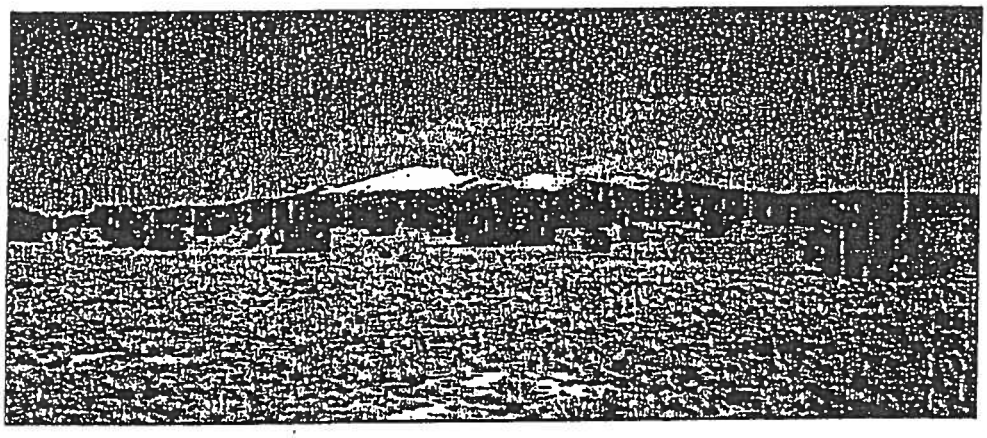
INITIAL HOPI ETHNOGRAPHIC STUDY AND RECONNAISSANCE FOR THE ENCHANTED SKIES PARK AND OBSERVATORY, CIBOLA COUNTY, NEW MEXICO



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In Collaboration With

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August 17, 2001

Attachment D

Cover Photo: Mount Taylor as seen from Horace Mesa. Photograph by Roger Anyon, November 16, 2000.

CERTIFICATION OF APPROVAL AND RELEASE

Initial Hopi Ethnographic Study and Reconnaissance
For the
Enchanted Skies Park and Observatory
Cibola County, New Mexico

A review of this document by the Hopi Cultural Preservation Office certifies that it accurately represents the concerns of the Hopi Tribe and Hopi cultural advisors who participated in the project with respect to Hopi traditional cultural properties for the Enchanted Skies Park and Observatory project. This final report is approved for release with the following conditions:

1. This report is released to the appropriate authorities to assist the United States Air Force to comply with Section 106 of the National Historic Preservation Act and the National Environmental Policy Act, and is not to be released to any other entity without the consent of the Hopi Tribe. This condition is intended to protect the integrity of Hopi traditional knowledge.

2. The Hopi Tribe does not waive its proprietary rights to any information collected during this project.

8/3/01

Leigh J. Kuwanwisiwma, Director — Date
Cultural Preservation Office
The Hopi Tribe

8/03/01

Arnold Taylor, Department Manager — Date
Department of Natural Resources
The Hopi Tribe

EXECUTIVE SUMMARY

This report summarizes the results of an initial Hopi ethnographic investigation for the proposed Enchanted Skies Park and Observatory near Mount Taylor, New Mexico. This investigation was undertaken to assist the United States Air Force Center for Environmental Excellence in its obligations to comply with Section 106 of the National Historic Preservation Act and the National Environmental Policy Act. The Hopi investigations accomplish four objectives: (1) to establish Hopi cultural associations with Mount Taylor, (2) to identify Hopi traditional cultural properties within the project area for the proposed Enchanted Skies Park and Observatory, (3) to evaluate the eligibility of these properties for inclusion in the National Register of Historic Places, and (4) to assess the effects of the proposed undertaking on Hopi traditional cultural properties.

Heritage Resources Management Consultants, L.L.C., (HRMC) undertook this project at the request of the Hopi Tribe, and the project was designed as a collaborative effort between HRMC, the staff of the Hopi Cultural Preservation Office, and the Hopi Cultural Resources Advisory Task Team. The project was funded by the United States Air Force through a contract with the Hopi Tribe.

The proposed undertaking consists of constructing facilities for use by the general public, amateur astronomers and professional astronomers at either Horace Mesa or Bibo Mesa. These facilities will include three main areas of development: the Sun Plaza, the Star Center, and a Research Astronomy Area, along with ancillary infrastructure. These areas will house visitor and education facilities, an astronomy camp, a planetarium, public observatories, maintenance facilities, a restaurant, nature trails, picnic areas, an amphitheater, research quality telescopes, and an aerial tramway. Various alternative locations are presently under review for the proposed Enchanted Skies project.

The methods used in the Hopi ethnographic investigation included library research, field work with Hopi cultural advisors, ethnographic interviews with Hopi Tribal members, and review meetings with the Hopi Cultural Resources Advisory Task Team. Twenty-eight Hopi deities and other religious personages, 26 Hopi clans, 10 First Mesa Tewa Clans, and a number of Hopi and First Mesa religious societies and ceremonies, have close cultural connections with Mount Taylor and the project area. Twenty-four Hopi traditional cultural properties are recommended as eligible to the National Register and an additional 184 traditional cultural properties are recommended as potentially eligible to the National Register, all under criteria (a) and (d). Disturbance of any of these traditional cultural properties would be considered an adverse effect by the Hopi Tribe.

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CHAPTER 1
INTRODUCTION

This report summarizes the results of an initial Hopi ethnographic study and field reconnaissance for the proposed Enchanted Skies Park and Observatory in Cibola County, New Mexico. The United States Air Force Center for Environmental Excellence is assessing the potential impacts of the Enchanted Skies Park and Observatory on cultural resources and the environment. This study provides information regarding Hopi traditional cultural properties that will assist the Air Force in its compliance with Section 106 of the National Historic Preservation Act. In addition, a Hopi cultural context is presented that is suitable for use in National Environmental Policy Act considerations.

The United States Air Force and the Hopi Tribe signed a Memorandum of Understanding under which the Hopi Tribe was awarded funding to conduct an ethnographic study. The Hopi Tribe requested that Heritage Resources Management Consultants L.L.C. (HRMC) of Tucson, Arizona, provide assistance to the Hopi Cultural Preservation Office (HCPO) to implement this study. This report is the product of a collaborative effort between HRMC, HCPO, the Hopi Cultural Resources Advisory Task Team (CRATT), and other Hopi cultural advisors.

Proposed Undertaking

The proposed Enchanted Skies Park and Observatory is a federal undertaking that will be funded by the United States Air Force. The University of New Mexico proposes to use Air Force funds to construct the Park and Observatory, and has contracted with Tetra Tech NUS Inc., to conduct necessary environmental and cultural resources studies at the multiple alternatives under consideration for the undertaking. The multiple alternatives are located at Horace Mesa and Bibo Mesa in Cibola County, New Mexico.

The undertaking consists of constructing facilities for use by the general public, amateur astronomers, and professional astronomers. These facilities include three main areas of development: the Sun Plaza, the Star Center, and a Research Astronomy Area, along with ancillary infrastructure. The Sun Plaza will include a visitor and education facility, an astronomy camp, a solar telescope facility, parking, nature trails, picnic areas, maintenance buildings, and the lower tram terminal. An aerial tramway will connect the Sun Plaza, which will be located at the base of either mesa, and the Star Center which will be located on top of the mesa overlooking the Sun Plaza. This tramway will be the only access between the base of the mesa and the top of the mesa for the Enchanted Skies project. The Star Center will include the upper tram terminal, a visitor center, a planetarium, public observatories, telescope facilities, maintenance facilities, a restaurant, nature trails, picnic areas, and an amphitheater. The Research Astronomy Area, which will be connected to the Star Center by a gravel road, will consist of research quality telescopes and observatories.

Various alternative combinations and distributions of facilities are proposed for the Enchanted Skies project at both Horace and Bibo mesas. Each alternative would impact different areas, depending upon the arrangement of facilities and the amount of land that may be

transferred from federal ownership to the University of New Mexico. The details of each alternative will be provided in a forthcoming Environmental Impact Statement.

Project Area

The construction of the Enchanted Skies Park and Observatory is proposed at one of two locations, either Horace Mesa or Bibo Mesa, both of which are part of the volcanic pedestal upon which Mount Taylor is situated. Horace Mesa is located several miles east of Grants, New Mexico. Bibo Mesa is located just to the west of the Bibo and Seboyeta communities and north of the Laguna Indian Reservation, New Mexico (Figure 1).

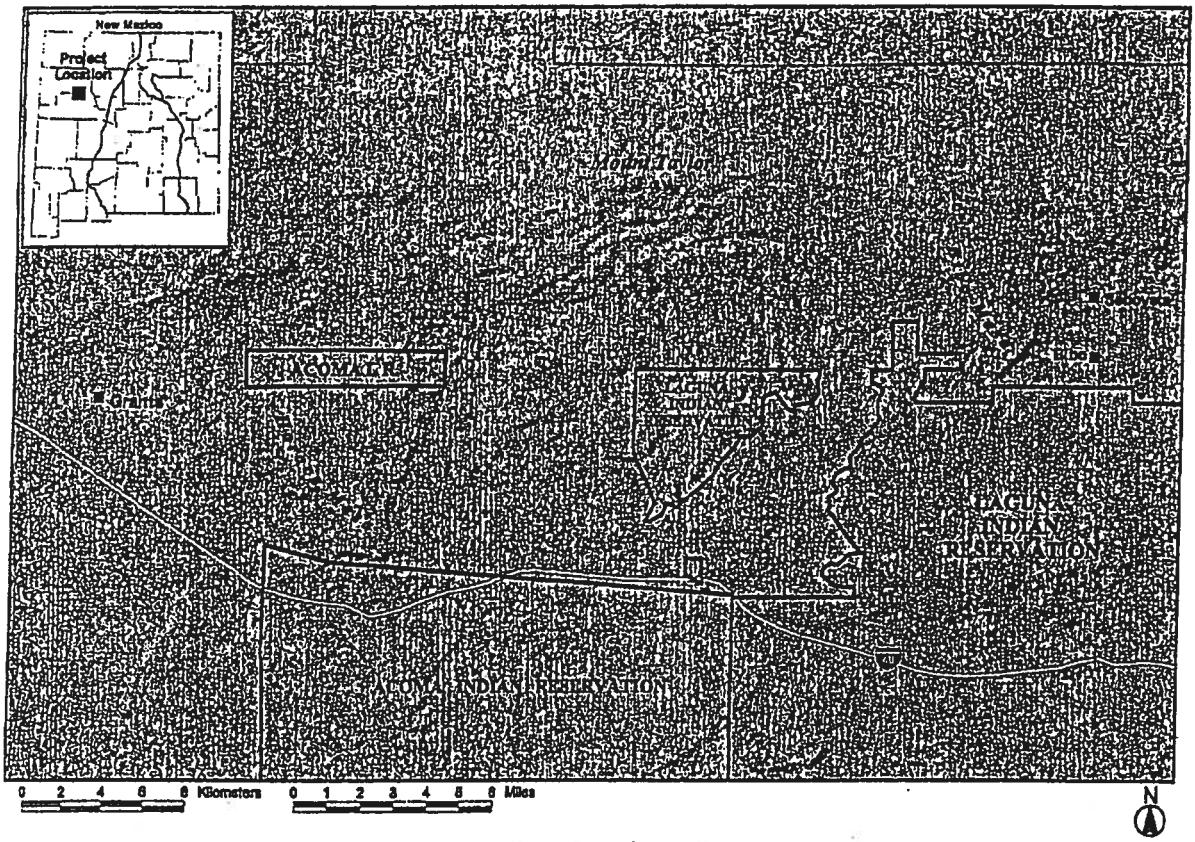

Figure 1. The project area.

Horace Mesa is at the southern edge of the Mount Taylor volcanic field. It ranges in elevation from about 2,255 to 2,375 meters (7,400 to 7,800 feet) above mean sea level, towering as much as 300 meters (1,000 feet) above the valleys to the east, west, and south (Figure 2). The sandstone mesa is capped by lava flows forming a mesa top that is relatively flat. Volcanic necks provide occasional topographic relief. Soils on the mesa top are shallow and subject to erosion. The edge of the mesa is a dramatic, steep escarpment plunging to the surrounding valleys.

Figure 2. View southward from Horace Mesa. Photograph by Roger Anyon, November 16, 2000.

Bibo Mesa is at the eastern edge of the Mount Taylor volcanic field. Like Horace Mesa, Bibo Mesa consists of a sandstone mass capped with lava flows punctuated by volcanic necks. The elevation on top of Bibo Mesa is between about 2,316 to 2,438 meters (7,600 and 8,000 feet) above mean sea level, with the dramatic escarpment edge dropping to an elevation of less than 2,012 meters (6,600 feet) at the location of the proposed Sun Plaza at the base of the mesa. Soils on top of Bibo Mesa are thin, offering limited potential for deeply stratified cultural deposits.

The lands on Horace and Bibo Mesas, in and near the proposed Enchanted Skies Park and Observatory project area, are a mix of federal, state, Indian, and private ownership including Spanish land grant holdings. Potential impacts to the cultural resources on these lands are varied depending upon which alternative is selected.

Previous Research

Previous cultural resources research for the Enchanted Skies project consists of archaeological inventory surveys on Horace and Bibo Mesas. The survey on Horace Mesa was conducted by SWCA Inc., and the survey on Bibo Mesa was performed by TRC. In both surveys, archaeological manifestations, sites and isolated occurrences were identified, located, and recorded. Each archaeological manifestation was evaluated regarding its eligibility to the National Register of Historic Places, and recommendations were made concerning the potential impact of the proposed undertaking to the historic properties.

Archaeological survey on Horace Mesa was conducted between 1997 and 2000 (Wase et al. 2000). A total of 3,767 hectares (9,312 acres) of land were surveyed on Bureau of Land

Management, New Mexico State trust, Pueblo of Acoma, Candeleria Trust, and other private lands. One hundred and eighty four archaeological sites and 893 isolated occurrences were identified and recorded. Two hundred and twenty six temporal and cultural components were recorded within the 184 sites. No Paleoindian sites were identified on the Horace Mesa survey, this being the only unrepresented archaeological time period for the project. Archaic sites were identified based on the presence of specific projectile point types. Sites of other time periods were assigned based on ceramic and other artifact types. Of the 226 site components 19.2 percent are Archaic, 30.5 percent are Puebloan (this includes Basketmaker III through Pueblo IV), 13.2 percent are Navajo, 16.9 percent are non-Navajo historic, 18 percent are unknown prehistoric, and 2.3 percent could not be assigned to any particular period or culture (Wase et al. 2000:5.27).

The archaeological survey on Bibo Mesa was conducted in 1999 and 2000 on the Cebolleta Land Grant and other private lands (Goar et al. 2000). Twenty-eight archaeological sites and 179 isolated occurrences were recorded on the 793 hectares (1,950 acres) surveyed. The archaeological sites contained a total of 37 temporal components: eight Archaic, two prehistoric Puebloan, two Historic Pueblo, one Navajo, 12 other historic, and 12 of unknown age. Dating site components was based on the same basic principles as those used for the Horace Mesa survey.

Purpose of Hopi Ethnographic Project

The Hopi ethnographic project has two objectives: (1) to provide information to assist the United States Air Force in meeting its compliance and consultation requirements for Section 106 of the National Historic Preservation Act, and (2) to develop Hopi cultural background and cultural contexts to assist the Air Force in its compliance with the National Environmental Policy Act. The first objective involves the identification and evaluation of traditional cultural properties for their potential eligibility to the National Register of Historic Places. The second objective requires establishing Hopi cultural connections to the landscape of Mount Taylor, which includes Horace and Bibo Mesas.

Hopi traditional cultural properties cannot always be recognized during an archaeological inventory survey, even though many of the recorded archaeological manifestations are Hopi traditional cultural properties. The identification and evaluation of Hopi traditional cultural properties requires knowledgeable Hopis who understand Hopi traditions and how these traditions relate to the natural and cultural landscape around Mount Taylor. Hopi interpretations and values of archaeological and other features are often different to those of the scientific community. By identifying and evaluating Hopi traditional cultural properties from a Hopi cultural perspective, the Hopi Tribe can conduct meaningful consultations with federal agencies, including the Air Force, regarding the consideration of these properties under Section 106 of the National Historic Preservation Act.

By conducting an ethnographic study and establishing a Hopi cultural context for Mount Taylor and its surrounding landscape, the Hopi Tribe provides federal agencies with information about the human environment. Identifying the Hopi human environment as it relates to Mount Taylor will allow the Air Force to promote efforts that will prevent or eliminate damage to the environment and preserve important historic, cultural, and natural aspects of the national

heritage. In this way, the Hopi ethnographic study will provide information suitable for use in National Environmental Policy Act considerations.

National Historic Preservation Act and Traditional Cultural Properties

Section 106 of the National Historic Preservation Act (NHPA) requires that any federal agency having the authority to approve an undertaking shall, prior to issuing approval, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places. Undertakings include any activity or project that has federal funding, such as the Enchanted Skies Park and Observatory. Consequently the proposed project is subject to Section 106 of the NHPA. Section 106 of the NHPA is implemented under regulations at 36 CFR 800, issued by the Advisory Council on Historic Preservation. These regulations provide the framework for considering historic properties, including traditional cultural properties, that are eligible to the National Register of Historic Places and may be impacted by an undertaking. Properties of traditional religious and cultural importance to an Indian Tribe may be eligible for inclusion on the National Register of Historic Places (NHPA Section 101(d)(6)(A)).

Traditional cultural properties are places of religious and cultural importance to an Indian Tribe. Traditional cultural properties are eligible to the National Register of Historic Properties when they are shown to meet one of more of the criteria presented at 36 CFR 60.4. National Register Bulletin 38 states that, "A traditional cultural property ... is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that are (a) rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1992:1).

National Register Bulletin 38 clarifies the meaning of "culture", "traditional," and "significance" when applied to a traditional cultural property. Culture is understood to mean the traditions, beliefs, practices, lifeways, arts, crafts, and social institutions of any community, including an Indian tribe. Traditional refers to the beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice.. The traditional cultural significance of a historic property is derived from the role the property plays in the community's historically rooted beliefs, customs, and practices (Parker and King 1992:1).

National Environmental Policy Act and Human Environment

The National Environmental Policy Act (NEPA) and its implementing regulations at 40 CFR 1500 require that the potential impacts of the Enchanted Skies Park and Observatory, a federal undertaking, are considered as part of the planning process. NEPA has, among its purposes, the goal of encouraging a productive and enjoyable harmony between people and their environment. In addition, Section 101(b)(4) of NEPA calls for the preservation of important historic, cultural, and natural aspects of the national heritage, and the maintenance of an environment that supports diversity and individual choice wherever possible. Federal agencies are charged with restoring and enhancing the quality of the human environment, and avoiding or minimizing adverse effects to the quality of the human environment (40 CFR 1500.2(f)). Under

NEPA regulations (40 CFR 1508.14) the human environment is defined to include "the natural and physical environment and the relationship of people with that environment." In this report, the general cultural relationships of the Hopi people to the natural and physical environment of the Mount Taylor area are provided for consideration during the NEPA compliance process.

Scope of Report and Consultation

This report provides an initial assessment of Hopi cultural concerns with respect to the proposed Enchanted Skies Park and Observatory project. It does not constitute an inventory of Hopi traditional cultural properties within the project area. The information in this report is the result of a Hopi reconnaissance to selected locations within the project area, interviews with knowledgeable Hopi tribal members, and background research that provides the Hopi cultural context for the project area. Additional work is required to generate an inventory of Hopi traditional cultural properties and fully evaluate all these traditional cultural properties for their eligibility to the National Register of Historic Places.

The National Historic Preservation Act and the National Environmental Policy Act require consultation between the Hopi Tribe and federal agencies involved in the undertaking. This report provides information needed by the United States Air Force and the Hopi Tribe to engage in formal consultation but in and of itself does not constitute that consultation.

CHAPTER 2
METHODOLOGY

The scope-of-work for the Enchanted Skies Park and Observatory Hopi ethnographic project consisted of six tasks: an initial meeting with the HCPO staff and the CRATT, literature review, field work, ethnographic interviews with Hopis knowledgeable about the project area, report preparation, and a project review meeting with HCPO staff and the CRATT. All the HRMC research for this project was conducted in collaboration with the HCPO and Hopi cultural advisors. This report was reviewed by Hopi tribal government officials prior to its approval and release.

Coordination

The Hopi ethnographic project was coordinated at Hopi by Joel Nicholas, a Hopi tribal member employed as a Research Assistant at the HCPO. Mr. Nicholas was instrumental in organizing many aspects of field work logistics for the Hopi cultural advisors, gathering information at Hopi and the Museum of Northern Arizona during the literature review, organizing and coordinating interviews with Hopi tribal members, conducting several ethnographic interviews and assisting at all of them, and coordinating the project review meeting with HCPO and the CRATT.

Katherine Roxlau of Tetra Tech NUS coordinated project details and logistics with HRMC. Ms. Roxlau also made all the arrangements for the Hopi field work team to cross and access lands during their field visit to the project area. Coordination of HRMC activities with the HCPO and Tetra Tech NUS was done by Roger Anyon.

Initial Meeting

The initial project meeting was held at the Hopi Cultural Center on October 26, 2000. Katherine Roxlau of Tetra Tech NUS outlined the overall scope and status of the Enchanted Skies Park and Observatory project to the CRATT members, HCPO staff, and Roger Anyon of HRMC. CRATT members and HCPO staff discussed the project and issues regarding Hopi cultural and historical connections to the project area. CRATT members suggested the names of Hopi tribal members who have knowledge of the Mount Taylor area, and who could serve as potential field team members or be interviewed.

Literature and Files Review

A range of published literature and the HCPO files were reviewed to collect information about Hopi cultural context for the Mount Taylor area. This literature review focused on ethnographic, historic and archaeological documents. Joel Nicholas reviewed HCPO files for correspondence and other documents between the Hopi Tribe and government agencies regarding cultural resource issues in the Mount Taylor area.

Field Work

Field work was conducted on November 15 and 16, 2000. A severe winter storm had occurred during the previous week making ground travel and access conditions difficult. Consequently, the field team was unable to visit the top of Bibo Mesa.

Three Hopi cultural advisors and Joel Nicholas of the HCPO were the Hopi tribal representatives during field work (Table 1). Throughout both days of field work Kathy Roxlau (Tetra Tech NUS) and Roger Anyon (HRMC) were present. On November 15, Douglas Loebig (TRC), an archaeologist who had worked on the Bibo Mesa archaeological survey, participated in field work. On November 16, Colleen Shaffrey (SWCA), an archaeologist who had worked on the archaeological survey of Horace Mesa, and Brenda McBride, a landowner on Horace Mesa, participated in field work.

Table 1. Hopi Tribal Member Field Work Participants

Name	*Age*	*Clan*	*Village*
Don James	49	Corn Clan	Tewa
ValJean Joshevama	86	Sun Clan	Songoopavi
Joel Nicholas	23	Spider Clan	Songoopavi
Jim Tawyesva	62	Roadrunner Clan	Sitsomovi

Field work at both Bibo and Horace Mesas included visits to the project location and selected archaeological manifestations. At Bibo Mesa, field work consisted of visiting the location of the proposed Sun Plaza at the base of the mesa (Figure 3). Two previously documented archaeological features were viewed: LA 128505 and LA 128508. One archaeological site, LA 128423, was visited at the base of Horace Mesa. This site is near one of the alternative locations for the Sun Plaza. On the top of Horace Mesa, two alternative locations for the Star Center were visited. Isolated Occurrence 177 was viewed in one of these alternatives, for the Proposed Action and Alternative A. At the other location, the field team viewed lands owned by Brenda McBride in Township 10 N, Range 9 W, Section 12. This is where the Star Center for Alternatives B and C would be situated.

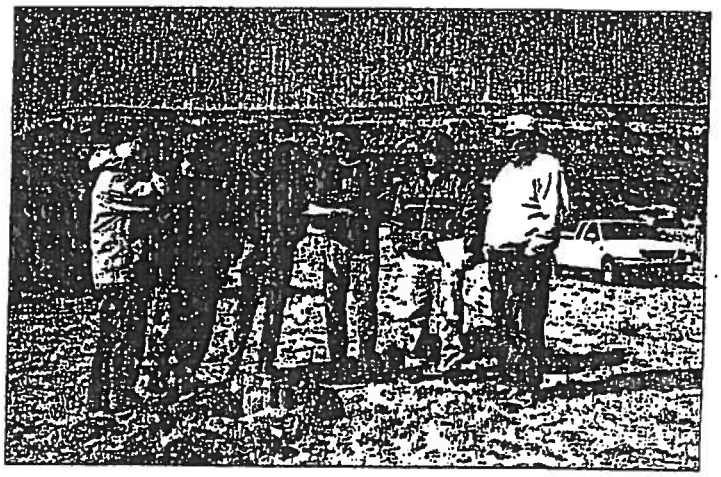

Figure 3. Field work at LA 128505 with Bibo Mesa in background. Photograph by Roger Anyon, November 15, 2000.

The field work strategy was to conduct a reconnaissance of the Enchanted Skies Park and Observatory project area. This reconnaissance provided the Hopi team with a general understanding of the project area and its relationship to Mount Taylor, and the opportunity to review selected previously documented cultural resources. Given the time and budgetary constraints of the Hopi ethnographic project, it was not possible for the Hopi team to visit each previously recorded cultural resource, conduct a Hopi traditional cultural properties inventory, or individually evaluate the National Register eligibility of each documented cultural resource.

Documentation of the field work included taking notes and making photographs with color print film. Locations were plotted on U. S. Geological Survey topographic maps at the 1:24,000 scale. A Garmin 12 XL Global Positioning System (GPS) unit, was used to acquire Universal Transverse Mercator (UTM) coordinates based on the North American 1927 (NAD27 CONUS) map datum.

Interviews

Nineteen Hopi tribal members participated in interviews on the Hopi Indian Reservation during December, 2000, and January, 2001 (Table 2). These interviews were to provide in-depth discussion of Hopi cultural connections with the Enchanted Skies Park and Observatory project area, the significance of Mount Taylor in Hopi culture, and recommendations regarding cultural resources and the proposed undertaking. Eleven of the Hopi tribal members were interviewed by both Roger Anyon and Joel Nicholas, while eight interviews were conducted only by Joel Nicholas. LeeWayne Lomayestewa of the HCPO also participated in several interviews in addition to his own interview for the project.

Table 2. Interviewed Hopi tribal members

Name	*Age*	*Clan*	*Village*
Larson Addington	68	Bear Clan	Tewa
Clifton Ami	52	Bear Clan	Tewa
Harry Ami	42	Bear Clan	Tewa
Loren Hamilton	39	Corn Clan	Tewa
Fletcher Healing	95	Corn Clan	Tewa
ValJean Joshevama	86	Sun Clan	Songoopavi
Wilmer Kavena	72	Tobacco Clan	Hotvela
Kenneth Kewenvoyouma	68	Water Clan	Songoopavi
Augustine Komalestewa	60	Parrot Clan	Tewa
Wilton Kooyahoema	64	Fire Clan	Hotvela
Leigh Kuwanwisiwma	50	Greasewood Clan	Paaqavi
LeeWayne Lomayestewa	42	Bear Clan	Songoopavi
Owen Numkena	64	Corn Clan	Musangnuvi
Clifford Qötsaquahu	54	Rattlesnake Clan	Paaqavi
Morgan Saufkie	65	Bear Clan	Songoopavi
Sam Shingotewa	94	Sun Clan	Munqapi
Franklin Shupla	77	Tobacco Clan	Tewa
Jim Tawyesva	62	Roadrunner Clan	Sitsomovi
Dalton Taylor	74	Sun Clan	Songoopavi

Report Preparation and Review

The report was prepared following the conclusion of the literature review, field work and the interviews. A project review meeting was held on January 30, 2001, at Hopi Cultural Center (Figure 4). Present at this meeting were the following individuals. The CRATT members were Wilford Gaseoma, Augustine Komalestewa, Wilton Kooyahoema, Lewis Numkena Jr., Owen Numkena, Harold Polingyumptewa, Clifford Qötsaquahu, Martin Talayumptewa Sr., and Dalton Taylor. The HCPO staff were Kurt Dongoske, Leigh Kuwanwisiwma, LeeWayne Lomayestewa, Joel Nicholas, and Mike Yeatts. Gene Kuwanquaftewa represented the Hopi Chairman's Office, and Roger Anyon represented HRMC. The results of the project were reviewed at this meeting, with particular attention given to Hopi cultural information, determinations of eligibility to the National Register of Historic Places, and the recommendations.

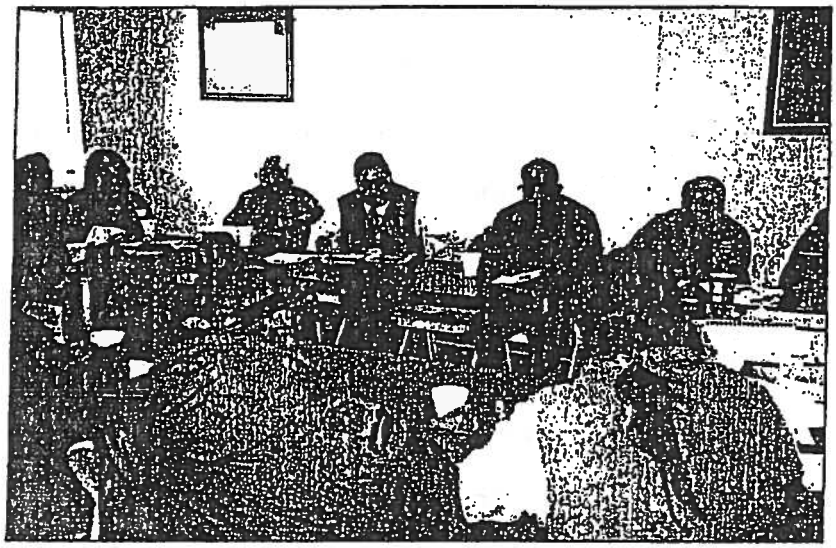

Figure 4. Project review meeting. Photograph by Roger Anyon, January 30, 2001.

This report was reviewed by Hopi Tribal officials to assess the accuracy and content of the report. Following this review, the report was certified and approved for release by Hopi Tribal government administrators.

Note Regarding Hopi Orthography

The orthography of the Hopi language has changed considerably since the Spaniards first began to write down Hopi words after 1540. During the past century, ethnographers, historians, and others have used various orthographies to represent Hopi words. In this report, the orthography used by other scholars is retained when directly quoting from their publications. In other cases, this report uses the orthography provided by the Hopi Dictionary Project (Hill et al. 1998), which is based on the Third Mesa dialect of the Hopi language.

CHAPTER 3
HOPI CULTURAL AND HISTORIC CONTEXTS

Mount Taylor is a spectacular landmark visible from much of central New Mexico, especially in winter when its summit is covered in snow. Rising to a height of 3,445 meters (11,301 feet) above mean sea level, Mount Taylor is one of the highest peaks in New Mexico. The peak itself is part of the rim around a five square mile volcanic crater, exposed by millions of years of erosion, that rises above a vast pedestal of Cretaceous era sandstone mesas capped by layers of cooled lava (Robinson 1994:110-114).

The peak is named in at least nine languages (Blake 1999:487). Mount Taylor is but the most recent appellation, being bestowed in 1849, in honor of President Zachary Taylor, by Lieutenant James H. Simpson during the first United States military expedition to what is now west-central New Mexico (Robinson 1994:109). Before this, the mountains of which Mount Taylor is a part were called the San Mateo Mountains by the Spaniards. And, well before the Spaniards arrived, the mountain was known to and named by Native Americans throughout the region, including the Hopis.

Mount Taylor has left an indelible mark on the imaginations of many generations of people from many cultures. On December 12, 1879, Frank Hamilton Cushing traveled over the Zuni Mountains to the southwest of Mount Taylor, and later remarked on the view of Mount Taylor. "All the lower country was without snow, but the San Mateo, which stood out against the clear sky all our way down, making, with the mesa landscape between, a picture beyond my descriptive powers, was covered like marble with a mantle of snow" (Cushing in Green 1990:81).

According to Kevin Blake (1999:488), "this sacred peak is an essential component to a system of cultural meaning at both a community and regional scale, sustaining people in physical and spiritual terms." This is certainly the case for the Hopi people. Mount Taylor and its surrounding landscape have powerful cultural significance for the Hopi people (Shingotewa 2001). Indeed, one of the Hopi names for Mount Taylor is *Nuvatukya'ovi*, the same name the Hopis give to the San Francisco Peaks in Arizona.

This chapter provides an initial Hopi cultural context for Mount Taylor and its surrounding landscape, of which Horace and Bibo Mesas are an integral part (Figure 5). First, the present-day structure of the Hopi tribal settlement, language, and society is briefly described. Second, issues regarding the uses of Hopi history, oral traditions, and ethnographies are addressed. Third, the Hopi concept of cultural landscape and how it applies to an area such as Mount Taylor is briefly examined. Fourth, the association of Mount Taylor with Hopi religious personages and religious ceremonies is explored. Fifth, the non-Tewa Hopi clan relationships to the Mount Taylor area are discussed. Sixth, historic population movements between the Rio Grande region and Hopi are reviewed. Finally, the First Mesa Tewa clan with cultural connections to Mount Taylor are listed.

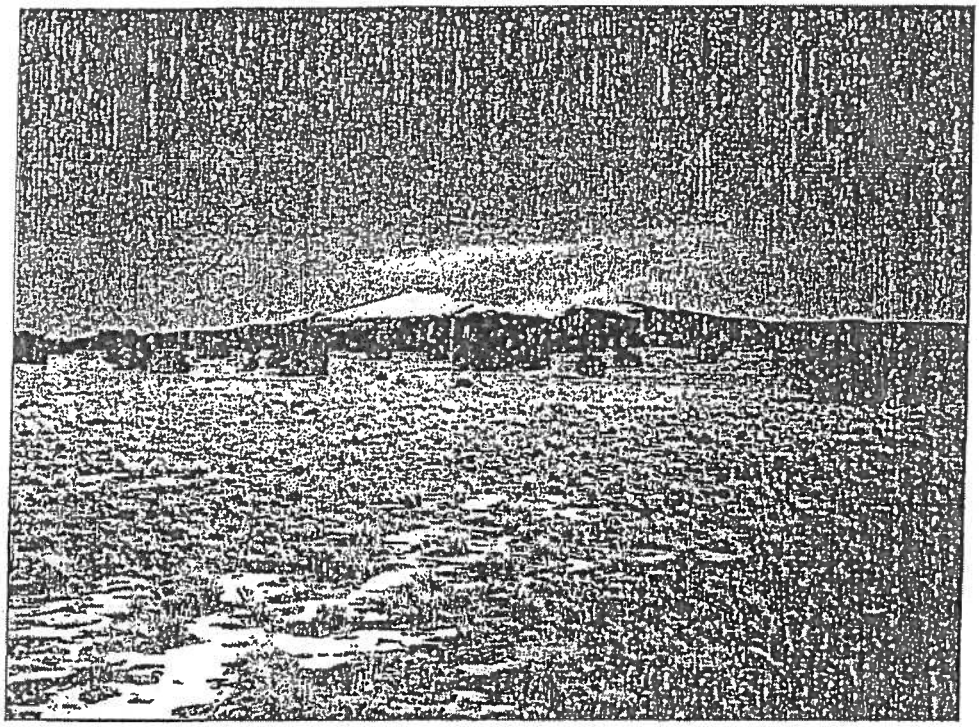

Figure 5. Mount Taylor seen from Horace Mesa. Photograph by Roger Anyon, November 16, 2000.

The Hopi Tribe, Settlement, Language, and Society

The Hopi Tribe is a federally recognized Indian Tribe with a reservation located in northern Arizona. Contemporary Hopi settlement consists of twelve villages and one community (Polacca). The majority of these settlements are located on three mesas at the southern edge of Black Mesa. First Mesa, the easternmost of the three mesas, has three villages on top of the mesa and one community at the base of the mesa. Walpi, Sitsomovi, and Tewa villages are on top, and Polacca at the base. The village of Tewa is populated with Tanoan speakers, who are the descendants of people who journeyed to Hopi from the northern Rio Grande Valley in New Mexico approximately 300 years ago. These First Mesa Tewas are Hopi Tribal members. Second Mesa also has three villages: Songoopavi, Musangnuvi, and Supawlavi. Third Mesa, the westernmost mesa, consists of the villages of Orayvi, Kiqötsmovi, Hotvela, and Paaqavi. Upper and Lower Munqapi villages were originally established as colonies of Orayvi, and are located approximately 46 miles to the west of the other Third Mesa villages.

The Hopi language is a member of the Uto-Aztecan language family, a group of languages distributed as far north as Idaho and as far south as Central America (Hill et al. 1998:xv). The Hopi language has four dialects: First Mesa, Second Mesa (two dialects), and Third Mesa. At Tewa Village on First Mesa, the Tewa people continue to speak the Tewa language. Tewa is a Tanoan language; it is not Uto-Aztecan. Although the Hopi and Tewa languages are mutually unintelligible, most Tewas living at Hopi also speak Hopi (Stanislawski 1979:587).

Hopi society has been studied extensively. In his overview of Hopi social organization, John Connelly (1979:539) notes that "Hopi social structure contains a number of significant

interlocking social groupings." In a recent study of Paaqavi social structure, Whiteley (1988:46) observes that "the key principle in Hopi social structure is a balance effected between discrete groups of different orders, organized on the basis of kinship, residence, and ritual."

Within each village, social structure is comprised of households, lineages, clans and phratries (Eggan 1950:17-138). The household is regarded as "a matrilocal residential and economic unit" (Whiteley 1988:47). The lineage is "a distinct segment of the clan ... contain[ing] the *mechanism* for transmitting rights, duties, land, houses, and ceremonial knowledge" (Whiteley 1988:48, emphasis in original). The clan is the cornerstone of Hopi society (Whiteley 1988:52). In fact, clans are so prominent in Hopi society that "it cannot be overemphasized that the people called 'Hopi' are actually a loosely organized group of independent matrilineal clans" (Geertz 1984:217). A Hopi clan consists of kin who reckon their descent matrilineally, and whose descent lines usually trace back to one female ancestor. According to Loftin (1991:16), it is necessary to understand Hopi clan ancestors to understand the religious aspects of Hopi kinship patterns. He states, "the Hopi speak with great affection and reverence about their clan ancestors and generally refer to them as 'relatives' or 'partners'." Each clan is named totemically, and each has its own history. As Whiteley (1988:52) observes, "in Hopi thought a fundamental of clan differentiation concerns each clan's aboriginal arrival and acceptance into Hopi society. Clans are regarded as having been independent migratory units that arrived at different times and from different directions. Each clan in each village has its own version of clan history." The phratry is an aggregation of related Hopi clans, and is the largest exogamous unit in Hopi society. Whiteley (1988:55) notes that "clans and phratries are not merely units of abstract social structure devoid of cultural or environmental context. They are intrinsic to the Hopi conceptualization of a world in which nature and culture are radically interwoven."

Hopi ceremonial organization is complex, and includes the Katsina belief system, various religious societies, and kiva groups. The Katsina belief system is the only tribal-wide organization into which boys and girls are initiated. According to Eggan (1950:91), katsinas "are thought of as generalized ancestors who return with clouds and rain to help the community." Fourteen religious societies are listed by Whiteley (1988:59). He notes that entrance into a religious society is through initiation. Each society conducts its ceremony at a specific time of the year, and each ceremony is owned by a particular clan (Whiteley 1998:60). In general a kiva (the structure) is taken care of by the members of a particular clan, even though the social significance of kivas is variable (Whiteley 1988:61-62). As Eggan (1950:96) observes, "kiva *membership* is not primarily by clan" (emphasis in original), even though a clan may control a kiva. Each major religious ceremony is associated with a clan, a society, and a kiva (Eggan 1950:89).

The timing of ritual activities is based on an annual religious calendar (Ferguson and Lomaomvaya 1999:27-28). The ceremonial cycle is divided into two periods, about seven and a half months for the Katsina season, and about four and one half months for society ceremonies. Whiteley (1988:59) states that "the ritual cycle is coordinated with the natural cycle, which dictates the parallel cycles of secular human activities." According to Ferguson and Lomaomvaya (1999:27), the "Hopi perform the yearly calendar of ceremonies to ensure rain, fertility, good crops, and a long life." During ceremonies, priests offer prayers, and prayer sticks, prayer feathers, and other offerings are deposited at shrines in villages and at places on the surrounding landscape (Ferguson and Lomaomvaya 1999:29).

Ritual knowledge is known in the Hopi language as *wiiimnavoti. Wiimi* encompasses esoteric rites. *Navoti* includes the teachings, traditions, and body of knowledge of Hopi cultural beliefs (Hill et al. 1998:309, 735; Geertz 1994:10). *Wiiimnavoti* thus includes ceremonies, ritual objects, songs, and traditions used in ceremonies.

Hopi History, Oral Tradition, and Ethnography

During the past century, scholars have documented Hopi clan histories, oral traditions, ceremonies, and lifeways. Scholars have also conducted numerous investigations into ancestral Hopi villages, often using ethnographic information about Hopi to interpret the archaeological record. The result of this research is massive numbers of reports, photographs, other documents, and archaeological collections. Most published Hopi clan migration narratives have been written by non-Hopis (e.g., Courlander 1987; Fewkes 1900; Mindeleff 1891; Stephen 1929; Voth 1905), although some Hopi tribal members have contributed to this documentation (e.g., Nequatewa 1967; Yava 1978).

Hopi history is based, to a considerable degree, in clan migration narratives. Hopi clan history contains esoteric aspects that should not be divulged or released to people outside the clans. Because of the nature of clan knowledge and its role in Hopi life, clan history is carefully guarded. This makes understanding and reconstructing ancient Hopi history a difficult endeavor. As Ferguson (1998a:78) observes, "much of Hopi clan history is embedded in esoteric narratives that are essentially religious in nature. This makes clan migrations a difficult topic for scholarly study. There is a widespread feeling among Hopi people that clan traditions should be kept within the clan and not shared with other people."

Interpreting Hopi clan migration histories is fraught with difficulties, including (1) the many different levels of meaning and frames of reference in Hopi thought; (2) the large number of clans and the nomenclature, classification and ordering of the clans in different villages; (3) some religious ceremonies were brought by clans that are now extinct, and other clans have taken over the responsibility for their ritual performance; (4) attempts to synthesize clan histories into composite accounts; and (5) the fact that clan history concentrates on the area a clan lived immediately prior to arriving at Hopi while earlier history is telescoped and thus more obscure than more recent migration knowledge (Ferguson 1998a:78-79). In addition, some of the ceremonies previously practiced by now extinct clans have not continued into the present, but are still represented in clan traditions (Leigh Kuwanwisiwma, personal communication 1999).

In addition to its history as a migratory unit, each clan has oral traditions and knowledge that place it in a cosmological order associating it with natural species and supernatural forces (Whiteley 1988:52). The clan, then, is a social unit that is much more than just a migratory group. A critical part of clan identity is its ancient history, the reenactment of that history in ritual that is couched in "manifold frames of reference: mythico-historical, theological, ritual, geographical, archaeological, botanical, zoological, meteorological, and so forth" (Whiteley 1988:53). This also makes the study of clan migrations difficult. As Ferguson and Dongoske (1994:24) explain,

> Each clan and each religious body has a unique oral tradition that specifically explains how and why it came to be at Hopi. There is general agreement on the

main tenets of Hopi origin and migration but many accounts show considerable variation in specific details. Hopi clan history is an exceedingly complex subject and, given its esoteric component, a true exegesis is not possible in a scholarly work.

Hopi clan history is more than simply oral tradition. The traditional knowledge brought to Hopi by different clans, when combined as a whole, constitutes a significant portion of Hopi philosophical, theological, and cultural concepts. As such, clan knowledge is folded into the fabric of Hopi ritual and ceremony. Hopi traditional knowledge is called *navoti* in the Hopi language. *Navoti* is more than narrative as the spoken word. It encompasses an entire range of customary practices. When assessing Hopi clan migrations, the concept of *navoti* is a critical element of how Hopis view their history.

Research documenting Hopi clan migration narratives requires an understanding of the contexts and intricacies of oral traditions. This research also demands an understanding of the concepts of *navoti* and *wiimi*. Hopi history is complex and multifaceted, and any discussion of clan migrations in scholarly research is, by necessity, limited.

Mount Taylor and the Hopi Cultural Landscape

Mount Taylor is an integral part of the Hopi cultural landscape. The Hopi cultural landscape embodies Hopi history by situating Hopi history in a spatial context that associates places, named and unnamed, with the lives of Hopi ancestors, Hopi deities and Hopi religion. Hopi history is commemorated by present-day Hopis in songs, ceremonies and oral traditions. As Don James (2000) explained, "we [First Mesa Tewas] tell our history through our songs, and Mount Taylor is mentioned in our Tewa songs ... Tewas have songs about the lava and ancient sites in the Mount Taylor area. There are ancestral burials and shrines in this area." The same is true for the non-Tewa Hopis, as Mount Taylor area is known and well-remembered in Hopi songs, ceremonies and traditions (Kuwanwisiwma 2001).

In many ways, Mount Taylor and the San Mateo Mountains are akin to the San Francisco Peaks near Flagstaff. The San Francisco Peaks are a focal point of the Hopi cultural landscape, situated within a vast volcanic field containing hundreds of cinder cones. Many shrines, landforms associated with Hopi deities, katsina homes, ancestral villages, trails, eagle gathering locations, and plant collection areas are found throughout the Hopi cultural landscape surrounding the San Francisco Peaks (Ferguson and Lomaomvaya 2000:3). The topographic setting of Mount Taylor is reminiscent of the San Francisco Peaks: it is the highest peak in the San Mateo Mountains, the mountain mass is a volcanic feature, and the peaks are set within a large volcanic field consisting of volcanic necks, lava flows, and pumice.

Place Names

Place names contain information of all kinds, providing a context for the place within a set of cultural values. Prominent landscape features such as Mount Taylor are given names by different cultures, such as different pueblos, the Spaniards and the Americans. Oftentimes a place like Mount Taylor will be given more than one name by a specific culture to provide different

contextual meanings to that place. Mount Taylor, and the area nearby, is given various names by members of the Hopi Tribe.

Nuvatukya'ovi is the Hopi name given to both Mount Taylor and the San Francisco Peaks, which translates into English as "Snow-mountains-peaks-place." Using the same name for both these mountain peaks is an old practice (Stephen 1894b:6; Kewenvoyouama 2001; Joshevama 2001). As Stephen (1936:442) notes, Mount Taylor is the mountain of the Hopi cardinal direction of the northeast. It is the terrestrial place which is the northeast home of the katsinas. Northeast is associated with the color white in Hopi traditions (Stephen 1936:1194).

Other Hopi names for Mount Taylor appear to be derived from names associated with other Puebloan tribes. *Kawestima* is used as a Hopi name for Mount Taylor (Lomayestewa 2001). According to ValJean Joshevama (2001) this is the name used by the New Mexico Pueblos. It is a variant of the Acoma name, *Kaweshtima* (Snowy Peak), as reported by Blake (1999:87). The Hopi name for Laguna Pueblo, *Kawàyka'a,* is also used for the area around Mount Taylor (Shingotewa 2001). *Tsiipiya,* a name occasionally applied to Mount Taylor but which not a Hopi word, is the Hopi appellation for the Sandia Mountains near Albuquerque (Lomayestewa 2001; Saufkie 2001). It is similar to *Tse-pi'na* (Woman veiled in clouds), the name apparently used by the Lagunas for Mount Taylor (Silko 1986:87).

In the Tewa language, the First Mesa Tewas call Mount Taylor *Pingtsey,* which translates into English as White Capped Mountain. A shrine, located on the northwest side of Mount Taylor, that was constructed during the Tewa journey from their Rio Grande home to First Mesa, is called *Pingtsey'kwaya*. This shrine is mentioned each year in the *Tun-tah* (Winter Solstice Ceremony) when the history of the First Mesa Tewa people is reiterated in song form. This shrine is said to be about 200 feet from a spring on the northwest side of Mount Taylor. It is well-constructed from rock, about 10 feet high and 4 feet in diameter, open to the east, with petrified wood inside it (Ami et al. 2001).

The area immediately to the south and west of Mount Taylor has Hopi names. The red rock valley between Grants and Gallup, New Mexico is called either *Palatpela* or *Palatutuwkwi* (Kuwanwisiwma 2001; Saufkie 2001) According to Kuwanwisiwma (2001) this valley has long been used as a trade and travel route by Hopis, for example when they would visit the Sandia Mountains to gather minerals for ceremonial uses. *Pamöstupqa* (Canyon of the Fog) is the Hopi name for the valley in which Grants is situated, and *Patusungtanga* is an ice cave near Milan.

Mount Taylor and Associated Hopi Religious Personages and Ceremonies

Mount Taylor has many associations with Hopi religious personages and religious ceremonies. There are narratives of deities engaged in epic struggles, and katsinas seeking refuge within its confines. Some of these associations are by reference to events that occurred at Mount Taylor, while others are by association with clans that have connections to Mount Taylor. Religious ceremonies are connected to Mount Taylor by their association with certain religious personages and certain clans.

Stephen (1929:4-6) relates an emergence narrative of the time when the people were living at the lowermost level before they emerged into the present world. There are said to have been

four mountains at the cardinal points, the one at the Northeast point (Mount Taylor) being where the deities *Kòokyangwso'wùuti* (Spider Woman), *Pöqangwhoya*, and *Palöngawhoya* lived. Spider Woman was visited by the Hopi War chief who brought *paahos* (prayer sticks) for her and a nodule club for *Pöqangwhoya and Palöngawhoya*. Spider Woman told the people to come to the mountain of her home in order for her to assist them. A great flood occurred, and the people went to the top of the mountain, which grew fast enough to just keep ahead of the rising waters. It was then that Spider Woman planted the reed which grew into the sky, and it was through this reed that the people climbed to reach their point of emergence onto the surface of the present world.

Two of the narratives about deities involve exploits of the brothers, called *Pöqangwhoya and Palöngawhoya*. Both Stephen (1929) and Mullett (1979) provide similar published versions of these narratives that locate the exploits at Mount Taylor. The similarities are not altogether surprising. Stephen was a resident on First Mesa during 1880s and 1890s, and made copious records of Hopi daily life, ceremonial life, and oral traditions. Jesse Walter Fewkes, and the Mindeleff brothers, were closely acquainted with Stephen and drew heavily on his observations for their own published work. Mullett was a close associate of Fewkes, and the individual who drew illustrations for many of his reports.

In published literature, reference is often made to *Pöqangwhoya and Palöngawhoya* as Twins or War Gods, but this a misconception (Kuwanwisiwma 2001). Ferguson (1998a:41-42) explains that these two Hopi deities are actually brothers not twins, as one is older than the other. *Pöqangwhoya* is the elder brother. *Palöngawhoya* is the younger brother, and his name means "echo" because he does everything his older brother does. Neither is the characterization of these two deities as "War Gods" entirely accurate, because they are associated with much more than warfare. In an added complication to the characterizations of these deities, Ferguson (1998a:41) states, "in some Hopi villages *Pökanghoya* is the term used to refer to both brothers and *Palöngawhoya* is used to refer to another spiritual being."

Pöqangwhoya and Palöngawhoya Defeat Tseveyo

In Mullett's version of a narrative entitled 'The Twins Visit Tawa,' the opening sentence is: "On the west side of Mt. Taylor deep in her mysterious kiva of hoary gray stone, hung with floating drapery of dew-gemmed gossamer web, dwelt the all-powerful Spider Woman, with her twin grandsons, Puukonhoya, the Youth, and Palunhoya, the Echo" (Mullett 1979:54). The narrative continues by noting the fearlessness of *Pöqangwhoya and Palöngawhoya*. They were at a great pool of water near their home on Mount Taylor, when *Tseveyo* came to slake his thirst which was so great he drained the pool four times. When his thirst was quenched he detected *Pöqangwhoya and Palöngawhoya*, and immediately attacked them. A fearsome battle ensued, which the brothers won by shooting *Tseveyo* with lightening bolts given to them by *Taawa*, their father, the Hopi sun deity. Following their victory, *Pöqangwhoya and Palöngawhoya* endured a harrowing journey to the House of the West, the turquoise kiva, to visit their father, *Taawa*, and their mother, *Huru'ing wùuti* (Woman of Hard Substances).

Pöqangwhoya and Palöngawhoya Kill Giant Elk

Mount Taylor is the setting for another epic struggle of deities, in which *Pöqangwhoya and Palöngawhoya* kill the Giant Elk (Mullett 1979:127-131). The brothers had resolved to rid the world of Giant Elk, because he was a fearful creature that harassed the Peaceful People. To aid them in their quest, *Pöqangwhoya and Palöngawhoya* enlisted the assistance of Uncle Mole. Uncle Mole knew the whereabouts of the Giant Elk. He told them that Giant Elk had spent the morning in a nearby pool into which he had waded to escape the flies and feed on water plants, and had then gone to lie down in the green valley beside the pool. In addition to knowing where Giant Elk was resting, Uncle Mole also helped *Pöqangwhoya and Palöngawhoya* by digging four underground chambers they could use to hide from Giant Elk during the upcoming battle. Mullett (1979:129) continues to describe Uncle Mole's assistance, as he "dug a long tunnel that stopped right under the huge dozing body of the Giant Elk lying in the green valley close by Mt. Taylor." He then tricked Giant Elk into allowing him to pluck some fur off Giant Elk, thus providing a vulnerable spot at which the Elk could be attacked. With this assistance, and using magic lightening given to them by *Taawa*, their father, *Pöqangwhoya and Palöngawhoya* battled Giant Elk, retreating into the four tunnels dug by Uncle Mole when the Elk gored the earth in his anger. *Pöqangwhoya and Palöngawhoya* killed Giant Elk, ridding the earth of this fearsome creature.

Katsinas Associated with Mount Taylor

Katsinas are generally thought of as Hopi ancestors who return with clouds and rain to help the community (Eggan 1950:91), although some katsinas represent ogres, warriors, and other sacred personages. Mount Taylor (*Nuvatukya'ovi*) is regarded as a home of the katsinas, in the same way that Hopis revere the San Francisco Peaks (Kewenvoyouma 2001). The concept of mountains being the home of katsinas is very old, and many of the katsinas associated with Mount Taylor are also closely associated with clans that have histories in the Mount Taylor area. This is why some Hopi clans use the same name for Mount Taylor and the San Francisco Peaks, both of which are very special places within the Hopi cultural landscape (Kuwanwisiwma 2001). According to Wilmer Kavena (2001) songs are sung each year during religious ceremonies to request that the katsinas come from their home on Mount Taylor to visit Hopi.

This brief review provides only selected examples of katsinas that are closely connected with Mount Taylor. Some katsinas are associated with Hopi clans that long ago migrated though the Mount Taylor area, and some are said to have been introduced to Hopi by the Tewa. For example, Clifford Qötsaquahu (2001) noted that *Aholi*, *Eötoto*, and *Mu'yingwa* reside at Mount Taylor. The *Tsakwayna* katsina, who is also associated with Mount Taylor, is reported by Curtis, among others, to have been brought to Hopi by the *Asa* Clan (Curtis 1922:95).

According to ValJean Joshevama (2001), many katsinas that visit Hopi and are derived from New Mexico pueblos are closely associated with Mount Taylor. Examples of these are the *Tsaveyo*, *Soyoko* and *Nata'aska* katsinas. *Tsaveyo*, of course, represents the ogre killed on Mount Taylor by *Pöqangwhoya and Palöngawhoya*. *Soyoko* is a black faced ogre woman katsina, and *Nata'aska* a black ogre katsina who accompanies her (Colton 1959:26-28). Fewkes (1903:70-71), on the other hand, states that the *Soyoko* katsinas are synonymous with the *Nata'aska*

katsinas, a group of ogre katsinas brought to Hopi from the eastern pueblos in New Mexico which were introduced to Hopi by the *Asa* Clan and the Tewa people.

A narrative about the *Huuhuwa* katsina tells that long ago many katsinas were ambushed, killed, and burned in a ravine near Santa Domingo Pueblo, but one survived the attack and went to Mount Taylor. This katsina, *Huuhuwa,* came upon a man at Mount Taylor and told him of what had happened, which brought *Huuhuwa* to tears. This is why, today, *Huuhuwa* has red dots on his mask as tears, and his mouth sags to one side (Kavena 2001).

Volcanic eruptions have special significance in Hopi culture. Eruptions represent punishment and send the message that the Hopis need to reorient themselves back to the true Hopi path. The *Kana'a* katsina is associated with Mount Taylor, as the spirit of the fire of the volcano, cinder cones, and lava. *Kana'a* is associated with all volcanoes but principally with Sunset Crater near the San Francisco Peaks, the eruption of which was witnessed by ancestral Hopis (Kuwanwisiwma 2001). *Paalölöqangw* (Plumed Water Serpent), who moves underground and causes earthquakes, could also be a cause of volcanic eruptions (Qötsaquahu 2001). Because Mount Taylor is a volcanic mass, the mountain and all its lava flows are regarded as a "spiritual sanctuary area" where tranquility should exist (Kuwanwisiwma 2001).

Eötoto, who lives on east side of Mount Taylor, is closely associated with the *Nuvaktsina* and the *Hemiskatsina* (Kooyahoema 2001). According to Fewkes (1903:83-84) the *Nuvaktsina* is regarded by all Hopis as being of Tewa origin, having been derived from far east of Hopi. In 1899, Fewkes (1903:83-84) observed a *Nuvaktsina* ceremony at a spring called *Mönwiva*, near Keams Canyon. This spring is said by Fewkes to be sacred to the Tewa and be associated with the Tewa Plumed Serpent. The intimate association between the Plumed Serpent and the *Nuvaktsina* is seen by representations of the Plumed Serpent on the *Nuvaktsina* (Fewkes 1903:Plate XXII). The *Hemiskatsina,* that appears only as a Niman katsina at certain Hopi villages (Hill et al. 1998:68), has a Douglas Fir ruff and carries a sprig of Douglas Fir (Colton 1959:50). Douglas Fir grows at high altitudes such as those found on Mount Taylor.

In a description of events and activities associated with the *Sa'lako* ceremony, Stephen (1936:442) includes a footnote that states "The Shoyo'him katchina dwell at four terrestrial places in the directions of the four world quarters: Toward the Northwest, at Kishyu'ba; Southwest at Nüva'tikyauobi (San Francisco Mountains); Southeast at We'nima ...; Northeast at Nüva'tikyauobi (San Mateo Mountain or Mt. Taylor)."

Named Religious Personages Associated with Mount Taylor

Research for the Enchanted Skies Park and Observatory has identified a number of Hopi religious personages, both deities and katsinas, who are associated with Mount Taylor, many of whom are discussed above. Table 3 is by no means exhaustive. For example, this is not a complete list of all the katsinas who visit Hopi, only a list of those specifically noted during the research for this project as being associated with Mount Taylor. Undoubtedly, further research would identify additional named Hopi religious personages associated with Mount Taylor.

Table 3. Hopi Religious Personages Associated with Mount Taylor.

Hopi Name	*English Gloss*
Pŏqangwhoya	Elder Brother
Palŏngawhoya	Younger Brother
Kòokyangwso'wùuti	Old Spider Woman
Tseveyo	Ogre Katsina
Tsayrisa	Giant Elk
Muuyi	Uncle Mole
Taawa	Sun Deity
Mu'yingwa	Germination God,
Somaykoli	Yaya Ceremony Deity
Paalŏlŏqangw	Plumed Water Serpent
Nuvaktsina	Snow Katsina
Hemiskatsina	Jemez Katsina
Pautìwa	Zuni Sun God Katsina
Tsakwayna	Chakwaina Katsina
Huuhuwa	Cross-Legged Katsina
He'e'e	Warrior Mother Katsina
Kana'a	Lava Katsina
Eŏtoto	Katsina Chief
Aholi	Katsina Chief's Lieutenant
Soyal	Solstice Katsina
Hoototo	Green Face Katsina
Sakwahotooto	Yellow Face Katsina
Sa'lako	Shalako Katsina
Nata'aska	Ogre Katsina
Ahŏla	Mong Katsina
Hahayiwuti	Katsina Mother
Qŏqlŏ	Katsina (Motisinom)
Qalèetaqa	Warrior Katsina

Ceremonies and Religious Societies Associated with Mount Taylor

Many Hopi ceremonies and societies have connections with Mount Taylor, often by virtue of associated religious personages and clans that have close ties to the mountain. Anthropological studies and popular perceptions of Hopi religion often concentrate on the katsina ceremonies, sometimes to the exclusion of everything else. The annual non-Tewa Hopi ceremonial calendar is, however, divided into two periods, one of about 7½ months for katsina ceremonies and the other about 4½ months for society ceremonies (Ferguson and Lomaomvaya 1999:27). The First Mesa Tewa ceremonial cycle parallels that of the non-Tewa Hopi cycle, with the notable exception that some Tewa katsina ceremonies continue past the end of the non-Tewa katsina season (Stanislawski 1979:598).

The non-Tewa Hopi katsina season opens at *Soyalangw* (Winter Solstice Ceremonies) in December and continues through July, ending with *Nimantikive* (Home Dance), when the katsinas return to their mountain homes. All of the katsina ceremonies are associated with

katsina homes, of which Mount Taylor is one, and include the following ceremonies: *Soyalangw* (Winter Solstice), Buffalo Dances, *Powamuyu* (Bean Dance), *Paalölöqangw* (Water Serpent), *Taawavaho* (Summer Solstice), and *Nimantikive* (Home Dance). The Katsina Society is the only tribal-wide society, with boys and girls being initiated. Katsina ritual and dances, however, are primarily the domain of men. On all three mesas, the Katsina Society is said to be associated with the *Powamuyu* Society and with the Katsina-Parrot clan phratry (Eggan 1950:91).

The First Mesa Tewa have ceremonies that they maintain separately from those conducted by other Hopis, despite some overlap with the Hopi ceremonial cycle. A number of ceremonies remain distinctly Tewa, including *Tán-tay* or Winter Solstice ceremony, in November or December; the War ceremony in January; the Ground Freezing ceremony in February; the Tewa Horned Serpent ceremony in March; Sun Stick making in July; and *Tapang* or the *Sooma'kole* curing ceremony in August (Stanislawski 1979:597-598).

Winter solstice ceremonies are an especially important time of the year. *Soyalangw* is regarded as "the keystone of the Hopi ceremonial system and includes every household in its activities and benefits" (Eggan 1950:97). It is at this time of year that the katsinas return to Hopi. For the First Mesa Tewas, *Tán-tay* is when the history of the journey from the Rio Grande to Hopi is retold in song as part of the ceremony (James 2000). According to Fletcher Healing, at this time, the Tewas make *paahos* for *Pingtsey'kwaya,* the shrine on Mount Taylor (Ami et al. 2001). The knowledge regarding altars used during the *Tán-tay* is said to have been brought with the Tewa ancestors who came from the Rio Grande (Fewkes 1899a:274). The ceremony is said to bring back the sun and to fertilize corn and seeds, just as does *Soyalangw* (Fewkes 1899a:275).

It is widely believed that the Buffalo Dance originated in the eastern pueblos of New Mexico. Dalton Taylor (2000) explained that at one time the Hopis did not have this dance. The Walpi chief told a man to go and find the buffalo he had heard about, and told him to look for a snow covered mountain. He went to the mountain near Taos, and along the way he went by Mount Taylor and the Sandia Mountains. When he reached the mountains near Taos Pueblo he learned the Buffalo dance, returned to Walpi, and introduced it to the people there.

It is during *Powamuyu* that *Nata'aska* and other ogre katsinas visit Hopi villages. They visit homes where children live to scare the children into obedience of their parents (Stanislawski 1979:571). Don Talayesva, for example, vividly remembered how scared he was of these katsinas when he was a child, and how he scared children himself in later years as an ogre katsina (Simmons 1942:45, 181-183).

Hopi people make *paahos* for Mount Taylor but deposit them locally; they do not physically deposit them on Mount Taylor (Numkena 2001). Today, *Kìisiw*, is often stated to be the katsina home representing the northeast (Hill et al. 1998:139). *Kìisiw* is a spring located to the northeast of First Mesa, which serves as an iconic representation of the northeast home of the katsinas. In other contexts the northeast home of the katsinas is identified as *Nuvatukya'ovi,* or Mount Taylor. As Clifford Qötsaquahu (2001) remarked, *Kìisiw* is the local home of katsinas. Yava (1978:98) states "they say that whenever you take prayer feathers to the shrine [*Kìisiw*], from a distance you can hear the kachinas chanting and making kachina sounds." The use of shrines near the Hopi villages as iconic representations of more distant sacred places has

increased in recent decades as land access problems have become more acute (Kuwanwisiwma 2001).

There are various ideas about how katsinas originated and became part of the Hopi ceremonial cycle. Albert Yava, a First Mesa Tewa, notes that the Katsina Clan in different villages has slightly different versions regarding the origin of the katsinas (Yava 1978:98). Fewkes, on the other hand, claims that katsinas were introduced to First Mesa by the Badger and Katsina Clans "who brought this cult from the eastern or Rio Grande pueblos ... legends clearly state that the Ho-na'-ni [Badger] brought it to Walpi when they came" (Fewkes 1894a:407; see also Fewkes 1899b:543, 1900:623). In general, however, it can be said that the katsina belief system is associated with the *Motisinom* clans, the clans that originated and always stayed in North America. This is in contrast to the society ceremony season, which originated with clans from the south as well as the north (Anyon 1999:47).

Society ceremonies in the non-Tewa Hopi ceremonial cycle that have connections to Mount Taylor include the *Lalkont*, *Maraw*, *Yaya*, and *Somaykoli* ceremonies (Kuwanwisiwma 2001). The *Wuwtsim* and *Qalèetaqa* societies and their ceremonies also have connections with Mount Taylor. In this section the Tewa *Tapang* (*Sooma'kole*) ceremony is also discussed because of its close relationship to the Hopi *Somaykoli* ceremony. According to Eggan (1950:90-91), each ceremony is said to be controlled by a specific clan or clans at each village, but the ceremonies are performed by a society or fraternity whose membership cross cuts clans.

Wilton Kooyahoema (2001) reports that his grandfather told him that Hopis took offerings to Mount Taylor every four years during *Wuwtsim* initiations. During this pilgrimage the *Qalèetaqa* accompanied them to Mount Taylor for their protection.

The *Qalèetaqa*, or *Mòmtsit* as it is known on Third Mesa, is the Warrior Society. According to Fewkes (1900:623) the Warrior Society came to Hopi from the New Mexico Pueblos. The Warrior Society has diminished since the cessation of warfare (Eggan 1950:100). Eggan states that formerly there were two Warrior Societies: the *Mòmtsit*, which consisted of *Mòmtsit* and the Stick Swallowers Societies, and the Real Warriors Society consisting of those who had killed and scalped an enemy. The *Qalèetaqa* ceremony is performed during *Soyalangw* and includes stick swallowers and a war dance (Eggan 1950:101). During *Qalèetaqa* ceremonies, images of *Kòokyangwso'wùuti*, *Pöqangwhoya*, and *Palöngawhoya* are prominently displayed as part of the society altar (Figure 6) (Curtis 1922:131-135; Stephen 1936: 85-86, 93). Specular hematite, which Hopis are reported to have collected in central New Mexico, is used to make paint for *paahos* (Stephen 1894a:5, 1936:92), and *paahos* are also "painted with a mixture of water and ground lava" (Curtis 1922:133). Curtis also reports that chewed plant roots are deposited in a medicine bowl as part of the ceremony, all of which are all gathered from timbered mountains (Curtis 1922:134).

Figure 6. Warrior Society Altar at Walpi in 1893. Adapted from Stephen (1936: Figure 67).

Curing ceremonies are believed to have been introduced to Hopi by the Tewas. Stanislawski (1979:598) states, "in general, the Hopi ceremonies are basically water and fertility ceremonies, while the Hopi-Tewa ceremonies are curing and village-aid ceremonies." Fewkes (1899a:260) notes that the Tewa celebrate the *Sooma'kole (Sumaykoli)*, or sun prayer stick making ceremony, in August, and he regards this as a specifically Tewa ceremony. In his discussion of the Hopi-Tewas, Eggan (1950) notes that oral traditions of the Tewas tell that the *Sooma'kole* came to Arizona from New Mexico with the Tewa Cloud Clan (Eggan 1950:159). The *Sooma'kole*, Eggan states, is primarily a curing society which specializes in curing "sore eyes." He continues, "the sumaikoli also appear as Walpi Katchina, but the ceremony was probably brought by the Tewa immigrants and, if the term is Keresan, originally borrowed from the latter. There is some connection between the Hano Sumaikoli society and the Hopi Yaya, the nature of which is not clear" (Eggan 1950:165). The Hopi Yaya Society is a curing society that "cured burns due to fire and indulged in fire magic" (Eggan 1950:101).

Ceremonial and Medicinal Plants and Minerals Collected in the Mount Taylor Area

Hopi religious pilgrimages are conducted to collect plants and minerals for ceremonial purposes at locations throughout the Hopi cultural landscape, including Mount Taylor. These items are used in ceremonies at the Hopi villages. The importance of collecting plants and minerals and Hopi ties to the land is memorialized in a statement made by Peter Nuvumsa, made during hearings regarding Hopi land claims. He said (Nuvumsa 1955:112), "it is from the land that each true Hopi gathers the rocks, the plants, the different woods, roots, and his life, and each

in the authority of his rightful obligation bring to our ceremonies proof of our ties to this land. Our footprints mark well the trails to these sacred places." Some of these journeys to collect plants and minerals could be long and arduous. Hough (1898:138) reported one Tewa-Hopi who would make a 400 mile trip to obtain a specific birch bark.

Native tobacco and bear root have been collected by Hopis at Mount Taylor. Don James (2000) and Clifford Qötsaquahu (2001) reports that First Mesa Tewas and other Hopis come to Mount Taylor to collect *piiva* (tobacco) and bear root or bear medicine. Tobacco is used in ritual smoking contexts throughout the ceremonial cycle, and plays an important role in all katsina ceremonies. Smoking is often conducted as a means to encourage cloud formation and the production of rain. A special mix of native tobacco, and the young leaves of pine, spruce, and aspen is made into 'cloud tobacco' that is smoked in pipes called cloud blowers (Stephen 1936:599). Tobacco is the *wu'ya* (totem) of the Tobacco Clan.

Bear medicine is also known as osha (*Ligusticum porteri*). Once dried the root can retain its viability as a medicine for years. It has many uses, including reducing coughs, eliminating toxins, curing viral infections, and settling indigestion (Moore 1979:119-123). Alexander Stephen (1936:857-863) describes the use of bear root in a ceremony at Tewa village in 1893 in which the medicine was used to successfully cure his chest pains. Stephen (1936:98) also describes the use of bear root as part of the pellets attached to a warrior's bandoleer, and as an ingredient in medicine water used by members of the *Qälèetaqa*.

Evergreens and other plants for medicinal uses are also collected by Hopis at Mount Taylor (Joshevama 2000; Kewenvoyouma 2001; Shingotewa 2001). ValJean Joshevama (2001) remembers Perry Honanie, Sr., going on a pilgrimage to Mount Taylor to collect evergreens shortly after the Second World War. *Hot'oqlanganga,* a "backbone medicine," was collected from the Mount Taylor area according to Jim Tawyesva's grandfather (Tawyesva 2001). This is probably spearmint or *Mentha spinicata*, an Old World plant that is now found throughout North America. A species of greasewood was also harvested in the Mount Taylor area.

The mineral called *Sakwa* was collected near Mount Taylor (Lomayestewa 2001). This is probably a reference to the mines in the Zuni Mountains visited by Frank Cushing (Green 1990:66-81). As Green notes, the material at these mines is not turquoise as Cushing had imagined it would be, but a soft blue green stone used for ceremonial paint. Hopis also used to collected specular hematite at a location in central New Mexico, for ceremonial use, (Stephen 1894a:5), a journey that presumably would have taken them past Mount Taylor.

Mount Taylor and Hopi Clans

Hopi clans arrived at Hopi following long and arduous migrations that took many of them through the Mount Taylor area (Kuwanwisiwma 2001; Tawyesva 2001). It is for this reason that many of the ancient ruins and archaeological sites in the Mount Taylor area may well be places that were occupied and used by Hopi clans in the distant past (Kewenvoyouma 2001). For example, Leigh Kuwanwisiwma (2001) notes that the so-called Chacoan system encompasses the area round Mount Taylor. Chaco Canyon and its ancient pueblos are very important ancestral homes of many Hopi clans, and by extension the clans that lived in Chaco Canyon were closely connected to the contemporary ancestral settlements around Mount Taylor. Kuwanwisiwma

parenthetically noted that Casa Rinconada, the isolated 'great kiva' in Chaco Canyon, is believed by Hopis to be the plaza home for the *Lalkont* and *Maraw* ceremonies.

Accounts of Hopi clan migrations rarely mention Mount Taylor by name, but the routes taken by Hopi clans indicate that they passed through the vicinity of Mount Taylor during their journeys. Kooyahoema (2001) states that the Bow and Butterfly Clans came from the Mount Taylor area, and the Bear and Deer Clans have associations with the area as well. He also notes that his grandfather told him of pilgrimages to Mount Taylor by the Water and Water Coyote Clans from Orayvi. They would go on foot or on burro to make offerings on the mountain. Many Hopi clans that came from different parts of what is now New Mexico, especially the Rio Grande region. Some of these migrations took place in the ancient past; others occurred in the historic period (see below).

Fewkes (1900:584) provides a list of Hopi clans from the east and Rio Grande region. Clans that appear to have migrated to Hopi before the historic period include the Bear Group (Bear, Wildcat, Bluebird, and Spider Clans), the Firewood Group that came from Jemez via Sityatki (Firewood [Fire], Coyote, Wolf, Yellow-fox, Grey-fox, Masau, Eototo, Pinon, Juniper, Bow, and two different Bird Clans), and the Reed Group (Reed or Arrow, Eagle, Hawk, Turkey, Sun, two War-God Clans, and one clan with no English gloss). Fewkes often provides names of clans that are today extinct, or he gives clan totems. In this regard some of the clans named by Fewkes may be duplicated because one clan may have several *wuya* (totems).

Mindeleff (1891:18-20) states that the Horn people (primarily the Deer and Antelope Clans) arrived at Hopi from a place in the east that he suggests may be the region of the Rio Grande headwaters. The Bear Clan is also said to have originally lived in the mountains to the east not far from the Horn people. Both the Bear and Horn people stopped along the way to Hopi, and lived and planted crops for awhile at each stopping place. The Horn people seem to have migrated through the Four Corners region then southward to Hopi; whereas the Bear Clan broke into smaller groups who found their way to Hopi by various unspecified routes.

Some clan narratives provide connections with the Mount Taylor area in a less direct way than a migration though the area. For example, part of the Rattlesnake Clan narrative tells that when they were living at Wupatki near the San Francisco Peaks, a runner called *Tsámaheya* went eastward in search of other people. When he reached the mountains in the east he went to the top and found *Pöqangwhoya and Palöngawhoya* playing shinny. To help him find the people he was looking for *Pöqangwhoya and Palöngawhoya* "shot an arrow southward and it traveled far onward to an inhabited place" (Curtis 1922:77). The arrow brought the message about the people back to *Tsámaheya* who started homeward, but he stopped at Acoma, and stayed there. The people at Wupatki sent Antelope to find *Tsámaheya*, and, following his trail, Antelope found him at Acoma.

Some archaeological evidence for Hopi people being in the Mount Taylor area immediately prior to and just at the very beginning of the historic period is provided by Ellis. She states (Ellis 1979:439), "a scattering of Pueblo IV Hopi-type sherds also is found in sites around Mount Taylor" which she interprets as evidence of either trade or an influx of people from the Hopi area.

Research for this project has identified the following Hopi clans that have connections with the Mount Taylor region in ancient and historic times (Table 4). This list is derived from the published literature, interviews, and CRATT meetings for this project.

Table 4. Hopi Clans Associated with Mount Taylor Area.

Hopi Name	*English Gloss*	*Village or Mesa*
Taawangyam	Sun Clan	All three mesas
Tuwangyam	Sand Clan	Third Mesa
Pifngyam, Pipngyam	Tobacco Clan	All three mesas
Kookopngyam	Fire Clan	All three mesas
Qaöngyam	Corn Clan	Musangnuvi
Kyelngyam	Sparrow Hawk Clan	Third Mesa
Paatangngyam	Squash Clan	Musangnuvi, Third Mesa
Masikwayngyam	Grey Eagle Clan	Musangnuvi, Orayvi
Kyarsngyam	Parrot Clan	Third Mesa
Kwaangyam	Eagle Clan	Musangnuvi, Third Mesa
Honanngyam	Badger Clan	Musangnuvi, Orayvi, Walpi
Poovolngyam	Butterfly Clan	All three mesas
Aawatngyam	Bow Clan	First and Third Mesas
Tepngyam	Greasewood Clan	Awatovi and Third Mesa
Paaqapngyam	Reed (Bamboo) Clan	First and Third Mesas
Honngyam	Bear Clan	All three mesas
Tsu'ngyam	Rattlesnake Clan	All three mesas
Katsinngyam	Katsina Clan	All three mesas
Tsorngyam	Bluebird Clan	Songoopovi
Patkingyam	Water Clan	All three mesas
Paa'isngyam	Water Coyote Clan	Orayvi
Tapngyam	Rabbit Clan	All three mesas
Aasngyam	Tansy Mustard Clan	First Mesa
Tsaakwaynangyam	Chakwaina Clan	First Mesa
Hospo'ngyam	Roadrunner Clan	First Mesa
Isngyam	Coyote Clan	Orayvi

Historic Population Movements

Clan migrations during the historic period are numerous and complex. Some clans migrated to Hopi from other areas and stayed at Hopi. Some clans migrated to Hopi, then later left to return to their original homes. Other clans migrated to Hopi, left temporarily, then returned to Hopi and stayed there. The complexity of historic period migrations is exacerbated by Spanish oppression of eastern Pueblos, drought, disease, and nomadic raiders who enhanced their raiding abilities by using horses. Here the focus is on population movements that link Hopi with the Mount Taylor area. It is assumed that movement between the Rio Grande and Hopi would have been predominantly through *Palatpela*, the red rock valley between modern Grants and Gallup to the west of Mount Taylor.

Tewa and Asa Clans Journeys to First Mesa

The journey of clans from the Rio Grande to First Mesa during the historic period is documented from both a western historical perspective and by oral traditions. As may be expected, the historical perspective favors dates and places. The oral traditions favor the deeds of people, clan movements, and the places they stayed along the way. History tends to lump the Rio Grande people into large groups, whereas the oral tradition is careful to maintain clan identities. Some versions of the story combine both historical data and oral tradition. Here, historical information is briefly provided, followed by more detailed information regarding oral traditions and connections with Mount Taylor. In this discussion the Rio Grande clans include the First Mesa Tewas of Tewa Village and other clans, for example the *Asa* (Tansy Mustard) Clan that is centered in Sitsomovi. The relationships between the clans that have retained their Tewa language and identity and those that have not is complex and delicate.

The First Mesa Tewas interviewed for this project made two preliminary but significant points in their interviews. First, they are absolutely adamant that they are called Tewa, not Hano, Thano or Tano, and that their settlement on First Mesa is called Tewa Village not Hano. Second, they made it clear that they do not regard their trek to First Mesa from the Rio Grande Valley as a migration. They distinguish between migration, which they regard as divinely directed movement to their homeland, and their journey to First Mesa that they undertook at the request of the Walpi people. In addition, they were clear that they are both Tewas and Hopi tribal members (Ami et al. 2001; Komalestewa 2001).

The issue of who is regarded as Tewa and who is not regarded as Tewa at First Mesa depends upon the source of the information. There is no question that Tewa speakers who live at Tewa Village on First Mesa are regarded by all Tewas and Hopis as being Tewas. The issue is more clouded for inhabitants of Sitsomovi. The fundamental issue is one of how to interpret the history of events, the timing of the arrival of different clans from the Rio Grande, and why certain clans retained their Tewa language and others lost theirs. About a half century ago, Dozier (1966:62) observed that the term Tano was being applied to non-Tewa groups such as the Sitsomovi Hopi of the *Asa* (Tansy Mustard) Clan and others who were considered to be relatively recent immigrants, even though the Tewa used to identify themselves as Tano. More recently Paul Kroskrity notes that there has been a rapprochement between the Tewa and Hopis of Walpi regarding traditional versions of history, and thus there is now a means to differentiate the Tewa from the Hano. Walpi Hopis are now inclined to agree that the leaders of the Snake and Bear Clans invited the Tewa to First Mesa to protect the Hopis, something they were previously disinclined to acknowledge, preferring to view the Tewa as refugees. Kroskrity explains the new interpretation as follows: "Both the Arizona Tewa and the Hopi now recognize a third group, the Tano, as the uninvited refugees of the Hopi accounts. Since no Arizona Tewa identify with this group today, both Hopi and Arizona Tewa accounts have been effectively reconciled" (Kroskrity 1993:192).

In the early 1600s, there were four occupied Southern Tewa pueblos in the Galisteo Basin near Santa Fe: San Cristobal, San Marcos, San Lazaro, and Galisteo Pueblos (Reed 1952:15; Kroskrity 1993:8-9). Following the Pueblo Revolt of 1680, in which the Southern Tewa played a major part, some of them occupied Santa Fe until they were ejected by Don Diego de Vargas in 1693 (Reed 1952:15; Simmons 1979:187). Accounts differ about events after 1693. There are

slightly differing accounts of where the inhabitants of each southern Tewa pueblo moved to, and which groups eventually moved to Hopi (Kroskrity 1993:9; Reed 1943: 75, 1952: 16-17; Simmons 1979:187; Stanislawski 1979:600). In general, there is agreement that after the Spaniards appropriated their original homeland, the Southern Tewa moved into the Santa Cruz Valley and established new settlements there. One of these settlements was called *C'waréh* (Kroskrity 1993:9). Harrington (1916:253-254) states that a pueblo on the south side of the Santa Cruz, called *Tsawari* by the Tewas presently living in the Rio Grande Valley, and called *Tceewádigi* or *Tceewáage* by First Mesa Tewas, was where the First Mesa Tewas once resided. According to Harrington, *Tsawari* refers to "broad white line" or "broad white gap" and is a place where "a conspicuous broad line of soft, whitish rock occurs at this place along both sides of Santa Cruz" (Harrington 1916:253), and, he says, it is also known as San Cristobal. Kroskrity (1993:240) translates *C'waréh* as meaning either White Band, White Sash, or White Line. Sometime between 1696 and 1700 the people of *C'waréh* left on their journey towards Hopi (Harrington 1916:256; Kroskrity 1993:9; Reed 1952:16; Simmons 1979:187), arriving at First Mesa sometime in late 1700 or early 1701 (Stanislawski 1979:600).

Like the historical accounts, oral traditions regarding the Tewa population movement from the Rio Grande valley to First Mesa are varied. There is one fundamental difference that distinguishes oral traditions from the historical accounts that is important for the Enchanted Skies project. The oral traditions provide details regarding stopping places between the Rio Grande and Hopi. For this reason, various accounts are provided in some detail. There is general agreement that the area around Laguna, Acoma, Grants, and Mount Taylor was a stopping place along the journeys from the Rio Grande to Hopi.

During an interview for this project, a group of First Mesa Tewas gave a brief synopsis of the journey, even though, as they said, there is so much more than can be told (Ami et al. 2001). The narrative, in a succinct abstract, is as follows.

The Tewas were asked to come to Hopi. They were asked four times by the Hopi Bear and Snake Clan leaders from Walpi. On the fourth visit to *C'waréh* by the Walpi Bear and Snake Clan leaders, the Tewas consented to journey to Hopi to provide the Hopis protection from their enemies. They consented because the Hopis brought a sacred bundle and promised the Tewas land, water, and all they needed to live. This journey should not be called a migration as it is not part of the divinely inspired Tewa migrations. About half of the people at *C'waréh* left, about 400 or 500 hundred warriors, women and children. They crossed to the west side of the Rio Grande and constructed a shrine where those making the journey assembled. They then began their journey to Hopi. Along the trek, scouts went ahead and found the way. At some places the scouts sang songs to bring water from the earth so the people could drink and grow crops at their stopping places. Their first stop after the Rio Grande was on the northwest side of Mount Taylor where they constructed *Pingtsey'kwaya.* From Mount Taylor they went to where Window Rock is now located, where they built another shrine which is now near the Arizona-New Mexico border. Close by this shrine, which is near a spring, there are petroglyphs with the marks of the Tewa Bear, Corn, Tobacco, and Sun Clans. Next they stopped at Reed Springs, near present-day Ganado, where another shrine was built. Their next stop was at Bubbling Spring in Keams Canyon, a place that is used in Tewa ceremonies today. From Bubbling Spring they moved onto Yellow Rock which is below the Gap on First Mesa, and there they built homes, the ruins of which are still visible today. The Tewas were very disappointed with what they saw at First

Mesa: it was very barren and nothing like the land they expected to see. The people had no food and they were starving. They asked the Hopis for food even though they could not speak Hopi. They held out their cupped hands, but the Hopis poured hot gruel into their hands, which scalded them and forced them to drop the food on the ground. They were reduced to eating what food they could off the ground. Even though they were hungry, when the enemy attacked the Hopis, the Tewas went out, pursued, and defeated the Hopi's enemy. After this, the Hopis invited them to live on First Mesa at the other side of the Gap from Walpi. This is where they live today, at Tewa Village (Ami et al. 2001).

Every ten years the Tewas make prayer feathers for places they stopped along the trail of their journey from the Rio Grande to Hopi. They used to go and visit all these places, but because of various access difficulties this is no longer done (see also Courlander 1987:221). Clifton Ami visited the shrine named *Pingtsey'kwaya* on Mount Taylor with other Tewas when he was about 10 years old (some 40 years ago). He remembered that the Tewas were shown the location on the northwest side of Mount Taylor by two old Laguna men. During this trip to *Pingtsey'kwaya* the Tewas visited the other stopping places. This is when Mr. Ami saw the Tewa clan marks and the shrine in Window Rock (Ami et al. 2001). During Enchanted Skies fieldwork, Don James (2000) stated that his clan (Corn) migrated through the valley where Grants is located, and left shrines in this area on their journey from their home called "White Wall."

Published versions of the oral traditions regarding the journey from the Rio Grande region to Hopi are varied. A number of factors come into play: details are either added or omitted for various reasons, different clans have different traditions, and ethnographers focused on different aspects of the narrative. One of the most significant issues is how the *Asa* Clan and its related clans are associated with the Tewa journey to Hopi.

Albert Yava, a First Mesa Tewa born in 1888 and a member of the Stick Clan, has had his story published. His book begins as follows (Yava 1978:1),

> My people were Tewas from the Rio Grande Valley who came here to live with the Hopis on First Mesa some time around the year 1700. They settled near the Hopi village of Walpi, close to the southern edge of the mesa-top gap from which Walpi took its name. Hopis and whites often refer to our settlement as Hano. This is because we were thought to be Tanos or T'hanos, but we were true Tewas and the proper name for our settlement is Tewa Village.

Yava's narrative of the journey from the Rio Grande to Hopi is described in detail (Yava 1978:26-36). This account is essentially identical to that published by Courlander (1987:164-174), as told to him by someone from Tewa Village and who almost undoubtedly was Albert Yava. The Tewas, he says (Yava 1978:26-36), came to Hopi at the request of the Walpis who had suffered greatly from Ute and Apache attacks and needed assistance in protecting their homes and fields. The Walpis went to the Rio Grande to talk to the Tewas, who were reputed to be good fighters. The Walpis were directed to a place called *Tsewageh*, which means broad white line or wide white gap and is named for the horizontal white limestone strip in the nearby cliffs. The Walpis had to come four times to ask the Tewas to join them at Hopi. The fourth time, when the Walpis brought a promise of husbands, wives, and land, the Tewas agreed to go. Along

the way, the Tewas made four stops. "The first was at a place now called Canoncito, little bit north of Laguna Pueblo. They rested awhile there and then went on. The next stopover was at *Awpimpaw*, Duck Spring, near present-day Grants. They rested there for awhile and then went on" (Yava 1978:28). From there they went on to Reed Spring near Ganado, and then the Place of Bubbling Water at Keam's Canyon, before finally reaching First Mesa. Mr. Yava did not know how long the Tewa people stayed at these places, but it was long enough to build temporary homes. He notes that another large party of Tewas arrived at First Mesa after the group from *Tsewageh* had defeated the Utes. These late arrivals left the Rio Grande area after the people from *Tsewageh* had left, and came to First Mesa by way of Zuni. According to Yava (1978:71) the *Asa* Clan left Puye, in New Mexico, and some of these people remained in Laguna and Zuni, while some settled at Sitsomovi, and it is these people who are the Thanos.

Bert Youvella, a First Mesa Tewa, told government officials about the journey of the Tewa people to First Mesa. His version tells of the four visits to the Tewa Rio Grande pueblo by representatives of Walpi, and their request that the Tewas provide the Walpis protection against raiders (Youvella in BIA 1955:351-359). He provides few details of the journey itself, except to note that the Bear, Tobacco, Sun, and Corn Clans traveled together as the first group, and they were later joined by other Tewa relatives.

Fewkes (1899a:257, 1900:615) was told that the route from *Tcewadi*, as he reports the name of the Tewa pueblo on the Rio Grande, took the Tewa through Jemez, Duck Springs (*Pawikpa*), Bear Springs (*Kepo* or Fort Wingate), the site of Fort Defiance, Pueblo Ganado (*Wukopakabi*), Keams Canyon, Coyote Spring (*Isba*). Coyote Spring is located along the trail near the base of First Mesa, where the Tewa built their village called *Kohti*.

Parsons (1994:177-181) includes a brief version of the journey from the Rio Grande to Hopi that is in some respects different to the others. This variant tells of the Tewas living at *Ch'æwage*, but there was a witch kiva there and troubles within the people. Spider Woman, who lived nearby, had a grandson who expressed concern about the witches and his desire to kill them. Following various preparations, and after enlisting help, he managed to kill almost all the witches. Following this event, the remaining people of *Ch'æwage* decided to move away, and journey to *Kosoo'winge* (Walpi). "They went on their way till they got to Gawai'ka (Laguna). They left some people there. The others kept on going. Then they got to Koshawae po'o (Rock Spring)" (Parsons 1994:180). Rock Spring is identified by Parsons as being some place between Fort Defiance and Keams Canyon. Just beyond Rock Spring the people met Cactus Flower Girl, who led them on to Walpi. The narrative concludes by stating that Cactus Flower Girl brought the *Tán-tay* or Winter Solstice ceremony to Hopi for the people.

The journey of the *Asa* Clan is difficult to unravel. Even a scholar as knowledgeable and renowned as Eggan finds the arrival of the *Asa* Clan at First Mesa difficult to understand. He notes (Eggan 1950:170) that they probably came from the vicinity of Abiquiu in New Mexico, and arrived at Hopi via Zuni. The *Asa* live between Walpi and Tewa Village, speak Hopi not Tewa, and are essentially completely integrated into Hopi social structure. However, the *Asa* regard themselves as Tewa. The Tewa speakers regard the *Asa* Clan as deriving from the Katsina clan when a Katsina woman gave a child some mustard greens to eat. "Both groups [Asa and Katsina] have a proprietary interest in Chakwaina, the woman warrior who led them against the Utes and the Navajo" (Eggan 1950:170). Eggan concludes that the *Asa* Clan journey to Hopi was

the result of an early split in the Tewa journey, and that they probably acquired their clan identity while at Zuni.

According to Curtis (1922:18), the *Asa* Clan arrived at Hopi before the people who founded Tewa Village. The *Asa* Clan, he says, came to Hopi by way of Laguna, Acoma, and Zuni. Fewkes (1894b:164) says that the *Asa* Clan traveled through Zuni on the way to Hopi, and arrived at Hopi at a different time than the other Tewa clans. Mindeleff (1891:30) provides a similar narrative, with the *Asa* arriving at Hopi before the remainder of the Tewas. The *Asa* Clan, he says, came from a village called *Kaékibi* near what is now known as Abiquiu. Mindeleff continues (1891:30):

> When they left that region they moved slowly westward to a place called Túwii (Santa Domingo), where some of them are said to still reside. The next halt was at Kaiwáika (Laguna) where it is said some families still remain, and they staid [sic] also a short time at A'ikoka (Acoma); but none of them remained at that place. From the latter place they went to Sióki (Zuñi), where they remained a long time and left a number of their people there, who are now called Aiyáhokwi by the Zuñi. They finally reached Tusayan [the present-day Hopi villages] by way of Awatubi [Awatovi]. They had been preceded from the same part of New Mexico by the Honan nyumu (the Badger people), whom they found living at the last named village. The Magpie, the Putc Kóhu (Boomerang-shaped hunting stick), and the Field-mouse families of the Asa remained and built beside the Badger, but the rest of its groups continued across to Walpi Mesa.

Later, a group of Tewa are said to have come from the Rio Grande to Hopi, following four requests by the Hopi from Walpi for protection from the Utes. The Tewa route is not described, but they are said to have come from *Tceewádigi*, Apparently the *Asa* and later arriving Tewas were close friends when they dwelt in New Mexico (Mindeleff 1891:36).

Fewkes (1899a:258, 1900:610) relates a narrative that tells of the *Asa* Clan which came from *Kaëkibi* (near Abiquiu), and left New Mexico at the same time as the Tewa who came from *Tcewadi*. They traveled together until they reached Laguna where they split up, and the *Asa* went south through Zuni. The Tewa reached First Mesa before the *Asa*. This is almost identical to a version of the story recorded by Stephen in 1893, but different than a version provided to Stephen ten years earlier and published by Mindeleff. This 1893 version (Stephen 1936:1085) tells of the *Asa* clan and the people of Hano (Tewa Village). The Tewa came from the Rio Grande Valley as a result of repeated requests by the people of Walpi. Two groups of Tewa migrated: a group of clans from *Tewa'gi* near Pena Blanca, and the *Asa* which came from *Kae'biki* or Abiquiu. These two groups traveled together until they separated near Laguna. The first group went by way of what is now Fort Wingate, Fort Defiance and Keams Canyon, and arrived first at Walpi. The second group traveled by way of Zuni, and arrived at First Mesa six days after the first group.

Some clan traditions hold that ancient ceremonial items were brought from the Rio Grande to First Mesa. *Asa* Clan traditions say they brought the *Tsakwayna* Katsina with them to First Mesa from Zuni. They claim to have brought an old *Tsakwayna* mask with them, that was still in existence in the late 1800s (Fewkes 1900:612). Fewkes also thinks the *Asa* Clan may have also

brought the Hopi *Sa'lako* and *Nata'aska* Katsinas from Zuni with them. Parsons (1926:228) reports that the Tewa claim to have brought four katsina masks with them on their journey from New Mexico to Hopi: "Tobacco clan old man katchina (*sa tawa sena okuwa* i.e., *eowi*); *yeenu* or *mukwati* (the 'old man' of the Town Chief's division of the Bear clan), *pohahu*, the girl warrior of the Cottonwood clan, and Bear clan old man who made the 'road' for the people in their migration, and was the first to come up from the Lake of Emergence and is the head of the katchina or *okuwa*" (Parson 1926:228). This may be the same ceremonial paraphernalia mentioned by Courlander (1987:221) that he says was brought by the Tewas to Hopi from *Tcewadi*.

While conducting fieldwork for the Enchanted Skies project, Jim Tawyesva (2000) stated that the Tansy Mustard (*Asa*), Roadrunner, *Tsakwayna*, and Magpie clans came through valley in which the town of Grants is now located. It is interesting that Fewkes (1900:584) says that the Tansy Mustard group, which came to Hopi from Abiquiu via Zuni, included the *Tsakwayna*, Roadrunner, Magpie, and Bunting Clans.

Badger and Katsina Clans

The Badger and Katsina clans are said to be closely related, and, according to Fewkes (1894a:407), they were late arrivals at First Mesa, probably not arriving much earlier than AD 1700. The Badger group that came via Kicuba included the Badger, Porcupine, Turkey-buzzard, Butterfly, and Katsina Clans. The Katsina group also came via Kicuba, and included the Katsina, Crow, Parrot, Yellow-bird, Bird, Spruce, and Cottonwood Clans (Fewkes 1900:584). Apparently, elements of the Katsina clan were associated with both groups. The Badger and Katsina Clans may have traveled by Mount Taylor on their journey. Clifford Qötsaquahu (2001) reports that the Badger Clan has a shrine on the west side of Mount Taylor.

Other Historic Population Movements to and from Hopi

During the historic period, variously sized groups of people moved between Hopi, the Mount Taylor area and the Rio Grande. Today, Hopis remember stories of these population movements. They also know that many of these displacements, both to and from Hopi, were due to drought (Joshevama 2001). Many pueblo ruins in the Hopi region are named for the people who lived there before returning to their original homes (Kavena 2001; Tawyesva 2001).

Payupki, for example, is a ruined pueblo near Supawlovi on Second Mesa; it is also the Hopi name for Sandia Pueblo (Fewkes 1894a:397; Harrington 1916:526; Hill et al. 1998:402; Stephen 1936:1163). The Sandias left their pueblo on the Rio Grande and some of them moved to Second Mesa during the upheavals of the 1690s. By 1700 they had founded *Payupki* at Second Mesa. In 1748 they returned to Sandia, although a few stayed at Second Mesa (Adams 1989:38; Brandt 1979:345; Fewkes 1894a:397; Simmons 1979:187). Some Hopis also went to Sandia, as Brandt (1979:345) states, "by 1760 there is evidence of two different settlements at Sandia, one Hopi and one Sandia ... No sources have been found to determine what happened to the Hopi settlement."

Another example, and one more proximate to Mount Taylor, is *Kawàyka'a*, which is the Hopi name for both Laguna Pueblo and a ruined settlement on Antelope Mesa near Awatovi

(Hill et al. 1998:136; Stephen 1936:1157). Hopi traditional history holds that *Kawàyka'a* on Antelope Mesa was occupied by Keresans and Zunis (Ferguson 1998b:649) According to Ellis (1979:439), when *Kawàyka'a* on Antelope Mesa was depopulated some of the people apparently moved back to the Acoma region. Perhaps some Hopis also went with them, as Ellis (1979:439) reports that in Laguna there was a Hopi Sun Clan.

Mount Taylor and First Mesa Tewa Clans

Present-day First Mesa Tewa clans have connections to the Mount Taylor area, as documented above. These people are the descendants of the Tewa who journeyed from New Mexico to Hopi in the historic period by way of Mount Taylor. Table 5 provides a list of the Tewa clan names for the First Mesa Tewa clans. It should be noted that the First Mesa Tewa Sun Clan (*Tun-Towa*) is not listed here as it became extinct about a hundred years ago.

Table 5. Present-day First Mesa Tewa Clans with Connections to Mount Taylor

Tewa Name	*English Gloss*
Kaatowa	Bear Clan
Sa'towa	Tobacco Clan
Koolotowa	Corn Clan
Taalitowa	Parrot Clan
Katsine'towa	Kachina Clan
Nantowa	Sand Clan
Pe'towa	Stick Clan
Yowelotowa	Spider Clan
Okuwatowa	Cloud Clan
Tetowa	Cottonwood Clan

Federal Acknowledgement of Hopi Connections to Mount Taylor Area

The Hopi Tribe is recognized by the United States Forest Service as being one of a number of tribes that have cultural relationships with ancient cultural items and archaeological sites in the Mount Taylor area. An inventory notice under the Native American Graves Protection and Repatriation Act for human remains and associated funerary objects, in an area that includes Cibola County, states that "oral traditions of the ... Hopi Tribe ... support cultural affiliation with the Anasazi sites of west-central New Mexico" (Canouts 1998:65219). In a Memorandum of Understanding that is signed by the Forest Service and the Hopi Tribe, the United States Forest Service (2000a) states that the cultural items listed in Canouts (1998) "were produced by an identifiable earlier group" and "evidence exists of a shared group identity that can be reasonably traced between ... the Hopi Tribe... and this earlier group." The United States Forest Service (2000b) also acknowledges that any reburial site containing repatriated human remains and associated funerary objects is considered by the Hopi Tribe "to be a sacred site and to be of traditional religious and cultural importance."

Summary

Mount Taylor and its surrounding landscape, including Horace and Bibo Mesas, have great cultural significance to the Hopi Tribe. Hopi oral traditions associate many Hopi deities and religious personages with Mount Taylor through their epic deeds, and because the mountain is their home. Research conducted for this project has identified 28 Hopi deities and religious personages associated with Mount Taylor, and additional research will probably identify more. Through these deities and religious personages, Mount Taylor has importance in many Hopi religious ceremonies and religious societies, especially the katsina belief system. Twenty-six Hopi clans are associated with Mount Taylor, because of their ancient migrations through the Mount Taylor area, and because of their participation in historic population movements that brought them by Mount Taylor. In addition, 10 present day First Mesa Tewa clans have close cultural connections with Mount Taylor.

CHAPTER 4
OBSERVATIONS, EVALUATIONS, AND ASSESSMENTS

This chapter focuses on Hopi observations, evaluations and assessments of the identified archaeological manifestations in the Enchanted Skies project area. First, observations are offered regarding the archaeological sites and features visited during field work, as well as other reported archaeological features in the project area. Second, recommendations are made regarding the National Register eligibility of the identified historic properties. The recommendations section includes a discussion of the National Register eligibility criteria and Hopi cultural values regarding cultural resources. Finally, recommendations are provided concerning the assessment of effects of the potential undertaking on Hopi traditional cultural properties.

Observations

Hopi field work consisted of visiting the Enchanted Skies project area. Selected archaeological sites and features were reviewed at the Horace Mesa and Bibo Mesa locations (see Chapter 2).

Two archaeological manifestations were reviewed during Hopi field work on Horace Mesa: site LA 128423 and IO 177. Site LA 128423 is described by archaeologists as being an artifact scatter with a petroglyph panel. The site dates from the Middle Archaic through Basketmaker II periods, or between 3,200 BC and AD 400 (Wase et al. 2000:3.416-3.423). Six projectile points are part of the recorded artifact assemblage. The petroglyph, Feature 1, is described as conforming with the Great Basin Abstract style dating to the Late Archaic period. The petroglyph panel is on an isolated boulder, and includes "a single zoomorphic design resembling a bird ... [and] a complex abstract design" (Wase et al. 2000:3.416). IO 177 is described by archaeologists as a basalt cairn of local boulders piled one meter high on a bedrock outcrop (Wase et al. 2000:Table B.1).

Hopi field work at site LA 128423 focused on Feature 1, the petroglyph panel. Its UTM coordinates are, Easting 246012, Northing 3891881, Zone 13 (+/- 5.90 m). According to the Hopi cultural advisors, it appeared that the petroglyph panel has older (heavily patinated) and more recent (less patinated) portions. The older portion may represent a fluteplayer laying on his back, or a cicada (*mahu*) using his legs to sing while on his side. This is the upper portion of the petroglyph as shown in Figure 7. The relationship between the cicada and flute symbolism is evident in the story of the crying cicada, and how *paahos* are made during the Hopi Flute ceremony to bring warm weather necessary for successful crop maturation (Malotki 1998:344-355). Parsons (1936:558) notes that the locust (which in this context can also be regarded as a cicada) is depicted as "playing a reed flute on the tiles of the Flute society altar." In a review of photographs of Feature 1, Kuwanwisiwma (2001) thought there may be a sunflower symbol in this petroglyph associated with the *Lalkont* Society, sponsored by the Parrot Clan of Third Mesa. An Eagle Clan symbol may also be present.

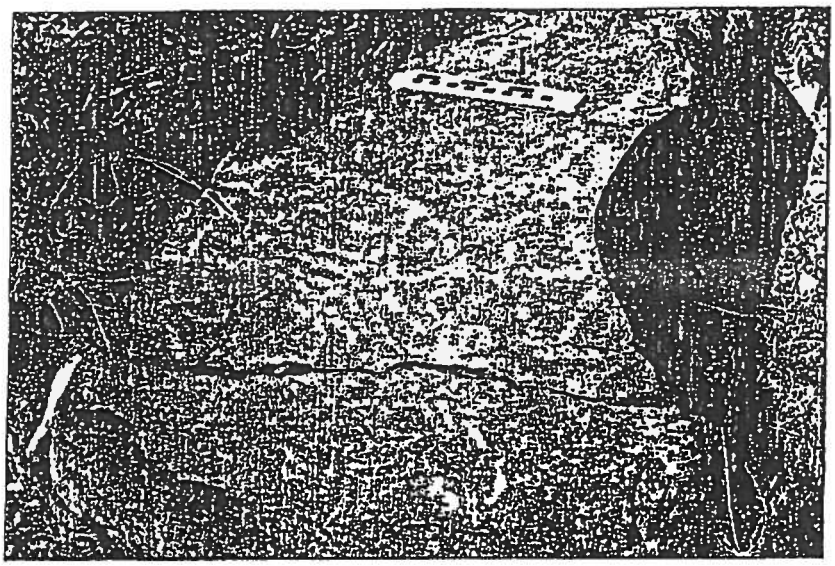

Figure 7. Petroglyph at Site LA 128423. Photograph by Roger Anyon, November 15, 2000.

IO 177 was recorded by archaeologists as a cairn, and Hopi cultural advisors think it is most probably a trail marker. Its UTM coordinates are, Easting 247768, Northing 3892014, Zone 13 (+/- 4.8 m). The Hopi advisors noted two features at this location. The cairn has been in place for some time. Lichen is evident on the north side of the rocks (Figure 8), but is virtually absent on their south sides. What appears to be a constructed rock feature, almost covered with soil and pine duff, is located immediately to the south of the cairn. This feature is essentially rectangular, with a partially open area on its interior that measures approximately 60 cm north-south by 40 cm east-west. This feature includes an apparent upright slab on its interior east side. The purpose of this rectangular feature was not clear to the Hopi advisors who saw it during field work.

Figure 8. IO 177, cairn at Horace Mesa. Photograph by Roger Anyon, November 16, 2000.

Two archaeological sites were reviewed at Bibo Mesa: LA 128505 and LA 128508. LA 128505 is described by archaeologists as a semi-circular rock alignment measuring approximately 1.8 by 4.1 meters, associated with one piece of chipped stone. The site is of unknown age. Archaeologists interpret it as a possible hunting blind (Goar et al. 2000:38-40). UTM coordinates for this feature are, Easting 281601, Northing 3893478, Zone 13 (+/- 5.2 m). According to the Hopi cultural advisors who visited this feature, it is potentially a shrine. Its size, construction style and configuration with an opening to the east, are elements contributing to its interpretation as a potential shrine (Figure 9).

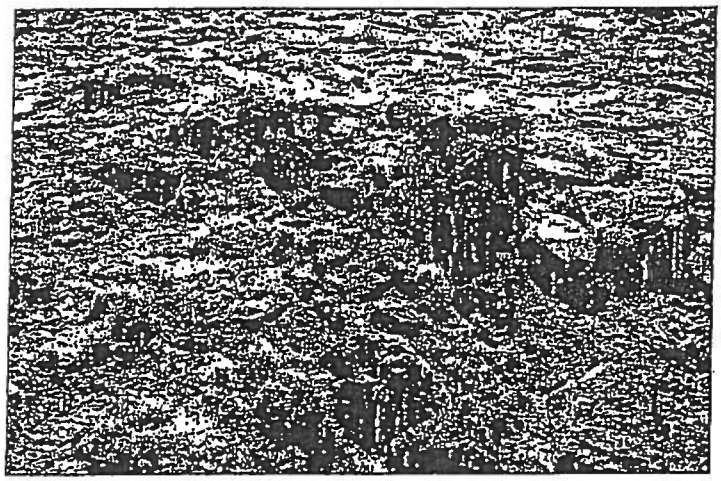

Figure 9. Possible shrine at LA 128505. Photograph by Roger Anyon, November 15, 2000.

It is not possible to determine whether or not this is a shrine purely from a surface examination (Joshevama 2000). As Leigh Kuwanwisiwma (2001) explained during an interview, LA 128505 could be either a *tutuskya* or a *pahoki*. A *tutskya* is an offering place. A *pahoki* is a shrine. Both a *tutuskya* and a *pahoki* can have similar surface morphology, seen as a U-shaped rock feature. A *tutskya* has no subsurface elements. A *pahoki,* on the other hand, does have subsurface elements. The only way to establish whether LA 128505 is a *tutuskya* or a *pahoki* would be to excavate it, however, the consensus of all the Hopi advisors, CRATT members and CPO staff is that this site should be left undisturbed. According to ValJean Joshevama (2000), people will bring black lava rock to shrines, an observation he made to explain why pieces of basalt rock are included in this feature. Don James (2000) explained that lava rocks are connected with the Hopi deity *Màasaw* and the Fire Clan. Features such as this were left as markers or "footprints" by Hopi ancestors during their migrations (Joshevama 2000). Offerings of prayer meal and prayers were made at this feature by Hopi tribal members participating in the field work.

Site LA 128508 is described by archaeologists as a historic Puebloan rock pile measuring 2.4 by 2.8 meters with a height of 60 cm. One red slipped pottery sherd, identified as either Laguna or Acoma, is associated with this site (Goar et al. 2000:45). During Hopi field work the UTM coordinates for the rock pile were recorded as, Easting 281626, Northing 3893978, Zone 13 (+/- 4.9 m). The Hopi cultural advisors on the field team thought that this feature was quite different to LA 128505 because it does not have an opening to the east. LA 128508 may be a burial, but they were unsure of its function.

National Register Evaluation Recommendations

Making National Register eligibility determinations is a difficult task because most of the project area was not visited, and most of the archaeological manifestations were not examined. Three objectives are met in this section of the report. First, the National Register eligibility criteria are listed and discussed. Second, some fundamental issues regarding significance are briefly presented from a Hopi cultural perspective, one that differs from a scientific perspective. Third, based on the Hopi perspective, National Register eligibility recommendations are made for many of the sites and isolated occurrences recorded within the Enchanted Skies Park and Observatory project area.

Eligibility to the National Register

As amended in 1992, the National Historic Preservation Act (NHPA) of 1966, declares that "properties of traditional religious and cultural significance to an Indian Tribe ... may be determined to be eligible for inclusion on the National Register" (NHPA Section 101 (d)(6)(A)). Properties may be eligible for inclusion on the National Register if they meet one or more of the criteria specified in 36 CFR 60.4. These criteria apply to "districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship feeling, and association"(36 CFR 60.4). To be eligible for the National Register these properties must meet one or more of the following criteria. They must be properties,

> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of persons significant in our past; or
>
> (c) that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that posses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) that have yielded or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

The criteria are worded in a manner to provide for a wide diversity of resources being eligible for inclusion on the National Register (36 CFR 60.4).

In applying criterion (a) a property must be associated with one or more events important in the defined context (National Park Service 1991:12). Criterion (a) recognizes properties associated with single events, or with a pattern of events, repeated activities, or historic trends that have made a significant contribution to the development of a community (National Park Service 1991:12). The value of criterion (a) is an associative value (National Park Service 1991:11).

Criterion (b) is applied to a property associated with a person who is individually significant and the property represents that individual's significant contributions. This criterion is used for named persons (National Park Service 1991:14-16).

Eligibility under criterion (c) must meet at least one of four requirements, i.e., it must include the embodiment of distinctive characteristics of a type, period or method of construction, or possess high artistic value (National Park Service 1991:17). Properties that are important examples of a particular type or method of construction are eligible to the National Register. Those properties that posses high artistic value and are also eligible to the National Register include properties that are important representatives of the aesthetic values of a cultural group, such as petroglyphs by Native Americans" (National Park Service 1991:20).

The application of criterion (d) requires that a property "have, or have had, information to contribute to our understanding of human history or prehistory, and the information must be considered important." (National Park Service 1991:21).

Eligibility to the National Register requires that a historic property maintain integrity. Integrity means the ability of a property to convey its significance (National Park Service 1991:44). Integrity requires that a property possess several of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Parker and King (1992:10) noted that when considering integrity for traditional cultural properties there are two fundamental questions to be asked. First, does the property have an integral relationship to traditional cultural practices and beliefs; and second, is the condition of the property such that the relevant relationships survive?

For the most part, properties must be at least 50 years old to achieve significance. Properties less than 50 years old may also be considered if they have achieved significance within the last 50 years.

Hopi Cultural Values and Traditional Cultural Properties

Hopi "footprints" provide evidence of Hopi ancestral migrations and land use. "Footprints" are the markers that ancestral Hopis left when they occupied and passed through areas. Archaeologists call these "footprints" the archaeological record. Archaeological sites of all kinds constitute Hopi "footprints," including houses, ceremonial structures, human burials, funerary objects, agricultural features, shrines, rock shelters, rock circles, cairns, trails, shelters, windbreaks, petroglyphs, pictographs, and so forth. The material culture within archaeological sites and isolated occurrences are also "footprints," and include ceramics, stone artifacts, ethnobotanical remains, perishable items, and other materials. These "footprints" are like documents to Hopis, because they constitute evidence that their ancestors occupied and used the landscape within which the "footprints" are found.

The concept of Hopi "footprints" is explained as follows (Ferguson et al. 1995a:12),

> During the migration period, the Hopi clans established themselves throughout the land by cultivating and caring for the earth. As directed by *Ma'saw*, the setting of Hopi "footprints" included establishment of ritual springs, ritual trails, shrines,

> and petroglyphs. As they migrated they left behind the graves of their ancestors, ruins, potsherds, grinding stones, and other artifacts to pay the mother earth for the use of the area, and as evidence they had vested the land with their spiritual stewardship, fulfilling their pact with *Ma'saw*. These archaeological sites today constitute monuments by which Hopi verify clan histories and religious beliefs, and provide physical proof that they have valid claims to a wide region.

Ancestral Hopi "footprints" are not abandoned. As Ferguson (1998a:277) notes, "many Hopis are puzzled by the archaeological concept of 'abandonment' that pervades much archaeological research ... there is no concept of abandonment at Hopi." Fewkes (1906:374) notes this almost 100 years ago, stating that, "proprietorship of them [shrines] is not abandoned even when the clans in their migrations seek new building sites." A strong spiritual connection is maintained between the Hopi people and their ancestral "footprints." To say that "footprints" are abandoned implies that they have been given up with no intention of ever again claiming a right or an interest in them (Webster's 1980:1); such is not the case. As Ferguson (1998a:277) notes,

> The Hopi did not abandon sites; these sites were not 'neglected' after people left them to continue their migration. Hopi ceremonies and rituals continued and still provide a connection to these ancestral sites and provide a reason why Hopis are still here. Hopis feel the term 'abandonment' disassociates them from their ancestors and makes history "cold."

Archaeological sites are important to Hopis because many of these sites are the burial places of their ancestors. It is Hopi belief that the ancestors "laid to rest in these archaeological sites were intended to - and continue to - maintain a spiritual guardianship over these places" (Dongoske et al. 1993:27). Fewkes (1923) reports that the relationship between the living and the dead is not severed by death, but that the ancestors revisit the living as represented by Katsinas. According to Fewkes, when Hopis die they retain their clan association in the life of the after world.

The Hopi concept of death and the sanctity of the grave is briefly explained by Ferguson and his colleagues (1995b:11), who state,

> Death initiates two distinct but inseparable journeys: the physical journey of the body as it returns to a oneness with the earth, and the spiritual journey of the soul to a place where it finally resides. Disruption of the physical journey obstructs the spiritual journey, creating an imbalance within the spiritual world and, hence, the natural world.

The role of the physical remains is to nourish the earth at the place of burial. The body can be likened to a seed that provides nourishment to the earth, and then to the plants and animals. When the body has completely gone back into the earth it has completed its role (Kuwanwisiwma 1999a).

Many Hopi ancestors are buried with funerary objects that belong to them. "Hopis consider the people interred in graves to retain property rights to the grave goods they were buried with" (Ferguson 1998a:276). As such, these ancestral human remains and their associated funerary objects are inseparable.

Many archaeological sites contain a village shrine that has present-day religious significance to Hopi (Ferguson et al. 1995a:14). "In addition to shrines within archaeological sites, some cultural advisors also consider archaeological sites themselves to be shrines in that they are places where their ancestors are buried" (Ferguson 1998a:257).

Shrines, springs, and water sources are sacred to Hopis. Shrines are places where sacred offerings are made or ritual objects are deposited for ceremonial use (Ferguson 1998a:255). All springs are sacred to Hopis. As Fewkes (1910:559) notes, "all springs of water are places of prayer offerings, and each has a shrine nearby or remote." Hopi advisors consider "springs to be shrines since they are places where offerings are left" (Ferguson 1998a:257). Fewkes (1906:370) observes that "springs are often regarded as homes of the gods and sometimes as entrances to the under-world, where divinized personages dwell, or as windows out of which they look."

Shrine morphology varies widely, ranging from an offering of prayer sticks, circles of small stones, a single stone, caves, natural depressions in boulders, an object that has been symbolically marked, to elaborate constructions (Fewkes 1910:558). Shrines constructed of stone slabs are located in plazas at Hopi villages (Fewkes 1906:352), although they may also occur outside of villages.

The locations of Hopi shrines are as varied as their morphology. They may be located within villages, or at some distance from villages. Fewkes (1910:559) notes that shrines around First Mesa, for example, are located along the foot of the mesa, at springs, and at the ruins of ancestral villages. Eggan (1994:11) states that the Hopi have many shrines, some of which are "associated with the emergence of the Hopi from the underworld ... some derived from the experiences of the various clans in their wanderings, some at earlier sites where they lived for a period, or in neighboring mountains and springs associated with katsinas." Clemmer (1993:80) notes that some Hopis, as "guardians of clan traditions and responsibilities, maintain religious relationships with shrines and areas far outside the Hopi Reservation." Hough (1906:168) records a group of Hopis over 70 miles from Hopi, on their way to collect water for ceremonies "from springs at which their ancestors drank." Yava (1978:98) observes that springs are regarded as katsina homes and "many of the shrines scattered all over this country are at springs."

Offerings made at shrines include a wide range of items. These include prayer meal, prayer sticks, carved stone slabs, concretions, effigies, beads, bows, arrows, and ceramic vessels (Fewkes 1910:559).

Even though the Hopi land base has been significantly reduced over the past century, this does not change Hopi views about ancestral shrines. As Dongoske and his colleagues (1994:12) note, "the ceremonies, pilgrimages, and rituals that sustain the Hopi religion are inextricably linked to shrines that were established in ancient times at specific springs, mountain peaks, and other sacred areas." Regardless of the physical attributes of a shrine, it is important to recognize that the value of shrines is spiritual. Hopi shrines are where "offerings remain permanently, or until they or their essence are supposed to be removed by the gods" (Fewkes 1910:558).

Hopi trails can be used for religious pilgrimages and other purposes. All trails are associated with shrines, and these offering places sanctify the use of the trails (Ferguson 1998a:194). Stephen (1936:151) describes offering places along trails where Hopis would ask for

the protection of *Màasaw* when initiating a journey, and give thanks to *Màasaw* upon a safe return. It is the spiritual aspects of trails that makes them sacred. "Trails provide a religious as well as physical connection between Hopi villages and the surrounding lands" (Ferguson 1998a:194). Trails retain their spiritual essence regardless of their antiquity, and regardless of how recently they have been used as routes of travel (Ferguson et al. 1995:141).

Cairns or rock piles are significant cultural features. They often act as trail markers, and are constructed by travelers for ceremonial purposes as well as the practical purpose of marking the trail (Ferguson 1998a:258-259). Nequatewa (1954), for example, relates the story of the boy called *Paotiwa* who traveled from the south, up the Rio Grande, over to Acoma and Zuni, and thence on to find his people at Hopi. He had been left behind as a baby with his grandmother at the pueblo in the south, from which the people had migrated. When *Paotiwa* left Zuni he marked his trail by building piles of rocks along the route so he could find his way back to Zuni when he wanted (Nequatewa 1954:78). According to Morgan Saufkie (2001) rock piles or cairns can indicate nearby ancestral Hopi settlements. Leigh Kuwanwisiwma (2001) points out that cairns are not just isolated occurrences: they may mark a nearby offering place or shrine, they can also be boundaries of clan land holdings, or they can be trail markers. As such, they have cultural significance to Hopi.

Petroglyphs and pictographs are significant to Hopi because they depict ancestral Hopi clan marks, migration symbols, and religious images that are Hopi "footprints." In the Hopi language these images are generically known as *tutuveni,* which in English means "their mark" or "the story of those who were here" (Anyon 1999:49). These images are regarded by Hopis as "fascinating and meaningful aspects of the archaeological record that Hopis value greatly because they are signs left by their ancestors" (Ferguson 1998a:259). Clan markings are a common feature of rock imagery. The significance of using clan symbols to identify the passage of clans is well established (e.g., Fewkes 1897; Colton and Colton 1931; Ferguson 1998a; Yava 1978). Yava noted that during their migrations the clans would leave their signs on the rocks, and these signs are thus to be found all over the landscape. Petroglyphs and pictographs are also interpreted in light of Hopi teachings and may reveal much more information than clan marks, such as ritual symbols. Hopi advisors are careful to share only certain culturally appropriate information about rock images with non-Hopis (Ferguson 1998a:260).

Ancient artifacts also have traditional significance in Hopi cultural traditions. Projectile points, for example, are shot by the Clouds (Parson 1936:558), and come from the tips of bolts of lightening where the lightening strikes the earth (Stephen 1936:137). They are said to be rain arrowheads, of which there are four kinds: white, red, black and green (Stephen 1936:137). Arrowheads, as used in altars, are reported in a First Mesa Tewa winter solstice ceremony altar (Stephen 1936:42), and in a Snake Society altar at Walpi (Stephen 1936:700).

Hopi ancestral "footprints," regardless of their age or location, are inextricably linked to present-day Hopi religion. They are an extremely significant aspect of Hopi culture. Because of their significance to Hopi culture, these cultural resources are regarded as traditional cultural properties by the Hopi Tribe. The archaeological sites and isolated occurrences in the Enchanted Skies project area are regarded as Hopi traditional cultural properties (Kuwanwisiwma 2001).

National Register Eligibility: Horace Mesa

Table 6 lists the archaeological site components and isolated occurrences recorded during archaeological survey on Horace Mesa, that are not listed as Historic Anglo, Hispanic, or Navajo, and are not isolated occurrences such as isolated pieces of chipped stone, pottery, cans, or other materials (Wase et al. 2000). The dating of these site components was done by the archaeologists.

In Table 6, 'ancient' refers to what archaeologists call 'unknown prehistoric.' Archaic, Basketmaker, and Puebloan refer to time periods identified by archaeologists. Many of these archaeological manifestations are in an area surveyed for a potential land exchange, and consequently are not close to the proposed construction area alternatives for the observatory.

Table 6. National Register Evaluations of Hopi Traditional Cultural Properties at Horace Mesa

LA, IO No.	*Site Type*	*NR Criterion "a"*	*NR Criterion "d"*
70140	Archaic artifact scatter	P	P
70142	Basketmaker/Puebloan artifact scatter	P	P
70143	Puebloan artifact scatter	P	P
70144	Archaic/Basketmaker artifact scatter	P	P
70145	Ancient artifact scatter	P	P
70146	Ancient artifact scatter	P	P
70148	Ancient artifact scatter	P	P
70149	Archaic artifact scatter	P	P
70150	Basketmaker/Puebloan artifact scatter	P	P
70151	Archaic/Basketmaker artifact scatter	P	P
70152	Puebloan artifact scatter	P	P
70155	Puebloan artifact scatter	P	P
70156	Ancient artifact scatter	P	P
70157	Ancient artifact scatter, small storage feature	E	E
70158	Ancient artifact scatter	P	P
70159	Ancient pictographs in rock shelter	E	E
70160	Archaic artifact scatter	P	P
119820	Puebloan features, possible structure, artifacts	E	E
119821	Puebloan features, fire-cracked rock, artifacts	E	E
119822	Unknown date, round rock feature, no artifacts	P	P
119823	Archaic artifact scatter	P	P
119824	Ancient artifact scatter	P	P
119825	Ancient artifact scatter	P	P
119826	Ancient artifact scatter	P	P
119828	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119829	Puebloan artifact scatter	P	P
119830	Archaic/Basketmaker/Puebloan artifact scatter, hearth with pottery dating AD1650-1750	E	E
119831	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119832	Ancient artifact scatter	P	P

119833	Archaic/Puebloan artifact scatter	P	P
119835	Archaic/Puebloan artifact scatter	P	P
119836	Archaic/Basketmaker/Puebloan artifact scatter, rock alignment	P	P
119837	Puebloan artifact scatter	P	P
119838	Ancient artifact scatter	P	P
119839	Puebloan structures, artifact scatter, rock shelter	E	E
119840	Ancient artifact scatter	P	P
119841	Ancient artifact scatter, rock clusters	P	P
119842	Puebloan artifact scatter	P	P
119843	Puebloan artifact scatter	P	P
119844	Ancient artifact scatter	P	P
119845	Ancient artifact scatter	P	P
119846	Puebloan artifact scatter	P	P
119848	Puebloan artifact scatter	P	P
119849	Puebloan artifact scatter, rock & charcoal features	E	E
119850	Archaic artifact scatter, fire-cracked rock features	E	E
119852	Archaic/Basketmaker artifact scatter	P	P
119853	Archaic artifact scatter	P	P
119854	Ancient artifact scatter	P	P
119855	Puebloan artifact scatter, rock feature	P	P
119856	Archaic/Basketmaker artifact scatter	P	P
119857	Ancient artifact scatter	P	P
119858	Ancient artifact scatter	P	P
119859	Archaic/Basketmaker artifact scatter	P	P
119860	Ancient artifact scatter	P	P
119861	Archaic/Puebloan artifact scatter	P	P
119862	Ancient artifact scatter	P	P
119864	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119865	Archaic/Basketmaker artifact scatter	P	P
119866	Puebloan artifact scatter, fire-cracked rock	P	P
119868	Puebloan artifact scatter	P	P
119869	Puebloan artifact scatter	P	P
119871	Ancient artifact scatter	P	P
119872	Puebloan artifact scatter, structure, hearth	E	E
119873	Puebloan artifact scatter	P	P
119874	Ancient artifact scatter	P	P
119875	Archaic artifact scatter	P	P
119876	Ancient artifact scatter	P	P
119877	Archaic/Puebloan artifact scatter	P	P
119878	Ancient artifact scatter	P	P
119879	Archaic/Basketmaker artifact scatter	P	P
119880	Archaic/Basketmaker artifact scatter	P	P
119881	Ancient artifact scatter	P	P
119882	Puebloan artifact scatter	P	P
119883	Ancient artifact scatter	P	P
119884	Puebloan artifact scatter	P	P
119887	Archaic/Basketmaker artifact scatter	P	P
119888	Archaic/Basketmaker/Puebloan artifact scatter	P	P

119889	Archaic artifact scatter	P	P
119890	Puebloan artifact scatter	P	P
119891	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119892	Puebloan artifact scatter	P	P
119893	Archaic/Basketmaker artifact scatter	P	P
119894	Archaic artifact scatter	P	P
119895	Ancient artifact scatter	P	P
119896	Ancient artifact scatter	P	P
119897	Puebloan artifact scatter	P	P
119898	Puebloan artifact scatter	P	P
119899	Puebloan artifact scatter, rock feature, ash stain	E	E
119900	Puebloan artifact scatter, structure, rock cairns	E	E
119901	Puebloan artifact scatter, ash stains	E	E
119902	Puebloan artifact scatter	P	P
119904	Puebloan rubblemound, artifact scatter	E	E
119907	Puebloan artifact scatter, rock feature	E	E
119908	Puebloan artifact scatter, cloud-blower, ash stain	E	E
119913	Puebloan artifact scatter	P	P
119914	Puebloan artifact scatter	P	P
119915	Puebloan artifact scatter	P	P
119916	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119917	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119918	Archaic/Puebloan artifact scatter	P	P
119919	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119920	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119921*	Archaic/Puebloan artifact scatter, rock features	P	P
119922	Ancient artifact scatter, petroglyphs	E	E
119923	Archaic/Basketmaker artifact scatter	P	P
119924	Puebloan rubblemound, artifact scatter	E	E
119925	Archaic artifact scatter	P	P
119926	Archaic artifact scatter, rock feature	P	P
119927	Unknown date, two short rock walls	P	P
119928	Puebloan(?) artifact scatter, rock feature, 2 springs	E	E
119929	Ancient artifact scatter, fire-cracked rock	P	P
119932	Ancient artifact scatter	P	P
119933	Puebloan artifact scatter	P	P
119935*	Puebloan artifact scatter	P	P
119936	Ancient artifact scatter	P	P
119937	Ancient artifact scatter	P	P
119938	Archaic artifact scatter	P	P
119939	Puebloan artifact scatter	P	P
119940	Puebloan artifact scatter	P	P
119941	Ancient artifact scatter	P	P
119942	Archaic/Basketmaker/Puebloan artifact scatter, hearths	E	E
119943	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119946	Archaic/Basketmaker/Puebloan artifact scatter	P	P
119947	Puebloan artifact scatter	P	P
119949	Ancient artifact scatter	P	P

119950	Archaic/Basketmaker artifact scatter	P	P
119951	Puebloan artifact scatter	P	P
119952	Ancient artifact scatter, heavily patinated pecked swastika petroglyph, rock shelter	E	E
119953	Archaic/Puebloan artifact scatter	P	P
119954	Puebloan artifact scatter, bedrock metate	P	P
119955	Ancient petroglyphs, Puebloan artifact scatter	E	E
127206	Ancient artifact scatter	P	P
127207	Ancient artifact scatter	P	P
127208	Ancient artifact scatter	P	P
127209	Ancient artifact scatter	P	P
127210	Puebloan artifact scatter	P	P
127211	Puebloan artifact scatter	P	P
127212	Ancient artifact scatter, rock concentration	P	P
127213	Puebloan artifact scatter	P	P
127214	Ancient artifact scatter	P	P
127215	Basketmaker/Puebloan artifact scatter	P	P
127216	Ancient artifact scatter	P	P
127217	Basketmaker/Puebloan artifact scatter	P	P
127242	Basketmaker/Puebloan artifact scatter	P	P
128419	Puebloan artifact scatter	P	P
128420	Archaic/Basketmaker artifact scatter	P	P
128421	Ancient artifact scatter	P	P
128423	*Archaic/Basketmaker artifact scatter, petroglyphs*	E	E
128424	Archaic artifact scatter	P	P
128425	Ancient artifact scatter	P	P
128426	Basketmaker/Puebloan artifact scatter	P	P
128427	Puebloan artifact scatter	P	P
128428	Ancient artifact scatter	P	P
128429	Archaic/Basketmaker artifact scatter	P	P
128430*	Archaic/Basketmaker/Puebloan artifact scatter	P	P
128431	Puebloan artifact scatter, rock feature	P	P
128432	Basketmaker/Puebloan artifact scatter	P	P
128433	Ancient artifact scatter	P	P
128434	Archaic artifact scatter	P	P
IO 58	Rock cairn	P	P
IO 73	2 piles of basalt boulders	P	P
IO 78	Rock cairn	P	P
IO 123*	Rock cairn	P	P
IO 162	Rock cairn	P	P
IO 176	Rock cairn	P	P
*IO 177**	*Rock cairn*	E	E
IO 184*	Rock cairn	P	P
IO 200	Linear pile of rocks, 3 m by 1.5 m by 1 m tall	P	P
IO 284	Rock pile, artifact scatter	P	P
IO 519	Rock pile	P	P
IO 527	Collapsed rock pile, projectile point fragment	P	P
IO 652	Rock cairn	P	P
IO 721*	Petroglyph	P	P

IO 817	Rock cairn	P	P
IO 818	Rock cairn	P	P

Notes:
Manifestations in *italics* were visited during Hopi field work.
* Sites and isolated occurrences inside or within 100 m of observatory construction alternatives.
P indicates Potentially eligible to the National Register
E indicates recommended Eligible to the National Register

Archaeologists have recommended that LA 128423 is eligible to the National Register under criterion (d) for its potential to yield information, and "given the petroglyphs, Native Americans may also consider the site to be eligible for the NHRP under criterion (a), for its importance to Native American history" (Wase et al. 2000:3.423). IO 177, on the other hand, is not listed as eligible to the National Register in the archaeological report. The Hopi Tribe recommends that LA 128423 is eligible to the National Register under criteria (a) and (d) because of its significance as a Hopi traditional cultural property and its potential to yield information regarding Hopi history. IO 177 is also recommended by the Hopi Tribe as eligible to the National Register under criteria (a) and (d) because of its significance as a Hopi traditional cultural property and its potential to yield information regarding Hopi history (see p. 42).

Information recorded by archaeologists at some of the archaeological sites is intriguing to Hopi cultural advisors, but further research by the Hopi Tribe is required to make definitive eligibility recommendations. An issue here, for example, would be the many artifact scatters that archaeologists have dated through the presence of projectile points made in time sensitive styles. As noted in Chapter 3, projectile points are the residue tips of lightening bolts in Hopi oral tradition, and it is on Mount Taylor that the Hopi deities *Pöqangwhoya and Palöngawhoya* used lightening as a weapon to slay their enemies.

Even where sites are recommended as eligible to the National Register, further Hopi research is warranted. For example, on site LA 119952 the archaeologists report a heavily patinated 'swastika' petroglyph, suggesting this petroglyph is old. Unfortunately, no illustration of this petroglyph is provided in the archaeological report (Wase et al. 2000), thus the Hopi advisors could not determine whether this is the Hopi migration symbol (see Stevenson 1883:Figure 562) or some other symbol. At site LA 119908, a cloud-blower is reported. Given the importance of cloud-blowers in Hopi religious ceremonies (Stephen 1936:599), it would be valuable for the Hopi advisors to view this artifact in the field so that the artifact and its landscape context can be assessed more rigorously than can be done from a written document.

After careful consideration of the eligibility criteria and careful consideration of the archaeological materials recorded within the project area by archaeologists, Hopi advisors have determined that without visiting these properties it is difficult to assess property eligibility to the National Register. Even so, some of these recorded properties are clearly eligible to the National Register under criteria (a) and (d). These are properties with habitation structures, thermal features, and petroglyphs that clearly have importance in Hopi culture and history. Consequently such properties are recommended as eligible to the National Register (Tables 6 and 7). Artifact scatters are difficult to assess without field visits, as are cairns and other isolated rock features, IO 177 being an example of this. The scatters, cairns, and other features are recommended as

potentially eligible to the National Register pending further research by the Hopi Tribe (Tables 6 and 7).

National Register Eligibility: Bibo Mesa

Table 7 provides the Hopi recommendations regarding National Register eligibility evaluations for sites and some isolated occurrences recorded by archaeologists during survey of Bibo Mesa (Goar et al. 2000). This list does not include site components and isolated occurrences listed in Goar et al. (2000) as Historic Anglo, Hispanic, or Navajo, nor does it include artifactual isolated occurrences such as isolated pieces of chipped stone, pottery, cans, or other materials. Dating of the archaeological expressions was determined by the archaeologists (Goar et al. 2000)

The issues of eligibility and potential eligibility that pertain to Hopi traditional cultural properties on Horace Mesa also apply to the properties on Bibo Mesa (see above). Of importance at Bibo Mesa is site LA 128505. Archaeologists recorded this feature, and made the recommendation that it was ineligible for the National Register because they believe its data potential is exhausted now it has been recorded (Goar et al. 2000:40). To the Hopi advisors who visited this feature during field work, the recognition that it is either a *tutuskya* or a *pahoki* gives this feature great significance from a Hopi cultural perspective. The example of LA 128505 illuminates the need for further Hopi field work at other cairns and rock piles throughout the project area, as these features are often thought ineligible to the National Register by archaeologists. In contrast to site LA 128505, the rock feature at site LA 128508 was recommended as potentially eligible under criterion (d) by the archaeologists (Goar at el. 2000:45), a recommendation that the Hopi Tribe concurs with. The Hopi Tribe, however, adds potential eligibility of LA 128508 under criterion (a), as shown in Table 7.

Assessment of Effects

The Enchanted Skies Park and Observatory project has the potential to adversely effect Hopi traditional cultural properties. Any disturbance to Hopi traditional cultural properties is an adverse effect. In this context, disturbance includes construction activities, archaeological surface collection, archaeological testing, archaeological data recovery, or future visits by the public who may remove or rearrange parts of features such as rock cairns. On some traditional cultural properties, for example site LA 128505 at Bibo Mesa, the placement of a piece of metal rebar and an archaeological site tag is regarded by Hopi advisors as a disturbance that has already occurred to the property. Similar disturbance may have occurred at other traditional cultural properties.

At a more general level the Enchanted Skies Park and Observatory project would have an adverse effect on Mount Taylor as a sanctuary area as described in Chapter 3. When the entire mountain is regarded as a traditional cultural property, all the individual traditional cultural properties are contributing features (Kuwanwisiwma 2001).

Table 7. National Register Evaluations of Hopi Traditional Cultural Properties at Bibo Mesa

LA, IO No.	*Site Type*	*Criterion "a"*	*Criterion "d"*
17936	Undated artifact scatter, 2 rock cairns, trail	P	P
17939	Undated artifact scatter	P	P
17940	Undated artifact scatter, 2 rock piles	P	P
17945	Archaic artifact scatter	P	P
17961	Undated artifact scatter, hearth	P	P
128503	Archaic/Puebloan (Acoma/Laguna pottery) artifact scatter	P	P
128504	Undated chipped stone scatter	P	P
128505	*Undated semi-circular rock alignment, artifacts*	E	E
128506	Puebloan artifact scatter	P	P
128507	Undated rock wall around basalt fissure	P	P
128508	*Rock pile, Acoma/Laguna historic pottery sherd*	P	P
128509	Archaic artifact scatter	P	P
128510	Archaic artifact scatter	P	P
128511	Undated artifact scatter	P	P
128513	Undated rock shelter, rock wall around fissure	P	P
128514	Archaic/Puebloan artifact scatter, rock wall, trial	P	P
128515	Undated artifact scatter	P	P
128516	Archaic artifact scatter, historic rock alignments	P	P
130153	Undated artifact scatter	P	P
130154	Undated artifact scatter	P	P
130155	Archaic artifact scatter	P	P
130837	Undated hearth	P	P
IO 46	Collapsed rock cairn	P	P
IO 55	2 rock cairns	P	P
IO 66	Rock cairn	P	P
IO 72	Rock cairn	P	P
IO 83	Rock cairn	P	P
IO 116	Rock cairn	P	P
IO 122	Rock cairn	P	P
IO 143	Rock cairn	P	P
IO 144	Basalt rock ring	P	P
IO 147	2 rock cairns	P	P
IO 148	Rock cairn, trail running down mesa	P	P

Notes:
Manifestations in *italics* were visited during Hopi field work.
All sites and isolated occurrences are inside or within 100 m of observatory construction alternatives.
P indicates Potentially eligible to the National Register
E indicates recommended Eligible to the National Register

In addition, previous recommendations made regarding the potential effects of a proposed timber sale in the nearby Zuni Mountains also apply to the Enchanted Skies Park and Observatory. In the letter regarding this timber sale the Hopi concerns go beyond the undertaking, stating that "an issue of concern for the Hopi Tribe in regard to all undertakings is impact on archaeological sites and cultural resources, in general as parts of the human environment." The letter also raises concerns about the undertaking's impact to native tobacco and other native plants of traditional importance to Hopi, and impacts to eagle and raptor habitats (Kuwanwisiwma 1999b).

CHAPTER 5
RECOMMENDATIONS

The following recommendations are based on the cultural significance of Mount Taylor to the Hopi Tribe. In making these recommendations, the Hopi Tribe recognizes the geographic proximity of Acoma Pueblo and Laguna Pueblo to Mount Taylor, including Horace Mesa and Bibo Mesa. Consequently, the Hopi Tribe wishes to make this report available to the Acoma and Laguna Tribes. The Hopi Tribe also recognizes that Mount Taylor has great cultural significance to the Acoma and Laguna tribes, as well as other Pueblo tribes. These Hopi tribal recommendations do not represent a greater or competing claim to the cultural resources and cultural significance of Mount Taylor than that for other Pueblo tribes.

The Hopi Tribe recommends the following:

1. Mount Taylor, along with its surrounding volcanic features and lava fields, should be considered a significant natural and cultural landscape that comprises part of the human environment important to the Hopi Tribe;

2. Mount Taylor and its associated surrounding pedestal of volcanic features and lava fields should be evaluated for its eligibility to the National Register of Historic Places as a nationally significant traditional cultural property, and that the cultural resources within this traditional cultural property shall be considered contributing elements;

3. If the Enchanted Skies Park and Observatory is constructed at either Horace or Bibo Mesas, the Hopi Tribe recommends a finding of adverse effect on Mount Taylor as a Hopi traditional cultural property;

4. If the Enchanted Skies Park and Observatory is constructed at either Horace or Bibo Mesas, the Hopi Tribe recommends avoidance of adverse effects to all individual Hopi traditional cultural properties defined within the project area, by leaving them undisturbed and *in situ;*

5. Maintain the federal status of all federal lands on the Mount Taylor volcanic mass by not allowing land transfers out of the federal domain, to prevent any diminished protections for cultural resources and to prevent future land development projects. This is part of the federal trust responsibility to the Hopi Tribe which is shared by all federal agencies including the United States Air Force;

6. All ancestral Hopi (*Motisinom* and *Hisatsinom*) human burials on federal, state, and private lands must be accorded full protection from disturbance of any kind under applicable federal laws and New Mexico state laws regarding human burials;

7. The Tewa shrine on Mount Taylor, that was established during the Tewa journey to Hopi, shall be identified through additional federally funded research with Hopi First Mesa Tewa

clan leaders to ensure that this shrine is not impacted by the proposed Enchanted Skies Park and Observatory;

8. The United States Air Force shall identify the process through which federal responsibilities to the Hopi Tribe under various federal laws and executive orders will be implemented, including but not limited to, the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, the National Environmental Policy Act, the National Historic Preservation Act, the Archaeological Resources Protection Act, and Executive Order 13007;

9. The Hopi Cultural Preservation Office must be consulted concerning all inadvertent discoveries of cultural resources and ancient human remains;

10. The United States Air Force shall provide the resources to convene an inter-Pueblo tribal meeting to assess cultural and other issues regarding the Enchanted Skies Park and Observatory;

11. The United States Air Force shall fund any necessary additional Hopi research, including the National Register eligibility of traditional cultural properties, to ensure full compliance with federal laws and regulations for the Enchanted Skies Park and Observatory.

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