell and Ingalls 1874), and by oral history interviews in the 1930s (Kelly 1934, 1964; Stewart 1942) and 1980s (Bunte and Franklin 1987; ERT 1980). Existing within the traditional territory of the Southern Paiute Nation is the northern Colorado Plateau ecoregion.

Efforts by Euro-American scholars to define a boundary and an origin time for the Southern Paiutes are perceived by Paiute people themselves to be overshadowed by their own religious knowledge about traditional ethnic territory and the events by which their people came to inhabit these traditional lands. According to traditional Paiute beliefs, Paiute people were created here. Through this creation, the Creator gave Southern Paiute people a special supernatural responsibility to protect and manage the land and its resources. In Euro-American terminology, this land is their Holy Land (Spicer 1957:197, 213).

The Southern Paiute people believe that they were created by the supernatural near Charleston Peak -- called *Nuvayantu* [herein rendered as *Nuvagantu*]--located in the Spring Mountains in southern Nevada (Kroeber 1970, Laird 1976, Stoffle and Dobyns 1983). According to Laird (1976:122), "In prehuman times *Nuvaganti* was the home of Wolf and his brother, Mythic Coyote. It was the very heart of *Tiwiin^yarivipi*, the Storied Land."

There was, and is, no place in Southern Paiute traditional territory more sacred than the Spring Mountains and the areas around them. One author has noted that Mount Charleston (Figure

5.1) is the most powerful of all cosmic centers in the south and central Great Basin (Miller 1983:72). Concerns for this sacred area have been expressed repeatedly in cultural resource studies involving Southern Paiute people (Stoffle and Dobyns 1982, 1983a, 1983b; Stoffle, Evans, and Harshbarger 1988; Stoffle et al. 2004).



Figure 5.1 Mount Charleston

For each Southern Paiute tribal group, there is a slightly different version of this story (e.g., Lowie 1924, for Shivwits version; Sapir 1930, for Kaibab) "which highlights the sacredness of their own local tribal territory" (Bunte and Franklin 1987: 227). The Shivwits story has the emergence point at Buckskin Mountain in Kaibab territory (Lowie 1924: 104). In general terms, however, Southern Paiute origin stories share much in common. In the San Juan Paiute version of the Creation story, the culture heroes (both Wolf and Coyote) are called *Shunangwav*, a name which also translates into English as "God" or the "Great Spirit" (Bunte and Franklin 1987: 33). In the San Juan story, Coyote untied the sack [basket in other versions] near Page, Arizona, and there made the Southern Paiute people. So, for this version of the origin story, the original home of all Paiutes is in local territory of the San Juan Paiutes (Bunte and Franklin 1987:227). By moving the place of their ethnic group's origin, the San Juan Paiutes strengthen their identification with the ethnic group itself and solidify their cosmological ties to that specific portion of Southern Paiute ethnic territory.

Despite local variations in the identification of the ethnic group's place of origin, all portions of traditional ethnic territory remain sacred to all Southern Paiute people. *Puaxantū Tūvip* (variant *Puarūvwip*) is the Southern Paiute term which translates into “power land” or “sacred and” (Stoffle and Dobyns 1982). The Paiute term Puha is cognate to the term or “power” (Franklin and Bunte 1993: 3; Miller 1983). The term *Puaxantū* is a derivative of the term Puha; it may be transliterated as “powerful” or “(sacred) power.” The indigenous Paiute term thus would refer to sacred or powerful lands, that is lands traditionally occupied by the ethnic group that are made powerful by being where the creator placed the Paiute people.

5.2 Aboriginal Political Units

The Southern Paiute nation comprised several levels of political organization including possibly two or more major subdivisions or subtribes, a dozen or more districts, and numerous local groups—sometimes referred to as bands—within each district. Some of the evidence of hierarchical organization comes from Laird's (1976) documentation of Chemehuevi institutions, elicited from her Chemehuevi husband, George Laird.

It appears that a small elite provided the Southern Paiute people with socio-religious leadership. While male leaders have been referred to as High Chiefs, they functioned as both ritualists and political officers (Laird 1976: 24); or at least they did so in the late 1800s. Some Federal officials called *Tutseguvits* the head chief for a decade: from 1859 until 1869 (Fenton 1869: 203; Forney 1859: 73). Another government official in the early 1870s (Powell and Ingalls 1874) perceived that a single tribal chief named Tagon exercised some authority over all Southern Paiutes. That perception may well have been accurate, and a principal chief may have played a more important pre-contact role.

Leaders occupied a special status with special symbols very visible in pre-contact Southern Paiute society. So-called high chiefs could wear turquoise. The elite also spoke a special language known as *tivitsi?ampagapī* (Real Speech) as well as normal Southern Paiute. High Chiefs chanted it with a strong accent. Living members of the elite preserved that special elite language into the final decade of the nineteenth century. In addition Quail-beans (*kakaramurih*), or black-eyed peas, became a special dietary item for the chiefly elite during the encroachment period (Laird 1976: 24).

Leaders led at least regional polities made up of lineage bands (Laird 1976: 24). In 1873, one identified high chief who was active into post-conquest times provided sacred leadership for lesser chiefs heading at least eight local lineage organizations based at Potosi, Paroom Spring, Kingston Mountain, Ivanpah, Providence Mountain, Ash Meadows, Amargosa, and the northern Chemehuevi (Fowler and Fowler 1971: 104-105; Laird 1976: 24). Leaders employed a specialized corps of runners to transmit communications. These runners were probably young men (Laird 1976: 47). The elite appears to have disappeared as the last surviving high chief died late in the nineteenth century. In the 1870s, Powell and Ingalls perceived the functioning high chiefs as heads of what they called confederacies of local groups (Fowler and Fowler 1971: 109).

5.2.1 Disease and Socio-political Disruption

Southern Paiutes probably were first impacted by diseases during the first smallpox pandemic in 1520-1524 which spread from Mexico City throughout much of North America (Dobyns 1981; Campbell 1990). Throughout the 1500s, 1600s, and 1700s, major disease pandemic episodes spread from Mexico into the lands of the Tohono and Akimel O'Odham, Hopi, Hualapai, and across the Colorado River to the Southern Paiutes. Southern Paiute traders, like Inca traders in South America, were probably exposed to diseases while trading with neighboring Indian ethnic groups and then carried these diseases to people in their home settlements. The early centuries of exposure to Euro-American diseases had social and cultural as well as biological impacts that can only be estimated today; however, book titles like *Their Number Become Thinned* (Dobyns 1983) and *American Indian Holocaust and Survival* (Thornton 1987) target the problems faced by Indian people during these times.

More recent disease exposures and their social and cultural impacts can be documented when literate travelers and immigrants record changes among Indian people and even the presence of diseases in their own communities. A recent analysis has documented the impacts of diseases brought by European immigrants in the early to mid-1800 (Stoffle, Jones, and Dobyns 1995). That analysis demonstrates that European immigrants passing through and moving into Southern Paiute riverine oases transmitted diseases which resulted in declining populations and in turn caused most national and many subtribal functions to be largely eliminated by the late 1850s (Stoffle, Jones, and Dobyns 1995). Ten diseases (measles, cholera, malaria, tuberculosis, scarlet fever, whooping cough, typhoid fever, intestinal parasites, mumps, and smallpox) assaulted Southern Paiute peoples from 1847 until 1856. These ten diseases accounted for the deaths of thousands of Southern Paiutes. The rate of direct European transmission of Old World diseases began to slow appreciably during the years 1857-1876, but this was largely because not as many Paiutes were living after 1857 (Stoffle, Jones, and Dobyns 1995:194).

Even with fewer numbers, Paiute depopulation continued throughout the latter part of the 19th Century and early 20th Century. A 1905 newspaper in southern Nevada carried a story about Mr. Harsha White who took the census and said that "the Piute (sic) population has decreased 60 per cent since 1890" (Stoffle, Olmsted, and Evans 1990: 113-114). So many Paiute people died that even the basic socio-political units which once reflected their dense aboriginal populations could no longer be maintained after this time.

Despite loss of political power, some aspects of national and subtribal leadership persisted throughout this period. Political leadership was recorded by Mormon settlers - like J. Hamblin in the 1854 and A. Jensen in 1855; Federal government surveyors - like Wheeler in 1869 and J. Powell and G. W. Ingalls in 1872; regional historians - like William R. Palmer in the 1880s, and ethnographers - like J. Steward in the 1920s. Steward (1938:185) recorded that a Pahrump, Nevada leader named Takopa was a leader of all the Southern Paiutes. After Takopa's death in 1905, he was replaced by another southern Nevada leader named Jack Penance. When Penance died in

1933, the newspaper account entitled “Piutes Install New Chieftain at Tribe Ceremonial” revealed the continuation of national-level leadership. The *Tonopah Daily Times- Bonanza* (Oct.4,1933:4,1) recorded the inauguration of this Southern Paiute leader as follows

With a mournful chant pouring from 300 aboriginal throats...the Southern Nevada Piute tribe, including Indians of Southern Utah, Southern Nevada and Northwestern Arizona, installed a new chief recently. Their old chief, Jack Penance...was killed recently in a very 20th century automobile, loaded with blankets, his squaw and about eight children (when it) blew a tire and overturned. One of his friends, known to white men as Baboon, served as head of the Nevada Indians a short time until a pow-wow could be set and distant Piutes called into meeting. Over desert roads they came, many by foot, horseback and wagon, but the number who maneuvered themselves and families to the reservation in rattling, brass-bound flivvers was amazing to old time desert dwellers...Harry Skinner, a young government Reeducated Piute from Arizona, was named Chief...

Southern Paiute people persisted in maintaining traditional social and political structures when possible and preserved their deep personal attachment to their supernaturally-given ecosystems that continued to sustain Paiute people into the 20th Century.

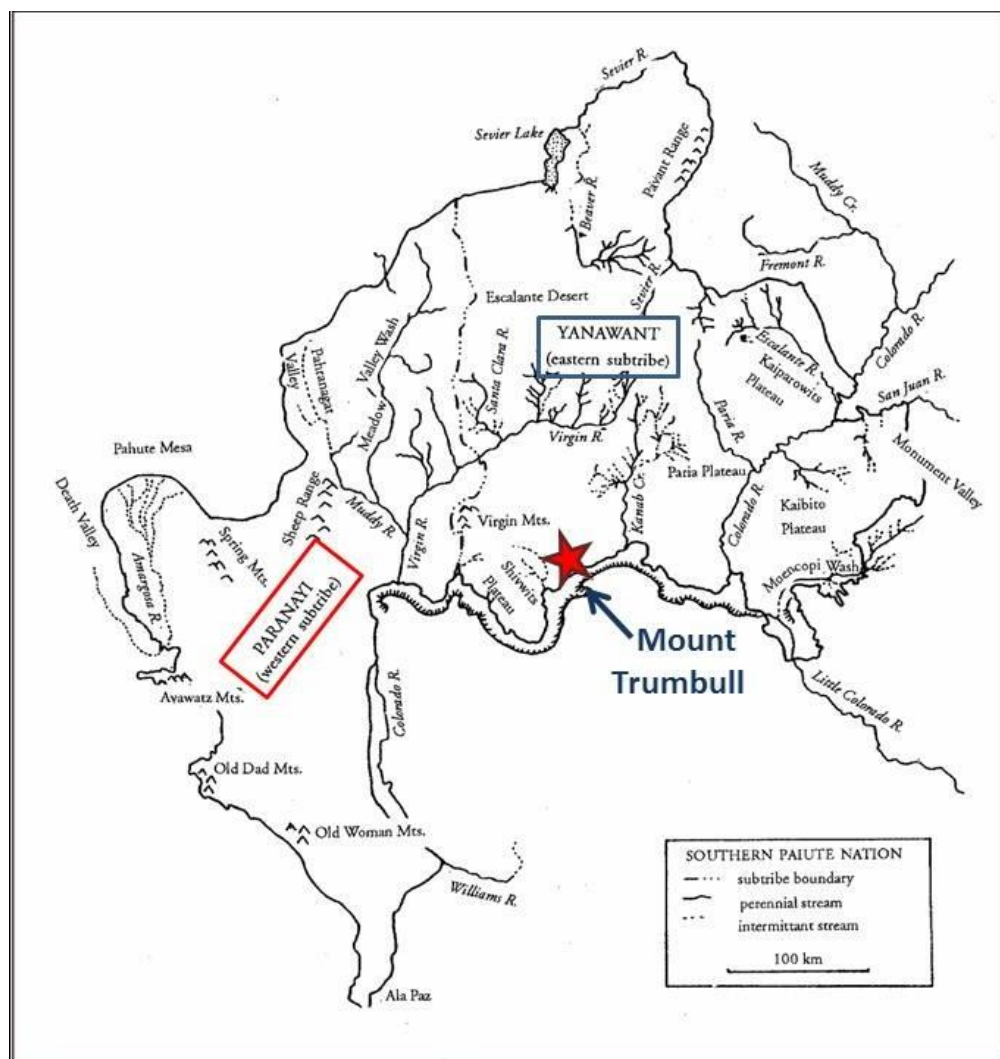


Figure 5.2 Southern Paiute Nation with Subtribes Labeled

5.2.2 Subtribes

Just below the level of the Southern Paiute nation as a whole, there may have been two or more large divisions, each encompassing a number of neighboring districts. The divisions would have included geographically contiguous districts having particularly close ties of economic exchange, intermarriage, and political cooperation (See Figure 5.2). The evidence for these intermediate-scale political divisions within the Southern Paiute nation is sketchy; however, past research suggests that prior to about 1825 there may have been two divisions; a western subtribe called *paran'iyitsin*^w (Sapir 1910:3, herein rendered as *Paranayi*) and an eastern subtribe that derives from a native designation that Jacob Hamblin recorded as *Yanawant* (Brooks 1950:27; Little 1881; Stoffle and Dobyns 1983a, 1983b).

The relation between ecosystems and socio-political units becomes evident in both the structure and naming of these subtribes. Riverine oases were critical geographic locations for aboriginal Southern Paiute lifeways. Southern Paiute people traditionally used the resources found along the major hydrological systems in their traditional territory. It is important to note, however, that socio-political units do not always exactly fit the natural boundaries of ecosystems.

Paranayi Subtribe.

The term *Paranayi* loosely translates into "marshy spring people" (Hodge 1910:202) or "people with a foot in the water" (Palmer 1928a:11; Kelly 1934:554) and refers specifically to the Paiute people who lived in the Pahrnagat Valley-Meadow Valley-Moapa Valley riverine oasis. Although the name has been used by some scholars as a band name for the Pahrnagat Valley Paiutes, it is evident that the aboriginal use of the term was much broader.

The water referred to in the designation flows down the Pahrnagat Valley, Meadow Valley Wash, and on to join with the Muddy River. This, in turn, joins with the Virgin River, and then flows into the Colorado River. From the Colorado River back upstream to the headwaters of Pahrnagat Valley and Meadow Valley ran the ribbon-like oasis where people cultivated food crops.

The Muddy River appears to have been the headquarters of this subtribe. The western division of the Southern Paiute nation seems to have been too populous and too wide ranging to be properly labeled a district. Therefore, *Paranayi* might properly be considered one of two subtribes constituting the Southern Paiute nation, where the term "subtribe" is used in a purely technical sense to indicate that the tribe formerly consisted of western and eastern components.

Previous studies (Stoffle and Dobyns 1983a, 1983b) suggest that, when Euro-American colonization of southern Nevada began, the entire western and southern portion of the Southern Paiute nation was known as *Paranayi*. Within this great geographical area were a number of districts (a concept discussed more later) including the Moapa/Paranagat, Las Vegas, Pahrump/Ash Meadows, and Chemehuevi districts.

Yanawant Subtribe

Southern Paiutes inhabiting the higher altitude plateaus of southern Utah and northern Arizona planted their summer crops primarily in the Santa Clara River oasis, up the Virgin River from that tributary, and all along Kanab Creek. Paiute farmers grew maize and other crops on sand-bar fields along the Colorado River. The San Juan Southern Paiute people may have stayed south of the larger stream, planting in oases along the San Juan River and its tributaries, at Paiute Canyon, and the springs and wash floodplains along the Echo Cliffs to the Moenkopi area near Tuba City (Bunte and Franklin 1987: 30). The eastern subtribe may have been self-labeled *Yanawant* (Brooks 1950: 27).

The Santa Clara Paiute people in the 1850s used a term for themselves that English speakers recorded as Yanawant with several variant spellings. For example, Jacob Hamblin used the term *Yanawant* for the Indian people of the region. He attributed this usage to the Indian people themselves, including their overall Chief Tutsigavits. Hamblin quoted the chief as saying "I want all the *Yamnawants* to love the Mormons all the time" (Corbett 1952:84). In his mid-1850s narratives, Hamblin often referred to the Yanawants: "the *Yannewants* were much alarmed" (Hamblin 1951:18); "a good feeling prevailed among the Yanwants as they call themselves" (Little 1881:39); I started for Great Salt Lake City in company with Thales Haskell and Tut-se-gavit (the *Yamnawant* Chief)" (Corbett 1952: 114; Hamblin 1951: 27).

In 1872, John W. Powell recorded the term *U'-ai-nu-ints*, which Powell defined as "People who live by farming" and also glossed as "Santa Clara Indians" (Fowler and Fowler 1971a:156). This may be the same term as Hamblin's Yanawant. In another report by Powell, *U-ai-Nu-ints* are identified as the people "who live in the vicinity of St. George" (Powell and Ingalls 1874:47,51). In another manuscript, Powell renders the same word as "*U-en-u-wunts*, The name of the Santa Clara Indians" (Fowler and Fowler 1971: 161). Elsewhere Powell renders the term as *Yen-u-unts*, meaning "Farmers, those who cultivate the soil" and also as *Yum-a-wints* and *Y-ai-nu-intz*, "People who cultivate soil; farmers" (Fowler and Fowler 1971: 144).

William Palmer, based on late 1880s interviews, gave the term *U-an-no* or *U-un-o* as referring to the St. George area, and also to the larger region of "Dixie"; he recorded that the meaning of *U-un-o* was "good garden place or good fields" (Palmer 1928a: 24). Palmer also rendered the word as *Uaino* and *Uano* (Palmer 1928b: 50). Adding the suffix *its* or *ints*, to refer to the people of a place (1928b: 40), Palmer gave the variant spellings of *Uain-uints*, *Uano-ints*, *Uano-its* (Palmer 1928b: 50), and again *U-an-nu-ince* and *U-ano-intz* (Palmer 1933:95) as the term used for people who farm and for aboriginal people of the Santa Clara River. In one article Palmer noted that these numerous variants of *U-an-nu-ince* refer to the economic activity of farming rather than to a specific group of people:

The word "u-an-o" means farmers. The Indians who lived at Washington, St. George and Santa Clara were farmers and they knew something of the practice of irrigation. They cultivated corn, beans and sunflowers for their seed, and other plants used for food and for fibre. For this reason the comparatively small area of Utah's Dixie in which farming was done was called "U-an-o," and the farmers were "U-an-nu-ince" or "U-ano-its." The name has no clan or tribal significance but rather vocational (Palmer 1933: 95).

The Indian words which Euro-Americans have adopted to label a geographically localized group of Indian people often did not traditionally have such a localized point of reference. Yanawant certainly referred to the people of the Santa Clara River, since they cultivated crops, but it is probable that Euro-American usage gave the term a more localized reference than the term originally had. When the broader meaning of Yanawant, that is "people who farm," is considered and when this is tied to the regional leader who defines himself as the head of the Yanawant, a

more likely meaning is a reference to all the people within his territory who farm. Since all Southern Paiutes farmed, it is likely that Yanawant served as a term to discriminate between Southern Paiutes and their close neighbors whether they were Utes or Shoshone, who did not farm. So the term was one of inclusion—i.e. all Southern Paiutes under the socio-political control of the subtribe leader and exclusion—i.e. other Indian people who did not farm. Similar observations appear to have been true for the term Paranayi. Given the likelihood that such terms referred to socially complex socio-political groupings, one might think of the Paranayi subtribe as referring to the organization of the Nevada-California Southern Paiutes and the Yanawant subtribe as the organization of Utah-Arizona Southern Paiutes.

5.2.3 Districts

Traditionally there were about a dozen smaller regional units referred to as *districts*, a term adapted from Julian Steward's *Basin-Political Aboriginal Sociopolitical Groups* (Steward 1938:93) and used by Kelly (1934:560). Each district was a sphere of influence with a geographic territory shaped in part by natural features—chiefly watercourses and watersheds—and in part by the existence of neighboring groups who out of necessity reached political agreements about the extent of their respective spheres of influence and resource harvesting territories.

Each Southern Paiute district encompassed a territory that contained all or nearly all of the resources necessary for the survival of its population. To provide a full complement of resources, each district needed to include, and did include, both (1) oasis areas with either riverine or spring-fed sources of water sufficient for irrigation farming, and (2) upland forests and lowland desert areas with a full range of needed wild resources, including game animals, pinyon nuts, and wild seed grains. Each district, then, included permanent settlements near irrigated fields in oasis areas, and outlying upland and lowland territories used for intermittent and seasonal harvesting of wild plant and animal resources from temporary camps. Often small permanent habitations were maintained in the uplands or lowlands near springs. These hinterland settlements were established in order to safeguard Southern Paiute claims to those areas and the crucial resources they contained.

5.2.4 Kelly's Ethnographic Perspective on Districts

The first scientific analysis of Southern Paiute districts was conducted by Kelly (1934) based on her 1932-33 field interviews. Kelly produced and published a map that has for more than fifty years been used to define aboriginal Southern Paiute district territory (Kelly 1934). Recently updated and reprinted with the help of Fowler (Kelly and Fowler 1986:369), the Kelly/Fowler map continues to have the 1934-district boundaries but adds a new district called the *Antarianunts*.

Kelly's district boundaries must be considered in light of more recent research and the internal inconsistencies between her published map and her own descriptive text (Halmo, Stoffle, and Evans 1993). Any errors or omissions in district boundaries would be of little more than scientific interest were it not that Federal agencies (including the National Park Service) assume for purposes of official government-to-government consultation that the aboriginal boundaries are accurate, and thus somehow the Kelly-Fowler map (Figure 5.3) reflect the aboriginal socio-political units that are reflected in contemporary tribal governments.

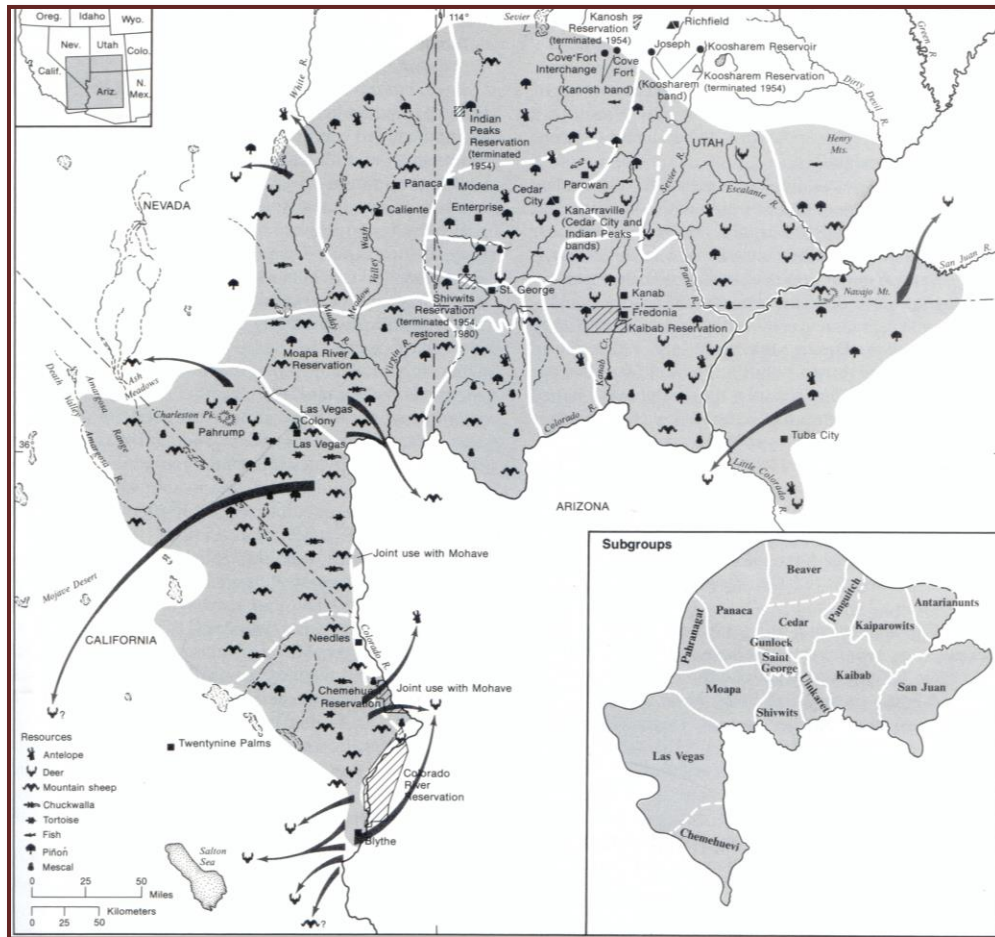


Figure 5.3 Kelly's Map

Kelly and Fowler (1986:368) say that of the sixteen Southern Paiute groups identified in their chapter, all but two were self-sufficient economically. The exceptions are the Gunlock and Saint George groups, which "had to go outside their own areas for certain staples" (Kelly and Fowler 1986: 368). The fact that the Gunlock and the Saint George areas were not sufficiently extensive and ecologically diverse to provide all the resources needed for a semi-autonomous district indicates that these were not separate districts. Instead they were components of a larger district that included the necessary upland resources, which were located on the Shivwits and

Uinkaret uplands. The data suggest that the Gunlock and Saint George groups represent post-contact development of localized labor gangs and that traditionally the Gunlock and Saint George areas were part of a single larger group or district that included the Shivwits Plateau and the Uinkaret area.

It was in the core oasis area (or areas) of the district that the population of a district had the most highly developed sense of territoriality and proprietorship. Core oasis areas and central places of the districts are readily identified. Outer boundaries of districts cannot be as precisely delineated, for at least two reasons. First, those areas were not as sharply delineated by Native American people as were the core oases areas where the most valuable resources were concentrated. Secondly and not surprisingly, there is much more written documentation for the central oasis areas where Euro-American settlement was concentrated than for outlying upland and desert areas.

Each district had its own political leadership. In the case of the Shivwits/Santa Clara Southern Paiutes, this included a principal leader (principal chief or head chief) for the entire district, and lesser leaders (or subchiefs) from the various local groups or bands comprising the district. There was apparently a similar pattern of leadership in the other districts as well.

5.3 Ecosystem Analysis of the Yanawant Districts

This portion of the essay is focused on the Yanawant Subtribe of the Southern Paiute Nation (Figure 5.4) within the context of contemporary understandings about ecosystems and their relationships with aboriginal socio-political structures. In this analysis it is necessary to briefly discuss the Shivwits/Santa Clara district people who were located in the Virgin River ecosystem, the Kaibab district people who were located in the Kanab Creek ecosystem, and the San Juan district people who were located on the east side of the Colorado River and formed the Southern Paiute border with the Hopi territory and Navajo territory. In addition, it is important to explore an ecosystem hypothesis that leads to the possibility that the Uinkaret people were actually connected with another local group living on the Virgin River and together they formed a "missing" Paiute district called the Unikaret/Uyu'nait. Sometimes they are referred to as *Ua'ayukunants*, *I-oo-goonits*, or *Ua'ayukunants* district.

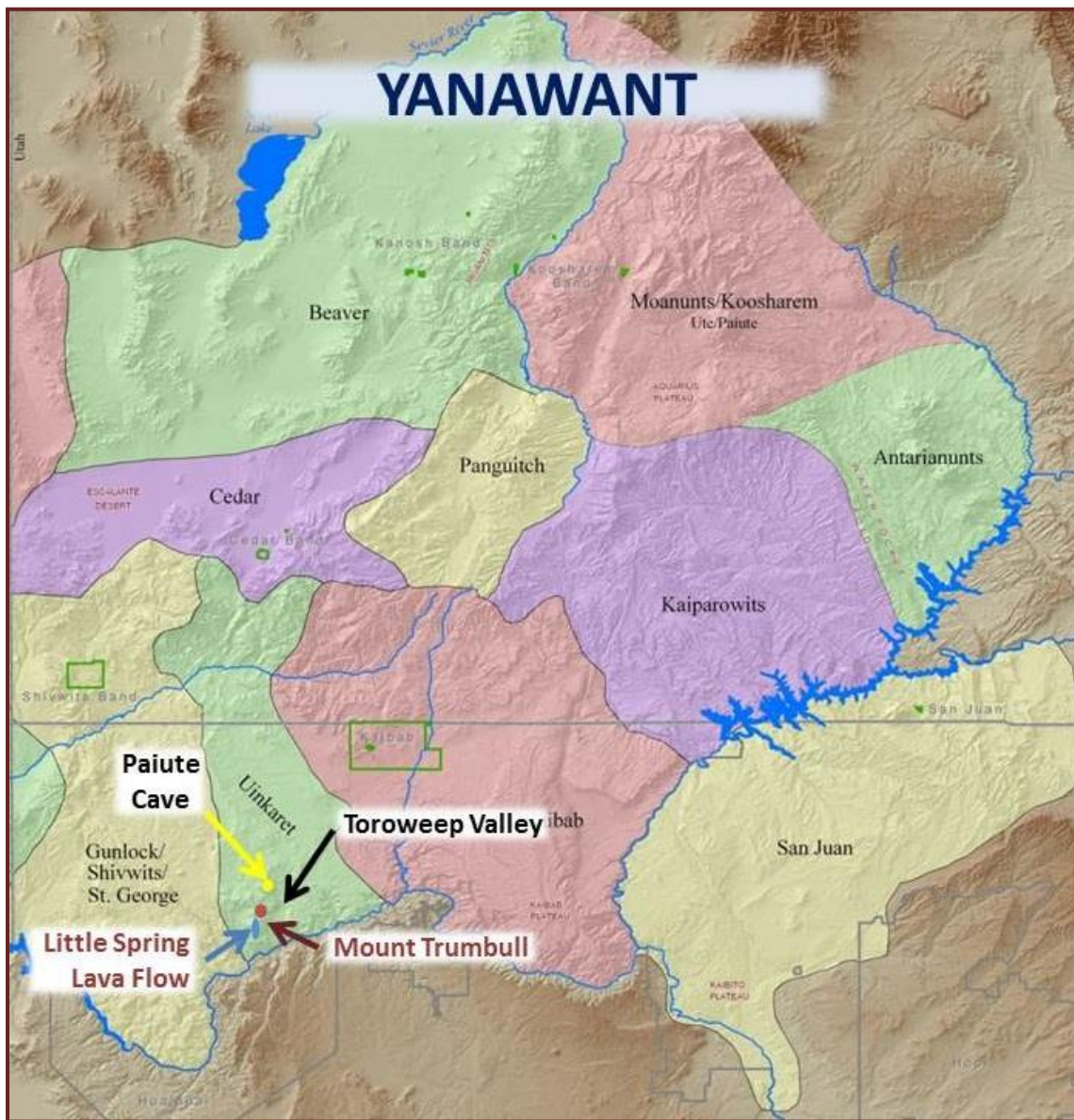


Figure 5.4 Yanawant with Places Connected to the Little Springs Lava Flow Highlighted

5.3.1 Social and Ecological Logic of Districts

Anthropologist A. L. Kroeber generalized that an Indian tribe inhabiting a river valley typically exploits upland resources on both sides of the stream (Kroeber 1974: 31-33). This assumption was based on his study of the Mojave Indians who inhabited Mojave Valley and Cottonwood Island Valley which were the first large valleys on the lower Colorado River with cultivable floodplains south of the Virgin-Colorado confluence. The data suggest that this economic and ecological model can be transferred upstream to the Southern Paiutes.

Julian Steward, one of the founders of culture ecological theory in anthropology, observed that Western Shoshones and Southern Paiute people had socio-political organizations larger than the local group. At the time, however, Steward was developing an ecological theory of social evolution that was founded on the assumption that some people who reside in extremely harsh environments, like that of the Great Basin, had social organizations no more complex than families. Although this theory has largely been disputed, its development probably prevented Steward from refining a more complex model of social-environmental interactions in the Great Basin.

Steward's more authoritative essay on the concept of the district reflects a confusion among ethnographers in the 1930s. Anthropologists attempted to resolve observations made long before by earlier Indian observer like the non-anthropologically trained J. W. Powell and G. W. Ingalls from the 1870s and the lay observer William R. Palmer (1933), President of the Parowan Stake of the Mormons, who interviewed in the 1880s. Steward questioned Kelly's (1934) 15 Southern Paiute districts and contrasted them with Powell and Ingalls' (1874) 31 Southern Paiute groups. Steward concluded that the 31 units were more likely inasmuch as "band members must habitually have cooperated in a sufficient number of economic and social activities under a central control to have acquired a sense of community of interest" (Steward 1938: 181). This conclusion derives from Steward's assumption that there were very few Southern Paiutes - less than 1 Paiute for every 28.5 square miles between 1870 and 1880 - thus, one of the lowest population densities within the Great Basin (Steward 1938: 47). When there are so few people per square mile, "It is difficult to understand how people who were scattered over such vast territories and often separated by wide, waterless deserts could, when traveling on foot, habitually have joined forces in any important communal undertaking" (Steward 1938: 181). Here we have a critical point; this is where Steward was incorrect because he based his conclusion on incomplete data. He incorrectly assumed (1) that the land was arid, when in fact the environment of the Southern Paiutes contained extensive riverine oases and (2) that the 1870 Southern Paiute population reflected an aboriginal condition, when in fact the population had drastically declined by 1857.

People who wanted to reconstruct Southern Paiute social organization did so with theories that made sense at the time and with whatever data were available. However, we can continue to consider these issues in light of new population and document evidence. Today, it seems that there was a social-ecological logic to the aboriginal structure of Southern Paiute districts. Each district needed a *core area* in a riverine oasis or major artesian spring system where there were permanent farms and villages. In most cases, core area farming involved extensive systems of irrigation. Functionally offsetting the agricultural core of a district was its *hinterlands*. The hinterland gave the district the ecological diversity needed for the *transhumant adaptive strategy* (Stoffle and Evans 1976) component of the overall strategy of ecosystem utilization. Hinterlands were at different elevations than the oasis core. Higher elevations produced a diverse assortment of animals like deer and mountain sheep, while lower hinterland elevations provided chuckwalla and antelope. Plants are an especially important component of the hinterland because not only do higher and lower elevations produce different types of plants, the same plants growing at different

elevations can be harvested at different times of the year. Hinterlands provided a variety of natural resources like salt, paint, and tool-making quarries. Power spots, caves, and various types of ceremonial areas tended to be found away from the core area in the hinterland.

When the Southern Paiute district is viewed as an ecological whole, there is a social-ecological logic behind the selection of core areas and hinterlands. When this logic is applied to the Yanawant subtribe, it and its components begin to make sense in new ways. When this logic is applied to Kelly's 15 districts some make sense, others need recombining, and at least one seems to be missing.

5.3.2 Shivwits and Santa Clara District

Kroeber's model suggests that Southern Paiutes, who farmed in the riverine core along the Santa Clara River (called *Tonaquint* in Paiute) and middle Virgin River, would have harvested wild resources in hinterlands to the south (including the Shivwits Plateau), as well as to the north (including the watersheds feeding the tributaries of the upper Santa Clara River). Thus, combining the Shivwits and Santa Clara districts seems essential.

Other data suggests that three of the groups defined by Kelly and Fowler (the Gunlock group, St. George group, and Shivwits group) in fact comprised a single group or district. In the decades after contact, the massive impact of Mormon colonization resulted in the gradual breakdown of regional political organization, the emergence of labor camps associated with Euro-American towns (Gunlock, St. George), and the relocation of much of the population into regions of refuge in the uplands (Shivwits Plateau).

The geographic boundaries of this new Shivwits/Santa Clara district would have been the Santa Clara River, the upper Santa Clara watershed to the divide with the Colorado Plateau and the Great Basin, the lower-middle portion of the Virgin River from the confluence with the Santa Clara until the confluence with Beaver Dam Wash, and the arid uplands of the Shivwits Plateau stretching south from the Santa Clara to the Colorado River and roughly from present Lake Mead in the west to the eastern edge of the Uinkaret plateau. Within this ecoscape, Paiute people moved freely back and forth between the oasis farmlands and the upland areas used primarily for wild-resource harvesting. The data indicates that the Santa Clara was the horticultural center and the population center of a district whose upland territories included the Shivwits Plateau in the south and upper watershed of the Santa Clara in the north (including the Pine Valley and the Bull Valley Mountains).

The Shivwits/Santa Clara people rebelled against Mormon domination but were forced to take refuge south of the Colorado River among the Northeastern Pai groups. About two dozen Shivwits warriors fought beside the Pai in the Hualapai war of 1866-1869 (Dobyns and Euler 1970: 38; Dobyns and Euler 1971:18). Later these Shivwits/Santa Clara people returned to the north side of the Colorado River, but they remained culturally conservative in what might be called a *region of refuge* (Aguirre Beltran 1979) on the Shivwits Plateau. There they managed to make a

meager living farming around springs, hunting and collecting in the upland portion of their traditional territory until this portion of their land also was acquired by a Mormon cattleman. The cattleman had sufficient political power to obtain Federal appropriations to purchase land on the upper portion of the Santa Clara River to relocate the refugee Shivwits/Santa Clara people. There their children attended an English language school and were exposed to numerous Euro-American influences, including more lethal germs. Close to St. George, the Shivwits reservation became a wage workers' bedroom community, although the people farmed all the lands they could reach with their irrigation water allocation from the Santa Clara River. The Shivwits reservation attracted many Paiute people and became the home of famous Paiute leaders such as Uncle Sam (pronounced Sham), after whom the reservation is nicknamed, and Tony Tillahash (who was born at Kaibab).

Today, the Shivwits/Santa Clara people are administratively united with four other Southern Paiute bands into the Paiute Indian Tribe of Utah (PITU). PITU was created by a 1980 Act of Congress, which accorded re-recognition to diverse small enclaves whose trust relationship with the Federal government had been terminated in 1954. The 1980 Act defines five local groups as members: (1) Koosharem, (2) Kanosh, (3) Indian Peak, (4) Cedar City, and (5) Shivwits. The five local components of PITU elect delegates to a council and a chairman. These representatives speak for all five groups and are the point of consultation between any project and one of the five groups.

5.3.3 Kaibab Paiute District

The Kaibab Paiute people irrigated gardens of maize, beans, and squash near permanent water sources as well as gathered natural plants and hunting or collecting all the fauna available in their ecologically diverse territory. They had gardens along the Colorado River at 2,300 feet, roasted agave (*yaant*) along the upper edges of the canyon, hunted deer (*Tuhi*) in the mountains of the Kaibab Plateau at 9,000 feet, and gathered hundreds of acres of sunflowers (*akump*) and Indian rice grass (*wa'iv*) in the sandy foothills below the Vermillion Cliffs. They utilized all of the ecological zones within their territory.

Kelly's Paiute interviewees identified the approximate location of the aboriginal boundary of the Kaibab district. The southern boundary of the district was certainly the Colorado River, probably extending downstream (south and west) from the Paria River to just west of Kanab Creek. Kelly's interviewees placed the northern boundary along the Pink Cliffs near the Paunsaugunt Plateau at the divide between the northern Colorado Plateau and the Great Basin. The western boundary, which incorporated both branches of the upper Virgin River, was marked with a dotted line indicating it was doubtful. Here, in this western-most portion of the Kaibab district lies a discussion about a missing Paiute district with a core oasis on the upper Virgin River (see Unikaret/Uyu'nait's district discussion below).

The people of the Kaibab district lost access to these many portions of this ecological zone because of various types of intrusions, beginning in the early 1860s. Euler (1972), Stoffle and

Evans (1976), and Turner (1985) provide detailed accounts of social, cultural, and ecological impacts of planned Mormon settlements, unregulated mining, and tens of thousands of cattle, sheep, and horses. Despite these intrusions and facing the loss of all but a fraction of their original population, the Kaibab Paiute people continued to reject Federal efforts to move them to distant reservations in Utah and Nevada. A portion of the water from one of their larger artesian springs was reserved for them by the Mormon Church in 1907. The Federal government also reserved for them a 12-by-18-mile portion of land near the spring. Yet, it was not until the U. S. Land Claims payment occurred in the early 1970s that sufficient resources were available to the Kaibab Paiute tribe to begin to build the economic and service infrastructure needed to provide jobs and housing for most of the tribal members. Today, the tribe has a viable and mixed economy, sufficient housing for all tribal members, and a strong concern for preserving cultural resources that are located within traditional Southern Paiute territory.

5.3.4 San Juan Paiute District

The San Juan Southern Paiute district constitutes the eastern-most territorial unit of the Southern Paiute ethnic group. Like all Southern Paiutes, the San Juan share an affiliation with the ethnic self-term *nungwɨ* or *nungwuts*, which translates into English as "The People" (Stoffle and Dobyns 1983a:165; Franklin and Bunte 1993: 4). *Payuts* or *Payuts(i)* (Franklin and Bunte 1993: 4; Bunte and Franklin 1987 :41) is the Southern Numic term for Paiute, and variants of this second ethnic-self term are also used by Paiute people (Franklin and Bunte 1993:4).

San Juan Paiute people occupied, and continue to reside in, their portion of traditional Southern Paiute ethnic territory. The San Juan Paiute local territory extended roughly from the Colorado River in the west to Monument Valley and Kayenta in the east, and from the San Juan river in the north to the Moenkopi Plateau in the south (Kelly 1964: 167; Stewart 1942: 233). Like citizens of a state incorporated into a nation, the San Juan people were not limited in movement or resource use to their local territory. In fact, the strength of the Southern Paiute Nation derived from the control and redistribution through exchange of resources grown, gathered, and stored in extremely different ecological zones. So, the San Juan Paiutes went beyond their local territory to harvest wild game and plant resources in places like House Rock Valley west of the Colorado River and the San Francisco Peaks to the south. These trips were carried out under reciprocal use agreements with other Southern Paiute territorial units and other American Indian ethnic groups. These reciprocal use agreements were negotiated and cemented through a number of sacred and secular ceremonies such as round dance ceremonies (Bunte and Franklin 1987: 19).

Today, these people are organized and Federally recognized as the San Juan Southern Paiute tribe, which has its headquarters in Tuba City, Arizona. As an officially recognized tribe - now four years old - they have participated in a variety of cultural resource studies, some of which have been sponsored by the National Park Service. Like other Southern Paiute groups, their official tribal cultural concerns generally reflect their aboriginal district boundaries.

5.3.5 Unikaret/Uyu'nait District

Current data and the social and ecological logic of Paiute districts suggest that there was once a Paiute district on the upper Virgin River, beginning at Hurricane Cliffs and extending to the upper watershed where both branches of the Virgin River begin. The oasis core for this district was at or near the junction of the north fork and east fork of the Virgin River. This is an area that still has evidence of irrigated farming by Indian people so it could have supported a series of oasis core villages. The name for the people of this area is Unikaret/Uyu'nait as defined in Chapter One but it was spelled by Palmer (1978: 29-39) as *Ioogoone* and Presnall (1936: 5) as *I-oo-goo-nitsn*. The name literally refers to a "sandstone quiver," and according to Tony Tillahash, this refers to a "...nearly complete circle of white cliffs seen from Grafton, Utah which looks like a sack or arrow quiver" (Presnall 1936: 4-5). While this name could have referred to a local group within the Kaibab district, it would be a unique situation for a local group to control a larger and more regular water source than that controlled by the core oasis group - the Kaibab Paiutes. Instead of the *Ua'ayukunants* being a marginal group within the Kaibab district, evidence suggests they were the core oasis for their own district.

Further evidence for the existence of a "missing" district in the upper Virgin River portion of the Kelly and Kelly/Fowler maps is the unusual characteristics of the Unikaret/Uyu'nait district. These people have been considered as different from the Kaibab Paiutes and the Shivwits/Santa Clara people since Powell began interviews in the area in the 1870s. In the 1930s, Kelly's interviewees maintained that the Unikaret/Uyu'nait people had their own territory or district. When Kelly and Fowler reconsidered the Southern Paiute district boundaries in the 1980s, they found no evidence that would downgrade the Unikaret/Uyu'nait district to a region of another district. So the question is not whether the Unikaret/Uyu'nait held district lands, it seems to be whether their lands were connected with some other lands which formed a larger and more socially and ecologically logical district.

The main social and ecological logic behind connecting the Unikaret/Uyu'nait district with lands somewhere else is that, as currently defined by Kelly/Fowler, it lacks an oasis core. The Unikaret/Uyu'nait district had access to Colorado River waters but at a section of the river where agriculture would have been difficult at best. There are some small springs in Unikaret/Uyu'nait land but they are few and high in elevation. The natural argument is that the Unikaret/Uyu'nait oasis core lies along the upper Virgin River. In fact, Kelly's own map brings the Unikaret/Uyu'nait district boundary to just below the Virgin River, and at this point she drew a dashed boundary line indicating uncertainty.

If the agricultural core of the Unikaret/Uyu'nait was located at the confluence of the two branches of the Virgin River, they were the external boundaries. The northern and southern boundaries are rather easy to establish. The Colorado River clearly established the southern boundary of this district, and we believe the northern boundary was the divide between the northern Colorado Plateau and the Great Basin. All other districts in Yanawant extend from north to south and stopped at the watershed between the northern Colorado Plateau and the Great Basin.

In fact, even Kelly's district map for the Kaibab Paiutes marks this watershed boundary as a solid line, indicating her interviewees' confidence in it as a boundary.

A more basic question is where was the eastern boundary of the *Ua'ayukunants* district? Does the eastern boundary include the upland forest lands of the upper Virgin River or should these resources remain within the Kaibab district as Kelly concluded? By the early 1900s there was a group of Paiute living with the Kaibab called the red-cliff-base-people (*Un-ka-ka-ni-guts*). This group once lived in Long Valley in the headwaters of the East Branch Virgin River (Kelly 1934: 558, citing Sapir's unpublished notes). The people from this band were probably forced to move to Kaibab because:

In the late spring of 1871, 200 former Muddy River colonists united with other Mormon settlers and proceeded 300-strong to Long Valley. Advanced exploring parties had found 1,300 acres of tillable land and extensive ranges suitable for grazing (Arrington 1954: 8). Their arrival resulted in land loss and population displacement (Stoffle and Evans 1978: 11).

Powell and Ingalls (1874: 42) estimated that 125 Paiutes resided in Long Valley in 1871, just before the Mormon immigrants arrived. By 1873, only 36 Paiutes remained in Long Valley. About two-thirds of the population was displaced to live with the Kaibab Paiutes. By receiving refugees from other areas/districts, the Kaibab Paiute became responsible to speak for the protection of these areas. Such admission of acquired territorial responsibility, however, did not necessarily imply that the red-cliff-base-people traditionally belonged within the district of the Kaibab Paiutes. Using the social and ecological logic presented in this report, aboriginally the upper watersheds of the Virgin River were within the territorial control of the Unikaret/Uyu'nait and the *Un-ka-ka-ni-guts* were a local band within that district.

The western boundary of the Unikaret/Uyu'nait district is shared with the Shivwits/Santa Clara district boundary. Much of this boundary has been "established" as the Hurricane Cliffs extending from the Colorado River and ending just before the Virgin River. The Hurricane Cliffs have a strong boundary logic that derives from being a 400 to 600 foot volcanic cliff, which is oriented north-to-south and extends for a distance of almost 200 miles. For these reasons, among others discussed previously, we suggest that the entire western boundary of the Unikaret/Uyu'nait district is defined by the Hurricane Cliffs.

The question remains – why did the Unikaret/Uyu'nait district go unrecognized by previous students of Paiute culture? There are probably four reasons for this. First, living in a riverine oasis, the people of the upper Virgin River must have experienced devastating impacts from diseases; perhaps they were impacted by the smallpox epidemic that hit on the Santa Clara River in 1826 and likely they were hit by the 1840 disease episodes. During previous projects, Southern Paiute elders talked about massive deaths among the people of the upper Virgin River. Second, it was one of the earliest places of Euro-American settlement, beginning here in 1859, and there simply were not enough Indian people living in the core oasis to defend it from

encroachment. The *Un-ka-ka-ni-guts* (red-cliff-base-people) were the last band to be forced out of the upper Virgin River in 1871. Third, when Unikaret/Uyu'nait people were interviewed in the 1870s, they still defined the southern forest uplands of the Colorado Plateau as their own; only they used the upland term *Unikaret* for themselves and the remnants of their district. Fourth, when the Unikaret/Uyu'nait district was encroached upon by loggers in the 1880s and cattlemen in the 1890s, the last Unikaret/Uyu'nait people left the Unikaret/Uyu'nait district. According to Paiute elder interviews, some Unikaret/Uyu'nait people went to live with Shivwits/Santa Clara relatives and others went to live with the Kaibab Paiutes. Therefore, when Kelly interviewed at Kaibab in the 1930s, she talked with people who only remembered that their families lived in the Unikaret/Uyu'nait uplands of this district.

5.4 Summary

The Southern Paiute people continue to maintain a strong attachment to the holy lands of their ethnic group, as well as to their own local territory, even though Paiute sovereignty has been lost over portions of these lands due to Navajo ethnic group expansion, encroachment by Euro-Americans, and Federal government legislation. Despite the loss of Paiute sovereignty over most traditional lands, Southern Paiute people continue to affiliate themselves with these places as symbols of their common ethnic identity. Additionally, all Southern Paiute people continue to perform traditional ceremonies along with the menarche and first childbirth rites of passage rituals. The locations at which these ceremonies and rituals were or are performed become transformed from secular "sites" to highly sacred locations or places. By virtue of the transformation of locations into sacred places, Southern Paiute people reaffirm their ties to traditional lands because they have carried out their sacred responsibilities as given to them by the Creator. Southern Paiutes can be characterized as a "persistent people" (Spicer 1971) with a persistent cultural system (Bunte and Franklin 1987; Stoffle and Dobyns 1983; Stoffle and Evans 1976; Stoffle et al. 1982; Turner 1985).

CHAPTER SIX

VOLCANO QUALI-SIGNS

CULTURAL CENTRALITY OF SELF-VOICED PLACES

The purpose of this chapter is to situate the importance of volcanoes to the Numic speaking people. This discussion is based on three decades of research and interviews with Paiute and Shoshone peoples. Their interpretations of places and objects on, around, and along the way to volcanoes are better understood by comparing them with other Indian peoples from the western United States and peoples of different cultures from around the world. In all of these instances we find that volcanoes have special meanings to the people who interact with them. The essay also suggests some theoretical approaches for understanding volcanoes, features of volcanoes, and objects used in volcano ceremonies.

6.1 Trait Lists and Culture Cores

Cultural centrality is an important concept in anthropology because it points to those traits that serve to integrate the culture as a whole. The need for the cultural centrality concept was produced in part by Alfred Kroeber, and earlier anthropologists like Franz Boaz, who sought to record all aspects of culture on the assumption that they were either going extinct or rapidly being modified. Trait lists were developed to guide independent scholars so they would ask all the right questions so that most aspects of culture would be recorded. In 1935, Kroeber first sent Julian Steward (1941), then Omer Stewart (1942), and Isabel Kelly (1964) into the Great Basin to fill out trait lists for various Numic peoples. After a few decades of trait list studies (Drucker 1941, Gifford 1940), George Murdock formalized the trait list approach with a protocol for the comparative study of all cultures in the world (Murdock et al. 1950). His extensive trait list approach involved asking trait questions (more than 4,400 for a typical culture) which would produce systematic but raw data to be coded into the Human Relations Area Files housed at Yale University. The trait list approach was designed so that ethnographers working in different cultures would collect similar trait information that could, in turn, serve as the foundation of comparative cultural studies called Ethnology (see the journals *Ethnology* and *American Ethnologist*).

The trait list approach did facilitate comparative studies (Driver 1961), but for many scholars it simply produced an overwhelming amount of detail about a culture. In order to sort through (find significant patterns) in this morass of detail, anthropologists identified kinds of cultural traits as being most important for understanding the *core* of a culture. Various approaches for finding this cultural core were developed. Traits were viewed as having different levels of centrality for the integration of a culture. Linton (1936: 272-273), for example, talked about kinds of traits ranging from universals, to specialties, and to alternatives. While the latter two types of traits are important to some aspects of a culture, universals are common to all sane, adult members of a society (Linton 1936: 272) and thus tend to constitute the cultural core.

Scholars have identified many dimensions of cultural cores and often use different concepts to discuss what they find. Eric Wolf (1958: 34), for example, said occasionally we encounter a symbol which seems to enshrine the major hopes and aspirations of an entire society. Such a master symbol is represented by the Virgin of Guadalupe, Mexico's patron saint. Prem Chowdhry (1993: 91) said that in north eastern India Islamic women persist in wearing the *ghunghat* (covered head cloth with only eyes showing) because this practice is central to maintaining what is perceived as their 'dehati (rural) culture'. Vine Deloria (1999:203-217) said Indian religion depends on places such as Buffalo Gap at the edge of the Black Hills which is annually visited by religious leaders and mountains (like Devils Tower and Thunder Butte) which have overwhelming Holiness where Higher Powers have revealed themselves. Such places are essential for continued cultural practices and acquiring religious knowledge. In a powerful analysis, Trosset and Caulkins (2002) re-investigate their own separate participant observer analyses of Welsh culture by systematically re-interviewing Welsh people using formal instruments. Their statistical analysis supported original findings that five cultural values constitute the core of Welsh culture. Cultural cores, thus, can be founded on symbols, women's clothing, spiritual places, and agreed upon values.

While the trait list approach assured the production of detailed descriptions of cultures, the cultural centrality approach encouraged a theoretical focus on what is the most important center of a culture. Volcanoes are such a center. Studies of how humans socially construct and interact with volcanoes argue that often these become integrated into their lives and cultures. More than just a big and often threatening nearby mountain, volcanoes are viewed as spiritual beings that were placed by the Creator in the homelands of humans to protect them, supply them with knowledge and resources, and guide them along a path of behaviors that assure a proper and sustainable way of life will occur.

Culturally central dimensions of the land such as volcanoes normally become a part of the identity of a people. Life cycle ceremonies are conducted on or within view of the volcano. Ceremonies of birth, passages to adulthood, and marriage, signal both the passage of time and a culturally prescribed role for the volcano in authorizing these. Religious leaders pass through initiation stages on volcanoes, which often provide visions, songs, and even physical objects such as obsidian, paint, crystals, and turquoise. The pilgrimage paths to volcanoes are repeatedly traversed. Offerings mark key places along the trail, thus building a permanent record of devotional behavior. But what is it about volcanoes that elicit similar responses from humans?

An interpretative approach now being used by both archaeologists and ethnographers is guided by the notion that landscapes and objects communicate how they are intended to be used to people. While traditional people may perceive the land and objects as actually speaking, the process of finding a purpose seems only to require a reading of the inherent qualities observable in land or objects. The distinguished English archaeologist Christopher Tilley (2004) talks about the materiality of stone and what he calls landscape phenomenology. Tilley maintains (Tilley 2004: 35) that the gigantic upright stones (called *menhirs*), placed 5,000 year ago in western Brittany (now France), were selected because of their colors, the constituent elements of the rock, the personal and intimate experience of touching their surfaces, and the aural experience of the sounds emitted when struck or the echo generated from people chanting or drumming in their

vicinity. Canadian ethnographers, Paul Manning and Anne Meneley (2008), prepared a special issue of the journal *Ethnos* on the relationship between material objects and cosmological worlds. Their analysis is framed by a theory (earlier developed by Keane 2003) that objects (olive oil, dates, and places for mountain shrines) convey to humans their inherent role in ceremony. Keane (2003: 414) provided an important observation:

Quali-signs must be embodied in something in particular. But as soon as they do, they are actually, and often contingently (rather than by logical necessity), bound up with other qualities—redness in an apple comes along with spherical shape, light weight, and so forth. In practice, there is no way entirely to eliminate that factor of co-presence or what we might call ‘bundling.’

Use of the term *quali-signs* to define these inherent features of objects and places thus implies for this analysis looking for the bundling of quali-signs that will ultimately identify a ritual landscape focused on a volcano.

Culture is key in reading and responding to quali-signs. According to Keane (2004: 418) a chair contains an invitation to sit down, but only to people who sit in chairs. This analysis will not attempt to resolve the issue of why there are similar responses to volcanoes by Indian people in the western United States, much less traditional people worldwide. Instead we simply provide some points of comparisons which may be departures for future analysis. One possible key to understanding similar American Indian responses, however, is the commonly shared epistemological belief that the world is alive – sentient, with agency, and capable of speaking. Whether the inherent ceremonial dimensions (quali-signs) of volcanoes are spoken to traditional people or are simply consistently read by them, volcanoes worldwide are similarly used and incorporated into core human ceremonies.

6.2 Volcanoes Worldwide

Worldwide and throughout time, volcanoes have been culturally special places for humans (Sheets and Grayson 1979; Connolly 1999). While there is no single kind of human response to currently active and past volcanoes, there is a general tendency among traditional peoples who have lived nearby for centuries to believe such areas contain powerful forces and spiritual beings that can serve the betterment of human society at local, regional, and world scales of effect.

Volcanoes with adjacent traditional human societies are found at Vesuvius, in Italy; at Mauna Loa in the Hawaiian Islands (Murton and Shimabukuro 1974); at Mt. Fuji in Japan; in the volcanic islands of the Philippines; throughout the Aleutians Islands (Black 1981; McLeod 2004); on the island of Bali in Indonesia (Lansing 1991); at Kilimanjaro in Tanzania; and near Mount Pelee in Martinique, West Indies (Scarth 2002). The volcanoes on the Big Island in Hawaii are each the focus of religious commemoration practices and shrines (Green and Beckwith 1926; Langlas 1994, Spoon 2007). In Japan, Mt. Fuji has a sacred history that is recounted and responded to in both the Shinto and Buddhist religions (McLeod 2004). In Bali, the Water Temple religion focuses on the volcano and a sacred lake in its active caldera where the prime temple is located (Lansing 1991). On the volcanic island of Camaguin traditional

people, including high chiefs, are buried in urns to be transformed into glowing sulfur in the caldera (Burdett 1927). Traditional Bantu people living near Kilimanjaro used pecked volcanic stones in a ceremony to teach youth secret ceremonies (Fosbrooke and Marealle 1952). Greeks worshiped at the volcanic vents where they established temples including one that housed the Oracle of Delphi (Hale et al. 2003).

A few years ago, Vine Deloria organized a Traditional Knowledge Meeting on volcanoes. Like his previous traditional learning meetings, this one was in a *mind-only* learning style; neither tapes nor written notes were permitted. Attending that meeting were Indian people from Washington State, California, Hawaii, Nevada, and the Southwest representing native Hawaiians, Shoshone-Bannock, Yakama, Owens Valley Paiute, Southern Paiute, Hopi, Nisqually, Winnemem-Wintu, Navajo, and Klamath. These speakers talked about their volcanoes. They talked of volcanoes as living beings who under certain circumstances would share power and knowledge with humans. The volcano is a place where ceremonies of all kinds are appropriately performed. The traditional people near their volcano perceive their welfare and that of the earth as dependent on their continued and appropriate interactions with this living force. At this meeting, through the testimony of these speakers and dozens of invited Indian guests, it became evident that volcanoes are and were culturally central.

6.3 Numic People and Black Mountain, Nevada

To understand Southern Paiute connections to volcanic places and Southern Paiute pilgrimages to these areas, we have included a discussion of a large volcanic mountain located in southern Nevada. This mountain was a regional destination place for both Paiute and Shoshone *Puha'gants* and it is a part of large volcanic landscape, similar to the Little Springs Lava Flow and Volcano.

In southern Nevada an old volcano cone called Black Mountain sits within the distinctive rim of its caldera surrounded by other volcanoes and calderas. Dozens of smaller and distinct volcanic cones dot the immediate landscape. The nearby Timber Mountain caldera has a massive mountain, small cinder cones, and a thick basalt mesa. This caldera was designated a National Natural Landmarks (NPS National Natural Landmark 2008) due to its unique characteristics. The general Black Mountain volcanic area is geologically diverse which probably accounts for it having elicited one of the most complex set of ceremonial relationships with volcanoes in western United States. To date most of the distinctive volcanic cones have been the subject of formal ethnographic studies documenting that all have been used as destinations for vision questing, medicine, quarrying of sacred minerals, and acquiring ceremonial songs and protocols.

On the way to these volcanoes are pilgrimage trails (called *Puha Paths*) along which moved *journeymen* or *Puhahivats* (Van Vlack 2012) from hot springs (and other places of purification) to the destination – the top of a volcano cone. Along these trails are points of prayer and ceremony currently marked by gifts of brightly colored stones, crystals, unusual pottery shards, and shrines made of rock piles. Near some volcanoes are specialized places of ceremony like the tonal rocks on the edge of Water bottle Canyon near Scrugham Peak.

This analysis is focused inside the rim of the Black Mountain Caldera (Figure 6.1), leaving aside for the moment the interpretation of places and artifacts along the Puha Path from the Hot Springs in Oasis Valley near Beatty, Nevada to a ceremonial staging area called Pillar Spring located just outside the caldera. What are the quali-signs that speak to the presence of ceremonial functions on and around Black Mountain? How are these quali-signs bundled? Based on interviews with Indian people, there are at least five quali-signs: (1) the viewscape from the top, (2) cone-caldera symmetry, (3) the relationship to the major regional hydrological system, (4) the presence of high quality colorful quartz deposits, and (5) a small hydrologically dissected canyon of pray basalt. All of these quali-signs are on the Puha Path from where it crosses the lip of the caldera to the top of Black Mountain.

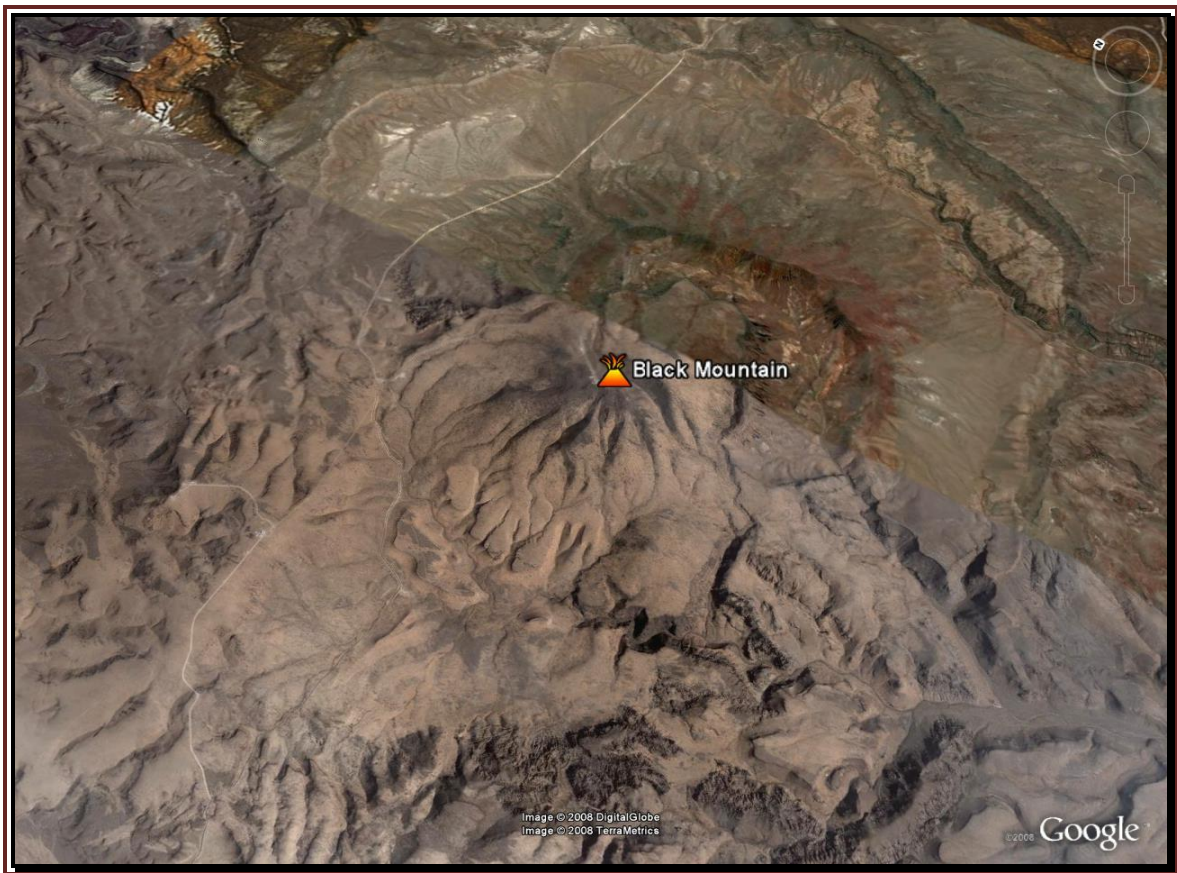


Figure 6.1 Google Earth Image of the Black Mountain Caldera

6.3.1 Viewscape

The panoramic view from the top of Black Mountain (2205 meters) is nothing less than spectacular. To the north and east are *Sky Island* (Sky Island Alliance 2008) mountains (2865 meters) interspersed with wide dry grassland valleys (1665 m) and alkali playas (1538 meters) so typical of the Great Basin. To the west are the snowcapped peaks of the Sierra Nevada, including Mt. Whitney (4421 meters) the highest point in North American. To the south are the Funeral Mountains (2043 meters) which serve as a part of the eastern rim of Death Valley, which in turn contains Bad Water, the lowest point (-86 meters below sea level) in North America.

Immediately surrounding Black Mountain are Timber Mountain, the cinder cone of Scrugham Peak, the wooded Paiute Mesa, and the rugged and arid Thirsty Canyon complex.

The highest points in a landscape are recognized in Indian ethnoecology as being the first places to be in contact with snow and rain. Mountains, which are perceived as powerful living beings, talk with the clouds and encourage them to bring moisture for the land. All high mountains call down moisture, but the highest mountains call down the most thus they have an especially important role in making and sustain ecology.

6.3.2 Cone-Caldera Symmetry

The Black Mountain cone and caldera are close to one another and thus distinct. This contrasts with the nearby calderas which are much wider with less distinct cones and edges. Black Mountain has the look of an Earth Navel. During the studies we characterized it as resembling an Angle-food cake pan having high well delineated caldera walls, a deep collapsed caldera valley, and a tall prominent volcanic cone in the center. The caldera rim is made of crystal rich to quartz trachyte rocks which is more resistant to erosion than the surrounding volcanic ash-flow tuff thus causing the rim to be above the landscape on both the interior and exterior (Slate et al. 1999). In places the trachyte rocks erode into thin slabs which when perched on fist-size stones produce a variety of tones and in some areas are played during ceremony.

6.3.3 Major Hydrological System

Black Mountain is the highest of the local volcanoes, and as such it has the distinction of being the ultimate headwaters of the major hydrological system in the region which produces the Armargosa River. Millions of years ago when Black Mountain was formed its caldera probably held a large lake. Eventually the southern wall of the caldera was broken in two places releasing its waters and beginning the process of eroding two large dendritic canyons, collectively known today as Thirsty Canyon. The breaches in the caldera wall now constitute two dramatic steep-sided canyons. From here water flows toward the Oasis Valley past the hot spring, then along the north side of the Funeral Mountains, south past the town of Shoshone and at Dumont Dunes, after turning quickly to the west to its ultimate home in Death Valley. This 320 kilometer long river runs underground most of the year today, but once it was the major river feeding Lake Manley which filled much of Death Valley. This hydrological complex is the most important one in the region, and given that water like Puha flows down hill, Black Mountain is the ultimate source of regional Puha and water.

The last two quali-signs are on the Puha Path to the top of Black Mountain. Perhaps it is more appropriate to say that the Puha Path's location is influenced by these quali-sign places which together have qualities needed on a pilgrimage. Pilgrims first view Black Mountain when they cross the high and rugged western lip of the caldera. Immediately before them is the wide flat grass covered valley of the inner caldera. When the pilgrims climb down to the foot of the caldera rim, there is an area having small sheltering rocks, soft sand, and hundreds of valued Indian plants. Here pilgrims have remained grinding food and medicine and leaving thousands of offerings. Crystals, obsidian, high quality colorful quartz chips are ceremonially deposited with artifacts of all kinds.

6.3.4 Gray Basalt Canyon

When the time is appropriate the pilgrim travels along a natural wash about a quarter mile to a place where it has eroded into the ground and through a small deposit of extremely high grade pray basalt. In the resulting short canyon with low walls, Indian people have placed hundreds of rock peckings and made about a dozen offering holes. The pray basalt is hard, pure, and smooth as silk to the touch. Where ½ inch round openings occur in the canyon walls they exhibit a single downward streak made from pilgrims putting Ompi (red paint) on a finger and placing it in the opening. One opening has become the eye of a mountain sheep which appears as a large pecking around it. In the canyon bottom at one point, water falls from large boulders into a natural living stone bowl. When water is present in the bowl it perfectly reflects the sky. Indian people visiting the site during these studies cleaned the bowl when recent rains had filled it with gravel. Nearby are rock peckings of water babies and Ocean Woman's net, spiritual beings associated with Puha and water.

The pray basalt canyon is interpreted as probably its own destination along the Puha Path. It would have been used by certain pilgrims (most likely a rain making shaman) who were prepared for the arduous experiences of acquiring a water baby spirit helper to assist them with rain making. The purpose of the canyon for other pilgrims is to experience going into the earth on a trail to the top of the earth. The canyon could also serve to strip pilgrims of any remaining spiritual impurities that could reduce their ability to absorb the Puha of the mountain top. They would, in turn, not wish to bring impurity to the top of the cone.

6.3.5 Quartz Outcrop

The pilgrims continue to the north slope of the volcano cone until just before the top where a large outcrop of high quality and brightly colored quartz is located. It exists as large boulders and living stone deposits. There are signs of quarrying everywhere. One especially large and tall boulder has a deep alcove which is partially filled with offerings of small stones.

The stones are valued as offerings as is evident from their being broken into small pieces and ritually deposited at various locations around the caldera and beyond. The quartz may have been shaped into artifacts used in ceremony. Elsewhere, at a quarry in another ceremonial area, a large and perfectly made stone knife was ritually deposited as an offering to the quarry.

The combination of these volcanic features (their *bundling* to use Keane's term) produces a virtually unique space which speaks (through these quali-signs) to the issue of it becoming the center of ceremonial activities. Here we must think about the quali-signs of these features, the relationship of these features to each other, and how these influenced the sequence of their use. The story of the Puha path itself emerged as a number of sites were identified and questions about their purpose and relationships were asked. As soon as the Puha Path concept emerged Indian people were content with the interpretation and with the idea that it was all laid out in this order at Creation. The plan was easy to read – these places spoke to early Indian people - and have never been modified in the thousands of years that it has been followed.

Ethnographically in terms of place logic and the simple logic of a pilgrimage the Puha Path makes sense. The only water near Black Mountain is at Pillar Spring; the direct route (however difficult) is over the nearby seep portion of the caldera wall. The first place after topping out on the wall is the major offering site directly below. This area contained both a wide variety of plants and soft sand. A small natural wash leads from this site to the pray basalt canyon, and from there the wash continues to the base of Black Mountain. The easiest slope up Black Mountain leads to where the quartz quarry is located. From there it is a short walk to the top of the cone.

Were there alternative Puha Paths to the cone top? Possibly. Were there topographically special places elsewhere on the cone or caldera? Yes. What is the relationship of these places and alternative paths? Unknown. What is reasonably certain is that the primary places and central path from Pillar Springs to the cone crest has been established.

6.4 Discussion

Indian people have shared in ethnographic studies, including those conducted by the authors, their thoughts about the meaning of volcanic eruption events and the physical changes in the earth they create. They have talked about a range of volcanic changes and about the different kinds and concentrations of Puha that exist in each. In total, we have interviewed Indian people at more than fifteen volcanic places (see footnotes). The types of volcanoes and volcanic related elements these people have discussed are as follows:

Volcanoes – Active When Indian People Were Present

Sunset Crater – *corn rocks*, northern AZ¹
Mt. Trumbull – *sherd rocks*, Arizona Strip²

Volcanic Presence in Canyons with Rivers

• Grand Canyon – Colorado River, northern AZ³
• Black Canyon – Colorado River, boundary of AZ-NV⁴
• Black Butte – Pahrnagat River, NV⁵

Volcanic Cones, Tubes, Caves and Mesas

Buckboard Mesa and Scrugham Peak – Nevada Test Site⁶
El Malpais – western New Mexico⁷

¹ The Sunset Crater study involved Southern Paiutes, Hualapai, Havasupai, Yavapai and three other ethnic groups (Toupal and Stoffle 2004).

² The first Mt. Trumbull study involved Southern Paiutes (Stoffle et al. 2005).

³ The Lava Falls area was discussed by Southern Paiutes (Stoffle et al. 1994; Stoffle et al. 2005).

⁴ The Black Canyon of the Colorado River was discussed by Southern Paiutes, Hualapai, and Mohave peoples (Stoffle et al. 1998; Stoffle et al. 2000b).

⁵ The Black Butte of the Pahrnagat River discussed by Southern Paiutes (Stoffle, Toupal, Zedeño 2002).

⁶ The Buckboard Mesa and Scrugham Peak study was with Southern Paiutes, Western Shoshone, and Owens Valley Paiutes (Zedeño et al. 1999).

Shiprock Plug – northwestern New Mexico⁸
Shoshone Mountain – Nevada Test Site⁹
Volcanoes at Petroglyph National Monument – New Mexico¹⁰

*Volcanic Bombs, Minerals and Springs*¹¹

Obsidian
Crystals
Hot Springs

While it is beyond the scope of this chapter to discuss each of these previous volcanic-centered studies, they are the foundation for the following synopsis of the ways these events and objects have become culturally central.

6.4.1 Volcanoes as Earth Birthing Events

At two locations in northern Arizona (Figure 6.2), Little Springs Lava Flow and Sunset Crater, Indian people were present when magma oozed from the earth (Elson et al. 2002; Toupal and Stoffle 2003; Waters 1977). These are among the only known events in this region when Indian people could physically see magma moving from a volcano over long periods (Stoffle et al. 2005). There are other instances, such as near Yucca Mountain in southern Nevada, where a volcanic cinder cone arose quickly during a period when Indian people were living in the area. At the magma flows, however, specially prepared religious leaders had up to a hundred years to interact with the moving and splashing magma (Elson et al. 2002:130) and prepare nearby ceremonial centers (like Wapatki) to house and support visiting religious leaders.

All the tribes attending these active volcanoes had religious specialists who knew about and specialized in interacting with volcanic places. These religious leaders shielded themselves from the bubbling magma by a hornito. On the lip of the hornito wall (1-15 meters in height), they placed corncobs and pots (Holm and Moore 1987:395). As the magma continued to boil, it splashed on the top of the hornito and thus landed on the corn or pot. The spatter formed corn impressions with the aid of the weight of the enlarging hornito. Sometime after these formations had solidified, the religious leaders knocked off the corn rock composites that are alternately called *sherd rocks* and *corn rocks*.

⁷ The El Malpais study involved Zuni, Acoma, Laguna and Navajos (Zedeno, Schrag-James, and Basaldu 2001).

⁸ The Shiprock Plug was discussed by Zuni and Navajo (Stoffle 1975).

⁹ The Shoshone Mountain study was with Southern Paiutes, Western Shoshone, and Owens Valley Paiutes (Stoffle et al. 2001; Stoffle et al. 2006).

¹⁰ The five volcanoes and magma flows were discussed by Zuni, Acoma, Zia, Sandia, Santa Ana (Evans, Stoffle, and Pinel 1993; Evans and Stoffle 1994).

¹¹ These volcanic elements have been interpreted in various projects (Stoffle et al 1984; Stoffle and Arnold 2002)

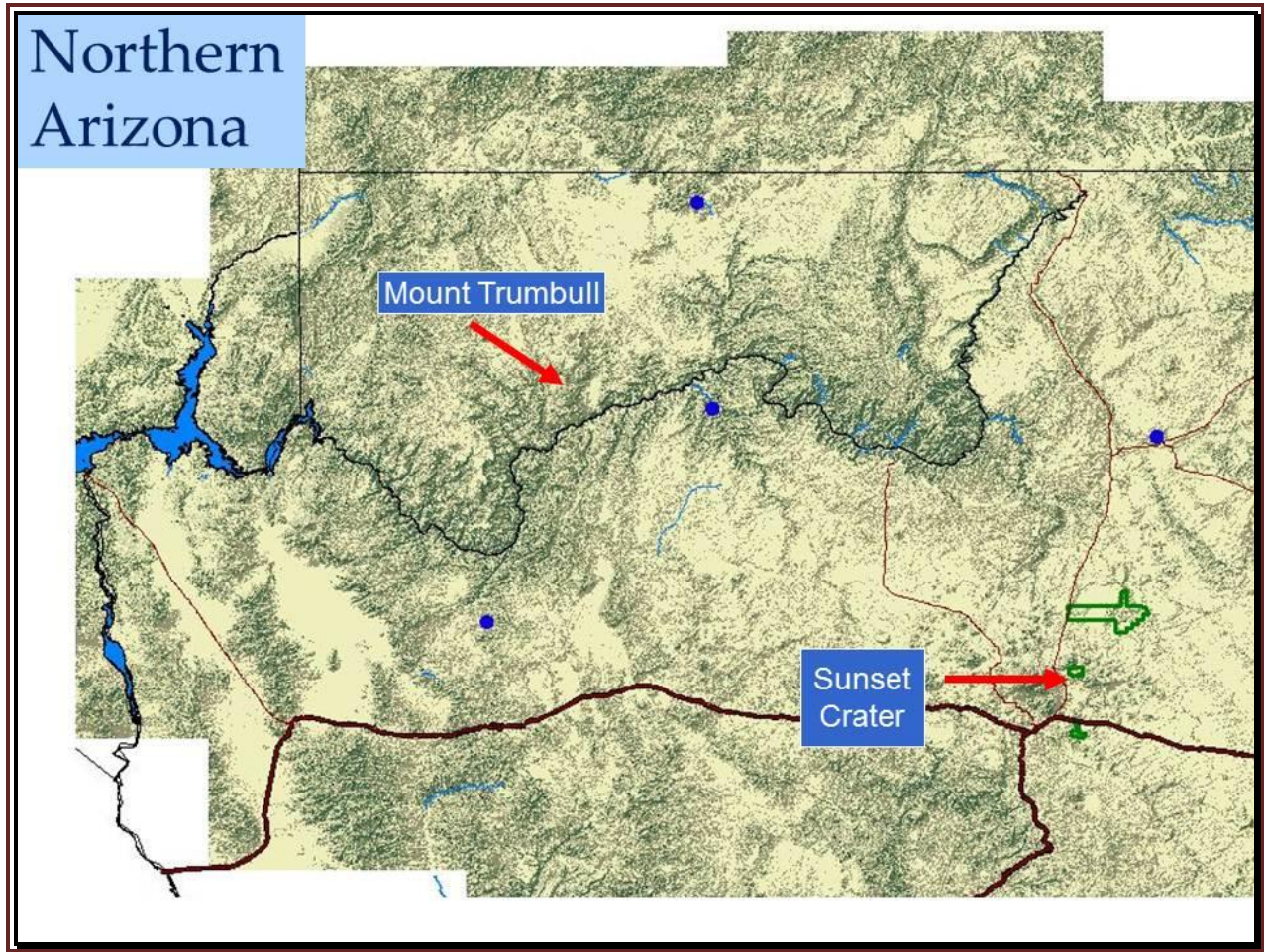


Figure 6.2 Northern Arizona

These imprinted rocks were subsequently placed in nearby stone walled structures, which are currently interpreted as being used for ceremonial activity. It is assumed that the creations as well as the subsequent use of the corn rocks and sherd rocks represent ceremonial activities related to the commemoration of the birth of the earth and power (Puha). It is assumed that the power of the event is captured in the imprinted lava boulder and thus a special connection between lava and humans derives from having either the corn or pots become a part of the boulder.

Volcanoes have meaning to Indian people even after the magma has cooled and the place is no longer obviously geologically active. Ortiz (1969) says that the volcanic mountains are sacred to the pueblo people and each volcano is viewed as having an *earth navel* (Evans, Stoffle, and Pinel 1993: 18). Shrines indicate the places where people can communicate with the spirit world and gather blessings from the spirit world. Many shrines mark where ceremonial resources, like salt and spiritual stones, exist near the volcanoes. Such shrines exist in Petroglyph National Monument (Evans, Stoffle, Pinel 1993: 19) and at the Zuni Salt Lake in New Mexico (Duff et al. 2008: 8-9). Massive basalt stones and cliff faces are used in place, while more mobile volcanic resources are then taken back to the pueblo for ceremonial use by the people.

6.4.2 Volcanic Presence in Canyons with Rivers

The Puha in various elements is enhanced when the elements through which Puha manifests itself come together. When a tobacco plant grows on a volcanic cliff, it means that their Puha has synergistically combined. When such combinations occur in spatially constrained areas, the Puha of the place is further enhanced. For example, when water in a river enters a narrow canyon that has been used by nearby volcanoes the Puha of all of these elements are heightened. Such places exist at Lava Falls in the Grand Canyon, at Black Canyon near Hoover Dam, and at Black Butte in the Pahrnagat River. Volcanic mineral deposits and hot springs are often near these areas.

6.4.3 Volcanic Cones, Tubes, Caves, and Mesas

Lava tubes are created when the magma from a volcano is flowing in a confined area like a river, and the outside of the lava flow cools leaving a tube. Eventually, water may return to these underground tubes and form ice caves, which persist even during the summer. Pueblo people have said that the tubes are connected to the creation place, which is a place of emergence from whence the people came into this world. As such, it is a very sacred area that most Indian people should not visit (Zedeño et al. 2001: 139). Ceremonies are concentrated in and near tubes – even stargazing was seen as an appropriate activity near them (Zedeño et al. 2001: 147).

6.4.4 Volcanic Bombs, Minerals, and Hot Springs

When flowing magma comes into contact with other types of rocks, the heat from the magma transforms the existing rock into new minerals such as yellow and red paint and turquoise. (Stoffle et al. 1995b; Stoffle et al. 2000:132). Within the Black Canyon along the Colorado River near Las Vegas, Nevada are a series of places directly and indirectly associated with volcanism. These include Sugarloaf Mountain, a recognized medicine and ceremonial place; Goldstrike Canyon hot springs as a place of spiritual and physical cleansing; and Gypsum Cave as a place that provides songs, medicine, and power to traditional practitioners. In addition, an indigenous turquoise mine was identified in proximity to Sugarloaf Mountain by archaeologist W.R. Harrington in 1929 (Harrington 1929:28-31). Harrington (1970:169) and local historian Donna Andress (1997) both indicate that Indians mined turquoise and paint within this region long before Euro-Americans took an interest in the mineral resources of southern Nevada.

Hot springs come from the earth where volcanic activity still occurs even if the magma cannot be seen on the surface. Thus such springs are a combination of water and volcanoes producing a special place where both ceremonial and medicine occur (Stoffle et al. 2000). Indian people from Owens Valley have a single origin story for all the hot springs in the southern Great Basin and northern Mohave Desert.

The hot springs in the narrow Gold Strike Canyon, Nevada near where it joins the Colorado River are used for cleansing as well as ritual preparation. Before going to Sugarloaf Mountain, Arizona located just across the Colorado River, people would prepare themselves to enter into the sacred realm through bathing rituals. After purification the pilgrims would swim across the Colorado River, an important spiritual event in and of itself. Gold Strike Canyon hot

springs, the crossing on the Colorado River, and Sugarloaf Mountain have been successfully nominated together to the National Register of Historic Places as a single Traditional Cultural Property located in two states (NPS National Register 2004).

Volcanic rocks are used in a wide range of ceremonial activities. For example, Indian women enhance the quality (strength) of breast milk by squirting it on heated volcanic rocks (Carroll et al. 2006: 21; Stewart 1941) and volcanic rocks are used for medicine society sweat lodge meetings (Zedeño et al. 2001: 146). Indian people call some volcanic rocks “grandfather stones,” a designation that reflects reverence as well as wisdom. Such rocks are sought in special places of Puha and carried over long distances to serve as the heated stones in sweat lodges.

In southern Colorado, along the Purgatory River, Kiowa elders taught their youth by using hundreds of pecked volcanic basalt boulders, each of which held one or more stories about where the Kiowa people traveled and what they did while in those areas (Stoffle et al. 1984). A similar collection of basalt boulders covered with individual pecking occurs just below Buckboard Mesa that was formed by the Scrugham Peak volcano (Zedeño et al. 1999).

Obsidian is a glass-like stone produced by volcanoes. Southern Paiutes used a green volcanic glass during curing ceremonies that involved bleeding the patient. Volcanic glass found below Scrugham Peak was used in the first arrow making lessons for young men. Such lessons were held in small rock shelters found along the base of the basalt flow that constitutes Buckboard Mesa. Obsidian flakes were placed before important rock art panels as offering to the spirits that lived on the other side of the passageway provided by the panel. Small obsidian stones, commonly called Apache Tears cover acres of land along the southern face of Shoshone Mountain in southern Nevada. In some places, the ground cover is about four inches deep. This massive deposit of obsidian stones is interpreted by Indian people as being provided by the mountain as both a spiritual backdrop and a location rationale for vision quests (Stoffle et al. 2001).

6.5 Conclusion

Numic and Yuman speaking peoples understand Puha as a force that was placed in all things at the time when the world was created. As such, it is that spark that keeps the world going and all of its elements thinking, talking, moving, and interacting. Puha itself moves. Generally Puha is viewed as moving down hill often concentrating or pooling in certain places like mineral outcrops, cliffs, and caves. Given that Puha is most closely related to and acts the most like water, it can be understood as returning to the sky to become like rain and snow that are subsequently called down from the sky by the highest mountains. Viewed this way, Puha has a cycle of movement similar to the hydrological cycle.

Except for that point in time and space when Puha moves back into the sky to again fall to the earth like rain and snow, Puha normally neither is created nor moves uphill. The major exception to this is when volcanoes erupt. At this moment, the earth is renewed as Puha moves up from the lower portions of the earth to make whole volcanic mountains, volcanic cones, magma mesas, lava tubes, basalt bombs, and obsidian deposits. When water is near the eruption it also makes hot springs and mineral deposits including both red and yellow paint. Large

volcanic events often create their own craters, which form a rim around a central peak or cone and make another special space that itself has a role in Indian culture.

When Numic speaking people go to places for the first time they read these places in terms of what their culture identifies as indicators of Puha. Because Puha moves and is differently concentrated in plants, animals, objects, and topography what it is and where it is will have different physical manifestations. Through what has been called *place logic*, Indian people take these understanding of Puha and identify where certain kinds of ceremonial activities should occur. Volcanoes, calderas, and volcanic objects, such as those discussed here, are all indicators of Puha places.

The term quali-signs is an especially useful addition to this analysis of traditional Numic epistemology because it causes one to look to some inherent feature of the object, mineral, plant, place, or string of places for a hint as what its purpose is in human society. There is a somewhat risky assumption here that all humans will respond to the evident quali-signs in the same ways. Although identical cultural responses are not expected, certain things and places seem to elicit common responses. For example, a place like Devils Tower in Wyoming is what we have called elsewhere a *self voiced protuberance*. There is no record of a new human group failing to respond to this massive volcanic neck rising up from the plains around it. Some may fear it, others interpret it as a gateway to another dimension, but all human cultural groups have responded to it. It moves them to a response based on its quali-signs. According to Tilley (2004: 37), the 5,000 year old *menhirs* were chosen because they have a certain touch, texture, alcove, size, and shape that were there before they were chosen and that they were ancestrally pre-carved. Here Tilley comes close to taking a Numic position that these places, objects, and substances were made for a certain purpose and imbedded with a distinct quali-sign by either the Creator or by themselves. No Western scientists will publish such an interpretation, but in the analysis of olive oil by Meneley (2008), she leaves little doubt that regardless of why or how it became so, no one among the many Mediterranean cultures over thousands of years has failed to cherish and centralize this substance. Finally, we return to the Caucasus Mountains and Manning's (2008: 335) study of why shrines are placed at certain places by these traditional Georgians. There seems to be some subtle aesthetic about places that produce some epiphany in mountain religion and causes a shrine to be built there, says Manning; sometimes the signs are given by nature, sometimes by the presence of ancestor's remains, but there is something about that place that seems to announce itself.

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APPENDIX A

SURVEY INSTRUMENTS USED DURING STUDY

**NATIVE AMERICAN ETHNOGRAPHIC RESOURCES
LITTLE SPRINGS ETHNOGRAPHIC STUDY ETHNOGRAPHIC STUDY
University of Arizona Indian Note Form**

NOTE: You must record a response for every question asked in order for data to be correctly coded

Interview Number: _____

1. Date: _____

2. Respondent's Name: _____

3. Tribe/Organization: _____

3a. Ethnic Group: _____

4. Gender: Male Female

5. Date of Birth: ____/____/____

5a. Age _____

6. Place of Birth (Town, Reservation): _____

6a. U.S. State of Birth _____

7. Study Area Site Number (ethnographer fill this in): _____

8. What is the name of this place in English? _____

8a. What is the name of this place in your native language? _____

9. Please describe the geography of this area or elements that stand out.

10. Would Indian people have used this area?

1= YES 2= NO 8= Don't Know 9= No Response

10a. (IF YES) Why or for what purpose would Indian people have used this area?

1= [permanent]LIVING 2= HUNTING 3= [seasonal]CAMPING 4=
CEREMONY/POWER 5= GATHERING FOOD 6= OTHER
8= Don't Know 9= No Response

10b. Comments on 10a:

11. Is this place part of a group of connected places (Is this place connected to others?)

1=YES 2= NO 8= Don't Know 9= No Response

11a. (IF YES) What kinds of other places might this place be connected with and where are they?

1= Comment given 8=Don't Know 9= No Response

11b. (IF COMMENT GIVEN) How is this place connected to the others you mentioned?

1= Comment given 8= Don't Know 9= No Response

11bb. (IF ANSWERED 1 TO 11b) Comments given:

PLACE FEATURES (Explain you will now begin asking questions about the physical features of the place)

Which, if any, of the following features is an important part of why this place is significant to Indian people?

Feature Type	1= YES	2= NO	List and Describe each specific feature, like Waterfall, Indian Tea Plant, Mt. Sheep
12a. Source for Water			12aa.
12b. Source for Plants			12bb.
12c. Source for Animals			12cc.
12d. Evidence of Previous Indian Use e.g.- rock rings, historic structures, rock art			12dd.
12e. Geological Features e.g.- mountain, spring, cave, canyon, landmarks			12ee.

FOR EACH FEATURE PLEASE FILL OUT APPROPRIATE FEATURE PAGE

FEATURE TYPE A: WATER SOURCE (List specific feature from table on page 3) _____

13. Would Indian people have used this (Name the feature)_____ ?

1= YES 2= NO 8= Don't Know 9= No Response

14. (IF YES) Why or for what purpose would Indian people have used this _____ ?

1= FOOD/DRINK 2= MEDICINE 3= CEREMONY 4= OTHER

8= Don't Know 9= No Response

14a. Comments:

15. How would you evaluate the condition of the ____Feature(s)____?

1= EXCELLENT 2= GOOD 3= FAIR 4= POOR 9=No Response

16. Is there anything affecting the condition of the ____Feature(s)____?

1= YES 2= NO 8= Don't Know 9= No Response

16a. (IF YES) What in your opinion, is affecting the condition of _____?

FEATURE TYPE B: PLANT SOURCE (List features from table on page 3) _____

17. Would Indian people have used the plants at this particular site?

1= YES 2= NO 8= Don't Know 9= No Response

18. (IF YES), Why or for what purpose would Indian people have used these plants?

1= FOOD 2= MEDICINE 3= CEREMONY 4= MAKING THINGS

8= Don't Know 9= No Response

18a. Comments (if given):

19. How would you evaluate the condition of these plants?

1= EXCELLENT 2= GOOD 3= FAIR 4= POOR 9= No Response

20. Is there anything affecting the condition of these plants?

1= YES 2= NO 8= Don't Know 9= No Response

20a. (IFYES) What in your opinion, is affecting the condition of the plants?

FEATURE TYPE C: ANIMAL SOURCE (List features from table on page 3) _____

21. Would Indian people have used the animals at this place?

1= YES 2= NO 8= Don't Know 9= No Response

22. Why or for what purpose would Indian people have used the animals in this site?

1= FOOD 2= MEDICINE 3= CEREMONY 4= CLOTHING 5= TOOLS
6= OTHER 8= Don't Know 9= No Response

22a. Comments:

23. How would you evaluate the condition of these animals/habitat?

1= EXCELLENT 2= GOOD 3= FAIR 4= POOR 9= No Response

24. Is there anything affecting the condition of the animals/habitat?

1= YES 2= NO 8= Don't Know 9= No Response

24a. (IF YES) What in your opinion, is affecting the condition of the animals/habitat?

FEATURE TYPE D: EVIDENCE OF PREVIOUS OCCUPATION OR USE _____

25. Would Indian people have used this site and/or artifacts?

1= YES 2= NO 8= Don't Know 9= No Response

26. Why or for what purpose would Indian people have used this site and/or artifacts?

1= LIVING 2= HUNTING 3= GATHERING 4= CAMPING 5=
CEREMONY/POWER 6= OTHER 8= Don't Know 9= No Response

26a. Comments:

27. How would you evaluate the condition of this site?

1= EXCELLENT 2= GOOD 3= FAIR 4= POOR 9= No Response

28. Is there anything affecting the condition of this site?

1= YES 2= NO 8= Don't Know 9= No Response

28a. (IF YES) What in your opinion, is affecting the condition of this site?

FEATURE TYPE E: GEOLOGIC FEATURES (_____)

29. Would Indian people have visited or used this ____(Feature)___ ?

1= YES 2= NO 8= Don't Know 9= No Response

30. Why or for what purpose would Indian people have used this ____(Feature)___ ?

1= SEEK KNOWLEDGE/POWER 2= COMMUNICATE WITH OTHER INDIANS
3= CEREMONY 4= COMMUNICATE WITH SPIRITUAL BEINGS 5=
TEACHING OTHER INDIANS 6= TERRITORIAL MARKER 7= OTHER 8=
Don't Know 9= No Response

30a. Comments:

31. How would you evaluate the condition of the ____(Feature)___?

1= EXCELLENT 2= GOOD 3= FAIR 4= POOR 9= No Response

32. Is there anything affecting the condition of the ____(Feature)___?

1= YES 2= NO 8= Don't Know 9= No Response

32a. (IF YES) What in your opinion, is affecting the condition of ____(Feature)___?

MANAGEMENT AND ACCESS RECOMMENDATIONS

33. How would you evaluate the condition of this place?

1= EXCELLENT 2= GOOD 3= FAIR 4= POOR 9= No Response

34. Is there anything affecting the condition of this place?

1= YES 2= NO 8= Don't Know 9= No Response

34a. (IF YES) What in your opinion is affecting the condition of this place?

Above you identified specific features at this site. What would be your recommendation for protecting each specific feature?

35. Water Source:

36. Plant Source:

37. Animal Source:

38. Traditional Use Feature:

39. Geological Feature:

40. What would be your recommendation for protecting this place?

41. Do you think Indian people would want to have access to this place? 1= YES 2= NO

8= Don't Know 9= No Response

41a. (IF YES) Why would Indian people want to come to this place?

42. Are there any special conditions that must be met for Indian people to use this place? 1=

YES 2= NO 8= Don't Know 9= No Response

42a. (IF YES) What special conditions are needed for Indian people who want to come to this place?

NATIVE AMERICAN ETHNOGRAPHIC RESOURCES ETHNOARCHAEOLOGY-ROCK ART QUESTIONS

University of Arizona Interview Form

Date: _____

Tape # _____

Interview #: _____

Interviewer: _____

2. Respondent's Name: _____

3a. Tribe: _____

3b. Ethnic Group: _____

4. Gender: (Circle) 1 = M 2 = F

5a. English Name of site _____ 5b. Site No.: NV _____

5e. Quad Name _____ 5f. Compass Orientation _____

5g. Elevation _____

6a. Study Area Site # _____

6b. Ecozone Location:

6c.

Topography: 6d: Main Water Source:

- i. River edge
- canyon ii. River flood
- drain iii. Side stream
- iv. Spring
- wall v. Rainfall
- vi. rock tank
- vii. wash

i. canyon wall

ii. UDSZ-desert

iii. OHWS-old riparian

iv. REPS-new riparian

v. side canyon riparian

vi. dry mesa top

vii. stream bed

viii. high desert flats

ix. upper Mohave desert

x. lower Mohave desert

xi. stream bank

xii. woodland

i. delta

ii. side

iii. wash or

iv. mesa top

v. canyon

vi. saddle

vii. talus

viii. cave

7. Did you know that **this site** was here? 1=Yes
2=No 8=DK 9=NR

ETHNIC GROUP USE HISTORY

500. In your opinion, was/were (**this/these panel(s)**) made by your people? 1=Yes
2=No 8=DK 9=NR

501. Did your [respondent's ethnic group] traditionally visit or use (**this/these panel(s)** or **panel(s) like this/these [where?]**)?

1 = Yes 2 = No 8 = DK 9 = NR

502. (IF YES TO #501) What were (**this/these panel(s)** or **panel(s) like this/these**) visited or used for?

1 = Ceremony (SPECIFY)	2 = To Seek Knowledge/Power
3 = Communicate w/ Other Indian People	
4 = Communicate with Spiritual Beings	5 = Teaching Other (ethnic group) People
6 = Territorial Marker	
7 = Decoration	8 = Other (SPECIFY)
9 = Map	
10 = paying respects	11=N/A

502b. What kind of name would you give this panel?

503. Who visited or used (**this/these panel(s)** or **panel(s) like this/these**) most often?

1 = Men 2 = Women 3 = Both 7=NA 8=DK 9=NR

504. Do your people currently visit or use (**this/these panel(s)** or **panel(s) like this/these [where?]**)?

1 = Yes 2 = No 7=NA 8=DK 9=NR

505. (If yes to #504) What are (**this/these panel(s)** or **panel(s) like this/these**) visited or used for? CIRCLE BELOW

1 = Ceremony (SPECIFY) 2 = To Seek Knowledge/Power
 3 = Communicate w/ Other Indian People
 4 = Communicate with Spiritual Beings 5 = Teaching Other (ethnic group) People
 6 = Territorial Marker
 7 = Decoration 8 = Other (SPECIFY)
 9 = Map
 10 = paying respects 11=N/A

506. Who visits or uses (**this/these panel(s) / panel(s) like this/these**) most often?

1 = Men 2 = Women 3 = Both 7=NA 8=DK 9=NR

CONNECTIONS

517. Are there (ethnic group stories and legends associated with (**this/these panel(s)** or **panel(s) like this/these**)

1 = Yes 2 = No 8 = DK 9 = NR

517a. If YES, What is the name of that story?

517b. Can it be told to outsiders?

1 = Yes 2 = No 8 = DK 9 = NR

517c. IF YES, will you tell us about that story? (make sure to record on tape)

518. I would like to ask you about the connections between (**this/these panel(s)** or **panel(s) like this/these**) and other resources.

519a. Are the pecking/paintings in this panel and connected in anyway with panels elsewhere?

1 = Yes 2 = No 8 = DK 9 = NR

520a. Where and how are they connected?

519b. Are archaeology sites connected with these panels? *1=Yes* *2=No*
8=DK *9=NR*

520b. How are they connected?

519c. Are plants connected with these panels? *1=Yes* *2=No*
8=DK *9=NR*

520c. How are they connected?

519d. Are animals connected with these panels? *1=Yes* *2=No*
8=DK *9=NR*

520d. How are they connected?

519e. Are minerals connected with these panels? *1=Yes* *2=No*
8=DK *9=NR*

520e. How are they connected?

519f. Is water connected with these panels? *1=Yes* *2=No*
8=DK *9=NR*

520f. How is it connected?

519g. Is the surrounding land (geography, topog.) connected with these panels? 1=Yes
2=No 8=DK 9=NR

520g. How is it connected?

HISTORY OF ETHNIC USE

521. Did Indian people who are not (your ethnic group) use (**this/these panel(s)** or **panel(s) like this/these**)?

1 = Yes 2 = No 8 = DK 9 = NR

522a. (IF YES TO #521) Who were those Indian people?

522b. Did those people use (**this/these panel(s)** or **panel(s) like this/these**) [*before, after, same time as*] respondent's ethnic group?

1 = Before 2 = After 3 = Same time as
4 = All of above 7 = NA 8 = DK
9 = NR

SEASONALITY, USE AND MEANING

523. Is there a special time of the year during which (**this/these panel(s)** or **panel(s) like this/these**) were/are used?

1 = Yes 2 = No 8 = DK 9 = NR

524. (IF YES TO #523) What special time of the year?

525. Is there a special time of day/night during which (**this/these panel(s)** or **panel(s) like this/these**) were/are used?

1=Yes 2=No 8=DK 9=NR

526. (IF YES TO #525) What special time of day/night?

527. Within the site, are there any specific peckings or paintings that you would like to talk about? (IF NO, GO TO 530)

1 = Yes 2 = No 8 = DK 9 = NR

527a. Location of pecking/painting (boulder #) _____

527b. Photo # (roll, shot)

527c. Indian/English name for pecking/painting _____; _____

527d. What is special about this pecking/painting?

528. Within the site, are there any other specific peckings or paintings that you would like to talk about? (IF NO, GO TO 530)

1 = Yes 2 = No 8 = DK 9 = NR

528a. Location of pecking/painting (boulder #) _____

528b. Photo # (roll, shot)

528c. Indian/English name for pecking/painting _____; _____

528d. What is special about this pecking/painting?

529. Within the site, are there any other specific peckings or paintings that you would like to talk about? (IF NO, GO TO 530)

1 = Yes 2 = No 8 = DK 9 = NR

529a. Location of pecking/painting (boulder #) _____

529b. Photo # (roll, shot)

529c. Indian/English name for pecking/painting_____;

529d. What is special about this pecking/painting?

(BACK to General Discussion of site)

530. Based on the rock art that you see at the site and on the ground, what Indian activities or events occurred at this site? [specify site]

531. Does the site have a personal meaning for you? 1=Yes 2=No
8=DK 9=NR

532. (IF YES TO #531) What does the site mean to you?

533. How would you evaluate the overall importance of the site to you?

1 = Low 2 = Medium 3 = High 9 = NR

534. Does the style of the peckings/paintings influence the cultural significance of this rock art?

1 = Yes 2 = No 8 = DK 9 = NR

535. (IF YES TO #534) How?

IMPACT ASSESSMENTS

536. In your opinion, what is the current condition of this site?

1=Excellent 2=Good 3=Fair 4=Poor 8=DK
9=NR

537. Do you feel there are human activities affecting the condition of the panels?

1 = Yes 2 = No 8 = DK 9 = NR

537a. (if Yes to # 537) What human activities are affecting the condition of the panel(s)?

538. What would be your recommendation (if any) for protecting the panel(s) from human activities?

539. Do you feel there are natural elements (wind, rain, erosion) affecting the condition of the panel(s)?

1 = Yes 2 = No 8 = DK 9 = NR

540. (IF YES TO #539) What natural elements are affecting the condition of the panel(s)?
[specify general weather, other]

541. What would be your recommendation (if any) for protecting the panel(s) from natural elements?

542. Can you tell me anything else about the importance of (**this/these panel(s)** or **panel(s) like this/these**) to (respondent's ethnic group) that we haven't talked about?

ADDITIONAL NOTES:

**NATIVE AMERICAN ETHNOGRAPHIC RESOURCES
LITTLE SPRINGS ETHNOGRAPHIC STUDY ETHNOGRAPHIC STUDY
University of Arizona Indian Note Form**

LANDSCAPE QUESTIONS

–Use along with map so people can identify the places they talk about

NOTE: You must record a response for every question asked in order for data to be correctly coded- blank spaces are not responses

Interview Number: _____ **Tape Number** _____

Date: _____

Respondent's Name: _____

Tribe/Organization: _____

Ethnic Group: _____

Gender: Male Female

Date of Birth: ____/____/____

Age _____

Place of Birth (Town, Reservation): _____

U.S. State of Birth _____

Study Area / place of interview (ethnographer fill this in): _____

- (1) Were there Indian villages in relation to this area?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (2) If yes, were the area villages connected with villages elsewhere in the Southern Nevada/ California/ Utah/ Arizona region?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (3) If yes, how were these connected?
- (4) Were there seasonal Indian camps in relation to this area?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (5) If yes, were the area camps connected with camps elsewhere in the Southern Nevada/ California/ Utah/ Arizona region?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (6) If yes, how were these connected?
- (7) Do you know what the Indian people did when they were here in the area?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (8) If yes, what kinds of activities -
- * farming
 - * gathering plants
 - * gambling
 - * ceremonies
 - * political meetings
 - * others (specify)
- (9) Do you know of any songs associated with this area?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (10) If yes, can you tell me something about the songs – were they
- * traveling songs
 - * ceremony songs, or
 - * other-purpose songs

- (11) Do you know of any ceremonies that were conducted at or near this area ?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (12) If yes, can you tell me something about these ceremonies?
*Ceremony #1 - place _____, when _____, why _____
*Ceremony #2 - place _____, when _____, why _____
*Ceremony #3 - place _____, when _____, why _____
- (13) Is this area at or near the place where your people were created?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (14) If yes, where is the Creation place?
- (15) Do you know if there are other places in the Southern Nevada/ California/ Utah/ Arizona Region that are also connected with the Creation of your people?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (16) If yes, what and where are those places?
- (17) Do you recall or have you heard about events in history that occurred at or near this area?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.
- (18) Will you tell me something about those events?
*Event #1 - date _____, place _____, what happened?
*Event #2 - date _____, place _____, what happened?
*Event #3 - date _____, place _____, what happened?
- (19) Is there a connection between this area and nearby mountains?
1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.

(20) If yes, what mountains and how are they connected to this area?

Mt. #1: name in English _____, name in native language _____,
how connected?

Mt. #2: name in English _____, name in native language _____,
how connected?

Mt. #3: name in English _____, name in native language _____,
how connected?

(21) Is there a connection between this area and any of the rivers, creeks, springs, or washes in the area?

1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.

(22) If yes, which rivers, creeks, springs, or washes and how are they connected to this area?

Water source #1: name in English _____, name in native language _____,
how connected?

Water source #2: name in English _____, name in native language _____,
how connected?

Water source #3: name in English _____, name in native language _____,
how connected?

(23) Are there any Indian trails that were connected with this area?

1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.

(24) If yes, can you tell me something about those trails - like

*Trail #1 – where did it go _____, why were they used _____, were they
special _____, how _____?

*Trail #2 – where _____, why _____, special _____, how _____?

*Trail #3 – where _____, why _____, special _____, how _____?

(25) Is this area connected to any places or events in the region that we have not already talked about?

1 =Yes, 2 = No, 8 = Don't Know, 9= No Response.

(26) If yes, what other connections would you like to talk about?

*Connection #1 - place _____, event _____, connection _____

*Connection #1 - place _____, event _____, connection _____

*Connection #1 - place _____, event _____, connection _____