Spring 4-1-2013

Zuni Chacoan Communities: The Archaeology of Village of the Great Kivas and the Chaco Era in the Zuni Region

Nicholas E. Damp
University of Colorado at Boulder, nicholas.damp@colorado.edu

Follow this and additional works at: https://scholar.colorado.edu/anth_gradetds

Part of the History of Art, Architecture, and Archaeology Commons

Recommended Citation
Damp, Nicholas E., "Zuni Chacoan Communities: The Archaeology of Village of the Great Kivas and the Chaco Era in the Zuni Region" (2013). Anthropology Graduate Theses & Dissertations. 27.
https://scholar.colorado.edu/anth_gradetds/27

This Thesis is brought to you for free and open access by Anthropology at CU Scholar. It has been accepted for inclusion in Anthropology Graduate Theses & Dissertations by an authorized administrator of CU Scholar. For more information, please contact cuscholaradmin@colorado.edu.
ZUNI CHACOAN COMMUNITIES:
THE ARCHAEOLOGY OF VILLAGE OF THE GREAT KIVAS
AND THE CHACO ERA IN THE ZUNI REGION

by

NICHOLAS E. DAMP

B.S., University of New Mexico, 2009

A thesis submitted to the
Faculty of the Graduate School of the
University of Colorado in partial fulfillment
of the requirement for the degree of
Master of Arts
Department of Anthropology
2013
This thesis entitled:

Zuni Chacoan Communities: 
The Archaeology of Village of the Great Kivas
and the Chaco Era in the Zuni Region

Written by Nicholas E. Damp
Has been approved for the Department of Anthropology

________________________________________
Dr. Catherine M. Cameron
Committee Chair

________________________________________
Dr. Stephen H. Lekson
Committee Member

________________________________________
Dr. Gerardo Gutiérrez
Committee Member

Date____________________

The final copy of this thesis has been examined by the signatories, and we Find that both the content and the form meet acceptable presentation standards Of scholarly work in the above mentioned discipline.
Perched at the base of a prominent cliff above the Nutria River is the Village of the Great Kivas great house. Beginning in the mid-eleventh century, numerous small sites were constructed around the great house—establishing the Village of the Great Kivas community—a cluster of residential sites distributed along the fertile floodplain of the Nutria River and its drainages. Although the area was not used prior to the A.D. 900s, by the mid-eleventh century, this location became the center of an expansive Chacoan community.

This thesis is about outlying Chacoan communities in the Zuni region. My study of Zuni great house communities begins at Village of the Great Kivas. Here, during an unusually hot summer in 1930, Frank H. H. Roberts began excavations that would eventually lead to the notion of a connection between Chaco Canyon and the Zuni region. The primary goal of this thesis is to explore the meaning behind the Chacoan experience in the Zuni region and trace the origins, development, and abandonment of several great house communities throughout the eleventh, twelfth, and thirteenth centuries. Such a broad emphasis can only be approached from community comparisons. Throughout this thesis, I compare Zuni region great house communities to other Chacoan communities throughout the Chaco world, contending that the differences and similarities between Chacoan communities have implications for understanding the relationships these communities endured with Chaco Canyon.

Recognizing how Zuni great house communities are different or similar to other
Chacoan communities has implications for understanding the relationships that existed between Chaco Canyon and its regional system. Here, I focus on four characteristics of Chacoan communities—*community origins, timing, historical events, and proximity to arable land*—and contend that these factors, in part, directed Chacoan community development in the Zuni region. The similarities and differences between these themes begin to illustrate how Zuni great house communities participated in the Chaco world and how local developments and histories influenced community construction during the Chaco era.
For my family.
ACKNOWLEDGEMENTS

This thesis represents a collection of events that, after over a thousand years, still invokes memory and importance to the Zuni people. As in my childhood, the generosity and support of the Zunis have assisted me in accomplishing my goals as an archaeologist. Their love for the past and their ancestry has imparted me with a very different idea about what archaeology is and what it can do. Without their help and support, very little of this project could have been possible.

This thesis also could not have been written without the extremely generous support of my committee members. My advisor, Dr. Catherine Cameron, deserves the most thanks. As an amazing advisor and editor, Dr. Cameron has always been available for help or advice when needed, while allowing me to evolve into my own as a student, researcher, and scholar. Dr. Stephen Lekson and Dr. Gerardo Gutiérrez, the other two members of my thesis committee, also deserve many thanks for their recommendations, constrictive criticism, and support. Without their effort and vigilance, this thesis would not have come to fruition.

This thesis is dedicated to my parents and family, who always warned me about becoming an archaeologist. Halfway through this thesis I saw partly why. Their love and support kept me going at times, and for that I am deeply indebted. My father, Jonathan Damp, provided me with much of the data and material presented in this thesis. His intimate knowledge of the Zuni region and passion for archaeology got this thesis going and no amount of thanks can repay him for his support and guidance.

Lastly, but certainly not least, my friends, colleagues, and fellow graduate students at the University of Colorado deserve a special thanks. Whether it was help
finding an obscure article or consoling me after believing I had lost chapters of work, they have always been there as great friends and great scholars. With such expertise at hand, any shortcomings in this thesis are my sole responsibility.
# TABLE OF CONTENTS

**CHAPTER**

I. INTRODUCTION .................................................................1

Thesis Organization .............................................................16

II. OUTLIERS AND CHACOAN ARCHAEOLOGY .......................20

What is Chaco? ......................................................................24

The Archaeology of Chaco Canyon and the Cibola Region ......24

Chaco and Communities Outside the Canyon ......................30

Beyond the Canyon: Outlying Great House ......................33

Chaco and the Concept of Community .................................48

Great House Communities in the Southern San Juan Region ...54

Cox Ranch Pueblo .................................................................56

Andrews ............................................................................58

Casamero ...........................................................................59

Navajo Springs .................................................................60

Great House Communities in the Northern San Juan Region ..61

Chacoan Great Houses in the Northern San Juan Region .......62

Chacoan Communities in the Northern San Juan Region ......65

Summary ............................................................................70

III. VILLAGE OF THE GREAT KIVAS AND THE CHACO WORLD ...72

The Physical and Environmental Setting
  of Village of the Great Kivas ...........................................75

Situating Village of the Great Kivas in the Chacoan World ....78
Cultural Developments in the Zuni Region ........................................86

Pueblo I .........................................................................................87

Pueblo II .........................................................................................89

Pueblo III .......................................................................................94

Summary ..........................................................................................96

IV. METHODS ..................................................................................99

Survey Methods ...........................................................................100

Dating Village of the Great Kivas and its Community .............103

The Village of the Great Kivas Community .........................104

Summary .......................................................................................111

V. CHACOAN COMMUNITIES AND VILLAGE OF THE GREAT

KIVAS ..........................................................................................112

Dating the Village of the Great Kivas Great House .............116

Robert’s Four Stages .................................................................117

Village of the Great Kivas Community Sites .....................123

Site Descriptions ........................................................................126

Phase I (A.D. 1071-1091) .........................................................128

Phase II (A.D. 1091-1111) .........................................................134

Phase III (A.D. 1111-1131) .........................................................142

Phase IV (A.D. 1131-1152) .........................................................145

Village of the Great Kivas Community Development ........149

Community Origin ......................................................................152

Community Development .........................................................154

Community Layout .....................................................................162
APPENDIX

A. Badger Springs Sites (Survey Data) ..........................................................250
B. Barth Well Sites (Survey Data).................................................................255
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1. Ceramic group assemblages</td>
<td>105</td>
</tr>
<tr>
<td>5.1. Ceramic data for Village of the Great Kivas great house</td>
<td>122</td>
</tr>
<tr>
<td>5.2. Community construction phases and associated sites</td>
<td>128</td>
</tr>
<tr>
<td>5.3. Summary of survey results</td>
<td>154</td>
</tr>
<tr>
<td>6.1. Community sites constructed in Badger Springs area by time period</td>
<td>182</td>
</tr>
<tr>
<td>6.2. Community sites constructed in Barth Well area by time period</td>
<td>187</td>
</tr>
<tr>
<td>6.3. Zuni region great house community comparisons</td>
<td>190</td>
</tr>
<tr>
<td>6.4. Southern San Juan community comparisons</td>
<td>191</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.</td>
<td>4</td>
</tr>
<tr>
<td>1.2.</td>
<td>5</td>
</tr>
<tr>
<td>1.3.</td>
<td>8</td>
</tr>
<tr>
<td>1.4.</td>
<td>10</td>
</tr>
<tr>
<td>2.1.</td>
<td>56</td>
</tr>
<tr>
<td>3.1.</td>
<td>82</td>
</tr>
<tr>
<td>3.2.</td>
<td>83</td>
</tr>
<tr>
<td>3.3.</td>
<td>93</td>
</tr>
<tr>
<td>5.1.</td>
<td>119</td>
</tr>
<tr>
<td>5.2.</td>
<td>125</td>
</tr>
<tr>
<td>5.3.</td>
<td>130</td>
</tr>
<tr>
<td>5.4.</td>
<td>131</td>
</tr>
<tr>
<td>5.5.</td>
<td>132</td>
</tr>
<tr>
<td>5.6.</td>
<td>133</td>
</tr>
<tr>
<td>5.7.</td>
<td>135</td>
</tr>
<tr>
<td>5.8.</td>
<td>136</td>
</tr>
<tr>
<td>5.9.</td>
<td>137</td>
</tr>
<tr>
<td>5.10.</td>
<td>138</td>
</tr>
<tr>
<td>5.11.</td>
<td>140</td>
</tr>
<tr>
<td>5.12.</td>
<td>141</td>
</tr>
</tbody>
</table>
5.13. Site sketch of site NM:12:Y2:454.................................................................143
5.14. Site sketch of site NM:12:Y2:452.................................................................144
5.15. Site sketch of site NM:12:Y2:463.................................................................146
5.16. Site sketch of site NM:12:Y2:451.................................................................147
5.17. Site sketch of site NM:12:Y2:447.................................................................149
5.18. Development of the Village of the Great Kivas Community .....................151
5.19. Phase I community sites (A.D. 1071-1091)..............................................158
5.20. Phase II community sites (A.D. 1091-1111) .............................................159
5.21. Phase III community sites (A.D. 1111-1131) ..........................................160
5.22. Phase IV community sites (A.D. 1131-1152) ............................................161
5.23. Changes in room, kiva, and site frequency through time at the Village of the Great Kivas Community .............................................162

6.1. Location of Barth Well and Badger Springs survey areas .......................169
6.2. Location of Bosson Wash and Gonzalez Well great houses ....................173
6.3. Pueblo I sites recorded in the Badger Springs area ..................................177
6.4. Pueblo II sites recorded in the Badger Springs area .................................178
6.5. Badger Springs great house and kiva depression .....................................179
6.6. Pueblo III sites recorded in the Badger Springs area ...............................181
6.7. Pueblo I sites recorded in the Barth Well area ..........................................184
6.8. Pueblo II sites recorded in the Barth Well area .......................................185
6.9. Pueblo III sites recorded in the Barth Well area .......................................186
CHAPTER 1

INTRODUCTION

Pueblo stories tell of great migrations across the landscape, journeys that began in a place of emergence and ended up at a “middle place.” To many Pueblos, Chaco Canyon once represented such a place (Begay 2004; Swentzell 2004). Beginning in the ninth century, Chaco Canyon witnessed the construction of numerous great houses and great kivas. The very largest great houses were concentrated in a two-kilometer diameter downtown zone at the center of Chaco Canyon (Lekson 2006). By the tenth and eleventh centuries, people began to construct similar structures outside of the canyon, in areas with and without previous occupation (Breternitz et al. 1982; Van Dyke 2007).

The Zuni region represents just one of these areas. Many books have been written about the archaeology of Chaco Canyon and its role in Puebloan prehistory. Nothing similar exists for the Zuni region. The Pueblo II period in the Zuni region remains something of an enigma, a time lost between the Basketmaker roots of the area and the large, plaza-oriented villages encountered by the Spanish in the sixteenth century (Damp and Waseta 2004; Kintigh 1985). Yet, the archaeological history of the Chaco world is different from that of Chaco Canyon (Cameron and Duff 2008), and requires separate attention (Kantner 2003). Careful examination of the Chacoan archaeology of the Zuni
region paints a new picture of great house community development along the southern fringe of the Chaco regional system.

This thesis is about outlying Chacoan communities in the Zuni region. Its primary goal is to explore the meaning behind the Chacoan experience in the Zuni region and trace the development of great house communities throughout the eleventh, twelfth, and thirteenth centuries. Such a broad emphasis can only be approached from community comparisons. Throughout this thesis, I compare Zuni region great house communities to other Chacoan communities throughout the Chaco world, contending that the differences and similarities between Chacoan communities have implications for understanding the relationships these communities endured with Chaco Canyon.

My study of Zuni great house communities begins at Village of the Great Kivas. Here, during an unusually hot summer in 1930, Frank H. H. Roberts began excavations that would eventually lead to the notion of a connection between Chaco Canyon and the Zuni region. For almost eighty years, our understanding of Village of the Great Kivas has been limited to Roberts’ report of his excavations (Roberts 1932). Since Roberts’ excavations at the Village of the Great Kivas site, archaeologists have speculated about the role of the site in the Chaco world (Schachner 2008:191) and its lack of small sites found around many outlying great houses in the Four Corners region (Kintigh 1996; Powers et al. 1983). Kintigh (1996:135), for example, notes: “Although there are Chacoan outliers in the area, like much of the San Juan Basin, we do not have clear evidence of well defined communities associated with them.” Kintigh goes on to state, “Although there are a number of other room blocks in the general vicinity [of Village of the Great Kivas], it does not appear to have a closely associated residential community.”
In a footnote, Schachner (2008:191) states: “Although often held up as a paragon of Chaco-period great houses, it should be noted that much of the occupation at Village of the Great Kivas may date to the early Pueblo III period (A.D. 1150-1225). Evidence for later occupation includes extensive remodeling of the great house itself; the construction of a large, likely unroofed great kiva; and the presence of early Pueblo III White Mountain Red Ware (Roberts 1932).” Powers et al. (1983:230) suggest, “No additional sites are known in the immediate vicinity of Village of the Great Kivas…” This thesis is, in part, a response to the above statements. The results presented in this thesis challenge these statements and situate Village of the Great Kivas within its community and within the Chaco world as a whole.

This thesis builds upon a recent movement dedicated to the reanalysis and reinvestigation of Village of the Great Kivas. In the past decade, Village of the Great Kivas, along with several other outlying great houses on the Zuni Reservation have received an unprecedented amount of attention. In 1998, as part of an archaeological study of Y Unit Draw (Damp 2000; Kendrick 1998), the material excavated by Roberts was reexamined and a settlement analysis of nearby sites was conducted. This work along with Roberts’ has created a wealth of information that permits the reinterpretation of the site given present-day knowledge of Southwest prehistory and given our new interpretation of the settlement patterns in the Zuni region (Damp 2005a).

For this purpose, this thesis delves into Chacoan archaeology through the lens of the study of outlying great house communities in the Zuni region. I focus on just one of these sites—Village of the Great Kivas (LA 631)—a tenth to thirteenth century outlying great house community nestled along the Nutria drainage of the Zuni River (Figures 1.1
and 1.2). Chacoan scholars have long focused their attention on many of the outlying great houses situated along the fringe of the San Juan Basin. Further out, however, exist other great houses, whose role within the Chacoan world is even less understood (Mahoney and Kantner 2000). As one of the best examples of a southern expression of Chacoan architecture, Village of Great Kivas may provide important clues into the development of great house communities in the Zuni region.

**Figure 1.1.** Reconstruction of Village of the Great Kivas great house complex.
Figure 1.2. Study area showing the locations of Village of the Great Kivas, Chaco Canyon, and modern-day Zuni Pueblo.
Over a century of research in Chaco Canyon has offered a diverse array of theories and models interpreting the character and origin of Chaco Canyon great houses. Each of these models invokes a different conception of Chaco and its sociopolitical organization. In many, Chaco Canyon has been the focal point, nevertheless each of these models has repercussions for the nature of the relationship between outliers and Chaco Canyon. The early realization that structures outside of Chaco Canyon had affinities to those inside the canyon (Gladwin 1945; Kidder 1962; Morris 1919), indicated to many cooptation of existing communities into a centralized sociopolitical entity (Wilcox 1993), colonization of the San Juan Basin by Chacoans (Vivian 1990), membership in a common economic or ritual system (Judge et al. 1981; Mathien 1993; Stein and Lekson 1992; Toll 1991), use of similar strategies to power (Sebastian 1992), or local emulation of Chacoan-style construction (Kintigh 1994; Van Dyke 1999b).

This thesis contributes to Chacoan archaeology in two major ways. First, it addresses the concept of Chacoan communities in the Zuni region, proposing that understanding the variety of sites surrounding great houses can serve to redefine our ideas about the development of outlying Chacoan communities and how local and regional histories intersected throughout the Chacoan world. The Village of the Great Kivas community survey documented two different types of residential sites. These sites, their locations, and distance from the great house are all crucial for understanding the Village of the Great Kivas community. The construction and development of small sites in the Village of the Great Kivas community serves to illustrate major changes in the community’s focus and organization through time.
This thesis also goes beyond Village of the Great Kivas by investigating great house community construction in the Zuni region. In order to fully understand the development of Chacoan great houses in the Zuni region, I incorporate new and unpublished data from two other archaeological surveys conducted on the Zuni Reservation: Barth Well and Badger Springs (Figure 1.3). These surveys allow for the investigation of an additional five great houses, and provide the basis for regional comparisons. Together, these data are the outcome of the Zuni Chacoan Period Communities Project, an effort, backed by several archaeologists at Zuni Cultural Resource Enterprise (ZCRE), to document the extent of outlying Chacoan great house communities on or near the Zuni Reservation.
These data suggest that Village of the Great Kivas and its surrounding community was first in a tide of Chacoan-style constructions beginning in the late tenth and early eleventh centuries. Chacoan communities in the Zuni region were part of a constructed landscape—only small pieces of a larger movement that was embedded within local histories and traditions. Although the great house at Village of the Great Kivas appears to be the largest, the site was only part of a web of great houses in the Zuni region. Reanalysis of the site included a cultural resource survey of 259 hectares (640 acres) in
2003. The survey consisted of a 100 percent pedestrian inspection of a one-mile block centered on Village of the Great Kivas. Results revealed that Village of the Great Kivas was only a small part of a rather expansive community that totaled over 300 rooms and twenty-four archaeological sites (Figure 1.4).

Local comparisons of Zuni Chacoan communities suggest that the construction of great houses in preexisting communities while changing the socio-political and ritual lives of Zuni residents, had a minimal effect on community development. Archaeological surveys in the Barth Well and Badger Springs areas revealed that many Chacoan communities in the region had deep historical roots. In both areas, these roots extend back to Basketmaker III times. During the Pueblo I period, until the late tenth century, these patterns strengthen and eventually provide the foundations of Chacoan communities in the region.
Figure 1.4. The community at Village of the Great Kivas. Red dot is the great house.
The emergence of persistent communities in the Zuni region during late Basketmaker and Pueblo I times emphasizes the importance of historical events in the construction of Chacoan outliers. In the Barth Well and Badger Springs areas, great house builders deliberately constructed great houses at the center of expansive communities that were located on the floodplains of the Zuni River and its tributaries. These great houses were built at higher elevations, particularly on mesa tops, away from the river and wash drainages, placed in areas that dominated the landscape, and, in almost all cases, allowed for a panoramic viewpoint of the surrounding landscape. In all cases, the construction of Chacoan great houses in these communities had a negligible effect on community organization and layout.

However, not all Chacoan communities in the Zuni region display deep historical roots. Some communities, such as the Village of the Great Kivas community, saw their origins during or after the construction of the great house. These communities invoke a different conceptualization of the Chaco regional system and suggest, to some, the migration of Chacoan builders from Chaco Canyon itself.

Following the collapse of the Chaco regional system around A.D. 1150, dramatic reorganizations and movement of populations transformed this long lasting pattern. After about A.D. 1200, the majority of Chacoan great house communities in the Zuni region are abandoned and construction became focused on new, post-Chacoan communities. Post-Chacoan sites in the Zuni region represented both an ideological and physical departure from anything seen before in the region. Areas with long histories of occupation, sometimes reaching back to Basketmaker times, such as Barth Well and Badger Springs, are abandoned and post-Chacoan construction becomes concentrated
away from these areas. In addition, these sites introduced a new form of community organization to the Zuni region, the unroofed great kiva.

As a result, I contend that the concept of community needs to be individualized and localized for the Chaco world. Community studies are important and crucial to our understanding of Chaco. Johnson and Earle (1987) suggest “communities are fundamental to social and economic integration in formative agricultural societies.” In this way, communities were the foundation upon which the Chacoan world was built. The community would have been the fundamental social unit in which Chacoan political, economic, and ritual behaviors were sustained and reproduced (Mahoney and Kantner 2000). However, the Chaco pattern was modified and reinterpreted by local populations over time (Reed 2004), and these transformations deserve our attention. My approach for Zuni Chacoan communities emphasizes the geographical nature of great house communities along the southern frontier of the Chaco world. In this thesis, community is used to describe an identity-bearing social group whose conscious sense of collective belonging is rooted in the experience of residential proximity and shared space (Sweeney 2011).

Second, this thesis contributes to Chacoan archaeology on a more regional level by comparing Zuni region great house communities to others in the southern and northern San Juan regions. Comparisons suggest that while there are some notable similarities between great house communities in the northern and southern San Juan, there are also differences. The differences of great house communities across the Chaco regional system suggests that although regional (Chacoan) influences directed outlying great house community construction, local influences had to be dealt with. Chacoan
communities in the Zuni region, for example, continued the tradition of great house construction that began in the northern San Juan and San Juan Basin regions. Much like these communities, many Pueblo II communities were centered around Chacoan great houses that likely served both residential and integrative purposes. Region-wide developments during the late Pueblo II and Pueblo III periods, however, significantly reinterpreted this idea, leading to the formation of post-Chacoan communities and the later proto-Historic plaza-centered villages (Cameron and Duff 2008; Kintigh 1985, 1994; Kintigh et al. 1996).

Recognizing how Zuni great house communities are different or similar to other Chacoan communities in the Chaco world has implications for understanding the relationships that existed between Chaco Canyon and its regional system. The great house communities described here offer opportunities to compare and contrast how local (Zuni) and regional (Chacoan) influences intersected and collided in outlying great house communities. While examining factors such as great house orientation, architecture, size; the number of great kivas present at each site; and community organization, architecture, size, layout, and origin; I also focus on four other characteristics of Chacoan communities in this thesis—community origins, timing, historical events, and proximity to arable land—and contend that these factors, in part, directed Chacoan community development in the Zuni region. The similarities and differences between these themes begin to illustrate how Zuni great house communities participated in the Chaco world and how local developments and histories influenced community construction during the Chaco era.
Determining the *origins* of outlying communities, or whether Chacoan great houses were constructed in areas with long histories of human occupation has implications for understanding who built these structures. If we can determine that a great house was constructed in an area with previous occupation we might suggest local construction. However, if we find the construction of a great house in an area with no recent occupation, we may appeal to its construction by outsiders, maybe even migrators from Chaco Canyon (Cameron 2009). The presence of ancestral and scion communities in the Zuni region suggest that the region enjoyed a variety of relationships with Chaco, the strongest perhaps being Village of the Great Kivas.

*Timing*, or the development of outlying Chacoan communities and how they changed through time, is also central to understanding the Chaco regional system. Van Dyke (2003, 2007) has demonstrated that differences in timing in the Chaco world influenced local community developments throughout the Chaco era. Important shifts in the organization of Zuni Chacoan communities illustrates that the region shared patterns of organization, growth, and development.

The origins and timing of Chacoan communities in the Zuni region intersected with the symbolic and historical connections that Chacoan communities imbued with the villages that preceded and succeeded them (Schachner 2008). These *historical events* illustrate that Chacoan great house construction during the eleventh century in the Zuni region struggled to incorporate pre-established communities into the Chaco regional system. In the Zuni region, these events followed the establishment of a scion community, Village of the Great Kivas.
As in much of the Chaco world, the *proximity to arable land* appears to have, in part, shaped the development of Chacoan communities in the Zuni region. Kendrick and Judge (2000) have suggested that the Chaco era represented a time of increased competition for productive lands. They suggest that corporate groups who incorporated great house architecture into their communities replaced the household in the competition for resources. Durand and Durand (2000) also argue that Chaco was one of the first experiments with sedentary agricultural village life. At Village of the Great Kivas, and great house communities in the Barth Well and Badger Springs areas, great house construction was focused along rivers, drainages, and washes. Within these communities, great houses were built on top of commanding landscape features overlooking cluster of small sites dispersed along the floodplains of the Zuni River and its tributaries.

The conclusions reached in this thesis suggest that outlying Chacoan communities were complex and diverse, following local principles of site layout and sharing similar construction and abandonment dates. Together, Village of the Great Kivas, Barth Well and Badger Springs all suggest that the role of Chaco differed throughout the Chacoan world. Cameron (2009:313) has stated that “The question of why aggregation succeeded in the Cibola region and failed in the northern San Juan had much to tell us about the social, political, and ideological role played by Chaco Canyon in its hinterland.” The Barth Well and Badger Springs surveys illustrate that the Chacoan influence in these areas was short and superficial, allowing for a very different post-Chaco than seen in the northern San Juan.

A developing consensus among Chacoan researchers suggests “The tension between local and regional hold the key for understanding the Chacoan world” (Lekson
and Burd 2001). Gilpin (2003:175) suggests that the most pressing questions regarding outlying Chacoan community studies center on nature of outlying great house communities: “Most Chacoan researchers have embraced the working definition of a Chacoan community as the cluster of small houses around a great house and great kiva, but were these site clusters really communities, and if so, in what sense? How were they organized? How did community members interact with each other? How did they interact with other communities? How much variability was there among communities? How did communities and the Chacoan ‘system’ change during the Chacoan era?”

Throughout the rest of this thesis, I follow an approach that combines ceramic dating methods with a Geographic Information Systems (GIS) database in order to understand this relationship and the nature of outlying great house communities in the Zuni region. Mean ceramic dates, for example, paint a detailed picture of the century of growth, development, and decline at Village of the Great Kivas. The results of this thesis trace the origins, development, and abandonment of Village of the Great Kivas and other great house communities in the region, and set the stage for comparing Village of the Great Kivas to other great house communities in the Zuni region and beyond.

**Thesis Organization**

The remainder of this thesis is organized as follows. Chapter 2 provides the context of this study. It traces the archaeology of Chaco Canyon, beginning with the question, what is Chaco and what was Chaco in the Zuni region? Chapter 2 then explores the study of outlying great house communities, including how archaeologists have
investigated community origins, historical events, proximity to arable lands, and timing throughout the Chaco world. The final portions of the chapter provides an overview of some of the most well known Chacoan great houses in the northern and southern San Juan regions. I focus on the Cibola region and great house communities where intensive research has occurred. A discussion of great house communities in the northern San Juan offers an opportunity to compare the Cibola region to the northern San Juan, where more is known, more great houses have been excavated, and more has been published.

Chapter 3 presents an introduction to Village of the Great Kivas, as well as a summary of its environmental setting and local culture history. It first attempts to situate Village of the Great Kivas into the Chacoan world by retelling Roberts 1930 excavations. The chapter then forays into the chronology of the great house at Village of the Great Kivas, briefly comparing Roberts’ results to those of this thesis. Chapter 3 additionally reviews the Village of the Great Kivas survey and then compares it to Roberts’ excavations. A culture history of the Zuni region is then provided. It begins in Pueblo I times, through the Chacoan and Post-Chacoan periods, ending with a discussion of the Pueblo III period in the Zuni region.

Chapter 4 provides the methods used in this study: how I gathered my data, how I compared within and across communities, and the procedures used during field survey. It begins with a discussion of the Village of the Great Kivas survey—how sites were recorded, mapped, and described. It then briefly covers the overall field methods of the Zuni Chacoan Period Communities Project. Ceramics dating methods of the great house, and community sites are then described and ceramic dates and groups are offered. Next, I cover the methods of my community comparisons, describing how I dated the sites and
incorporated the data into GIS. Lastly, I present the techniques used in my ethnographic study and the drawbacks of the interview process.

Chapter 5 is a data and data analysis chapter. It begins with a description of the great house at Village of the Great Kivas: what has been said before about it, its chronology, and how its reanalysis has shed light on its development. Next, I present descriptions of the community sites located within a one-mile block around the great house at Village of the Great Kivas, and discuss how this community may have developed in the eleventh and twelfth centuries. The chapter concludes with a discussion of how community origins, historical events, timing, and proximity to arable land influenced the development of this Zuni region great house community.

Chapter 6 expands and enlarges the scope of this thesis by introducing recent survey data from two areas in the Zuni region: Barth Well and Badger Springs. Chapter 6 utilizes the results presented in Chapter 5 to investigate the variability of Chacoan communities in the Zuni region and how similarities and differences in community origins, historical events, timing, and proximity to arable land directed community development and organization in these areas. The chapter closes with a comparison of Zuni great house communities with others in the northern and southern San Jan regions, and a discussion about how Chacoan communities in the Zuni region were similar or different from great house communities elsewhere in the Chaco world.

Chapter 7, the final chapter, summarizes the information presented and discussed in previous chapters. It delves into community organization in the Zuni region during Pueblo II times, investigating changes in community formation before and after the construction of great houses. I conclude by highlighting some of the most salient
contributions of this thesis and future work that can help in understanding Chaco-era developments in the Zuni region.
CHAPTER 2

OUTLIERS AND CHACOAN ARCHAEOLOGY

This chapter sets the stage for my analysis of great house communities in the Zuni region by exploring the recent research on the Chaco regional system and its outlying great houses. As early as the turn of the twentieth century, archaeologists began to recognize a connection between Chaco Canyon and the great houses of the southern San Juan region. By the 1930s, and particularly after the 1970s, archaeologists attempted to model this relationship (Fowler et al. 1987; Roberts 1931, 1932; Spier 1917; Vivian 2005). After a century of study and excavation, archaeologists remain divided about the role of great houses in the southern San Juan, the identity of their builders and residents, and the role of outlying Chacoan communities that have been found to surround many of them.

Today, the Chaco world is much larger than anyone anticipated in the early 1970s. Over the past 30 years, the Chaco world has grown, not so much because we have uncovered new sites, but because people have looked at old sites in new and illuminating ways (Kintigh 2003). Though the 1970s was a turning point in our understanding of the Chaco world, it would be some time before researchers began to appreciate the fluidity and variability of the Chacoan periphery.
This chapter describes Chacoan archaeology through the lens of the study of outlying Chacoan communities and begins with a single, seemingly simple question: what is Chaco and what was Chaco in the Cibola region? Over a century of research at Chaco Canyon and beyond has offered an eclectic range of theories and models interpreting the character and origin of Chaco Canyon. Each of these models invokes a different conception of Chaco and its sociopolitical organization. In many, Chaco Canyon has been the focal point, demonstrating our optimism in understanding an entire region from a single, yet important place. Nevertheless, each of these models has repercussions for the nature of the relationship between outliers and Chaco Canyon. The early realization that structures outside of Chaco Canyon had affinities to those inside the canyon (Gladwin 1945; Kidder 1962; Morris 1919), indicated to many cooptation of existing communities into a centralized sociopolitical entity (Wilcox 1993), colonization of the San Juan Basin by Chacoans (Vivian 1990), membership in a common economic or ritual system (Judge et al. 1981; Mathien 1993; Stein and Lekson 1992; Toll 1991), use of similar strategies to power (Sebastian 1992), or local emulation of Chacoan-style construction (Kintigh 1994; Van Dyke 1999b).

Accompanying the discussion of Chacoan studies in the Zuni region is an overview of contemporary research on outlying great house communities. I focus on four characteristics of Chacoan communities: community origins, timing, historical events, and proximity to arable land. I contend that these factors, in part, directed Chacoan community development in the Zuni region. The similarities and differences between these themes begin to illustrate how Zuni great house communities participated in the
Chaco world and how local developments and histories influenced community construction during the Chaco era.

The study of outlying great house communities has major implications for understanding Village of the Great Kivas and the nature of outlying Chacoan communities in general. Some archaeologists argue that the Chacoan regional system was a product of local construction and management (Kantner 1996; Kantner and Kintigh 2006; Van Dyke 1999; Warburton and Graves 1990). The diversity of great house architecture outside Chaco Canyon and the idea that outlying great houses are generally built within preexisting communities suggests to these scholars that outlying Chacoan great houses were implicated under local construction and control.

In the Cibola region, the construction of great house communities at both Cox Ranch Pueblo and Cerro Pomo followed little to no previous occupation (Clark 2010; Duff 2005). At the Village of the Great Kivas community, evidence suggests that the Village of the Great Kivas great house was constructed and occupied one or two generations prior to the construction of the community. Together, these sites represent the majority of scion communities in the southern San Juan and the Chacoan world, although others exist, particularly along the North Road including Pierre’s Ruin. Mahoney and Kantner (2000) contend that Bis sa’ ani is the only indisputable scion community constructed during the Chacoan period. New research presented here and by Clark (2010), Duff (2005), and Wichlacz (2009) suggest that the novel establishment of great house communities in the southern San Juan was much more common than was believed just a decade ago.
Three major insights are particularly important to understanding Village of the Great Kivas and its role in the Chacoan world during the Pueblo II period: 1) the recognition that the Chacoan core and outlying great houses represented an “integrated whole” linked by a system of roads, great houses, and great kivas (Judge 1991:15); 2) changes in how archaeologists have approached great houses, their function, and their role in outlying communities; and 3) the understanding that not all outliers are identical (Breternitz et al. 1982; Marshall et al. 1982).

The final portions of this chapter provides an overview of the community concept as it relates to Chacoan communities and summarizes some of the most well known Chacoan great houses in the northern and southern San Juan regions. I focus on the Cibola region and great house communities where intensive research has occurred. A discussion of great house communities in the northern San Juan offers an opportunity to compare the Cibola region to the northern San Juan, where more is known, more great houses have been excavated, and more has been published. Great houses in the northern San Juan were generally larger than those in the Cibola region and incorporated a diverse set of construction styles and mediums (Cameron 2009). Jalbert (1999:140) documented four common styles of Chacoan community construction in the northern San Juan—jacal, unshaped sandstone, roughly shaped sandstone, and pecked face sandstone—suggesting that local construction traditions were responsible for their variability.

In Chapters 6 and 7 I compare the great house communities presented in this chapter to Village of the Great Kivas and the great house communities encountered during the Barth Well and Badger Springs surveys. The differences between Chacoan great house communities in the southern San Juan region and beyond, particularly their
origins and development, plays a large role in understanding what Chaco was and how local populations responded to Chacoan great house constructions in various parts of the Chacoan world.

**What is Chaco?**

While many of our theories and interpretations of Chaco’s development and operation rely on the archaeology conducted in Chaco Canyon, they are crucial to our understanding of the Chaco regional system. A study of the relationship between outlying great house communities begins on the frontier, but it ends in Chaco Canyon. This section discusses Chaco Canyon, what we know about its archaeology, and its role in the Cibola region. Research in the Zuni region has long focused on what happened after Chaco, and as such we have a very poor understanding of how the area interacted with the rest of the Chacoan world during the Chacoan era.

**The Archeology of Chaco Canyon and the Cibola Region**

Chaco Canyon is a wide yet shallow canyon that runs about twenty miles east to west (Reed 2004). The canyon itself lies along a periodic, ephemeral stream that is liberally referred to as the Chaco River. The stream, which flows only after rainstorms and momentary snowmelt, is more accurately called Chaco Wash. Along with a landscape of broken cliffs and sandstone, Chaco Wash forms Chaco Canyon, a unique
canyon characterized by a number of short, tributary, side canyons on the northern ridge, which during prehistory were used to facilitate run-off agriculture (Vivian 1974, 1990).

Climatically, Chaco’s environment was unforgiving (but see Sebastian 2006). Daytime summer temperatures can easily exceed 100 degrees °F; while nighttime lows during the winter often surpass the zero threshold. Precipitation was also a setback. Chaco Canyon receives about 8.5 inches of rain a year (Hall 1988) and has a growing period of about 140 days, making agriculture in the canyon difficult at the very least.

Archaeologically, Chacoan great houses have come to define the canyon. Great houses are Chaco’s most prominent and identifiable features. They have been described by some as the “sine qua non” of Chacoan archaeology (Lekson 1991), a testimony to the time and money devoted to understanding these distinctive structures. This research not only advanced our understanding of Chacoan archaeology, it propelled the field and placed Chaco as a subject of study within Southwestern archaeology. The construction of great houses in the canyon began as early as the late A.D. 800s, however the culmination of great house construction and architecture was not reached until the eleventh and twelfth centuries (Lekson 1984; Vivian 1990).

The largest of the Chacoan great houses were clustered in a two-kilometer diameter area referred to by some as downtown Chaco (Lekson 2006). Some of these great houses include Pueblo Bonito, Pueblo Alto, Kin Kletso, Pueblo del Arroyo, and Chetro Ketl. Outside downtown Chaco Canyon are smaller monuments and structures, which have been referred to as the Chaco Halo (Doyel et al. 1984). The Chaco Halo is an 8.5-kilometer radius beginning at Pueblo Bonito and extending just beyond the borders of the canyon.
Chaco was largely a Pueblo II phenomenon. Archaeologists have divided this period into three phases, all specific to Chaco Canyon during the height of its construction: Early Bonito phase (A.D. 850-1040), Classic Bonito phase (A.D. 1040-1100), and Late Bonito phase (A.D. 1100-1140). The origins of Chacoan society, however, is said to have begun hundreds of years before A.D. 850 (Wilshusen and Van Dyke 2006). The first occupants of Chaco Canyon and the San Juan Basin were highly mobile hunter-gatherer groups, who by the end of the Pleistocene occupied much of the New World. Nevertheless, the beginnings of what archaeologists refer to as the Puebloan lifestyle occurred around A.D. 600 during the Basketmaker III period, when much of the Southwest adopted an agricultural way of life.

By A.D. 800, populations in the Four Corners region constructed the first great houses along the Dolores River Valley (Windes 2004). Around A.D. 875, some of these populations relocated to Chaco Canyon, making the canyon home to possibly 500 to 750 people (Reed 2004). In the late A.D. 800s, construction at three great houses in the canyon began: Pueblo Bonito, Penasco Blanco, and Una Vida. And by A.D. 1050 and 1100, a total of nine more great houses were constructed in the canyon. Chaco Canyon great houses also attracted utilitarian goods from a wide region as well as prestige goods from long distances: turquoise from the Cerrillos, marine shell from the Pacific, copper bells and macaws from Mesoamerica, utilitarian pots and chipped stone material from the Chuska Mountains (Cameron 2001; Mathien 2003; Toll 2001).

Around the same time in the northern San Juan (A.D. 1050-1100), outliers such as Chimney Rock, Salmon, Lowry, and Wallace were constructed and occupied. Outlying great house construction in the north was mirrored in the south, but possibly to a lesser
degree, with fewer and smaller great houses (Duff and Lekson 2006). Rumors of a connection between Chaco and the Zuni region began in 1892 when Bandelier reported on several sites in the area that would later be acknowledged as Chacoan (Fowler et al. 1987). In addition, some time later, Spier (1917:349) described the presence of pottery of “the Chaco Canyon type at four small ruins southeast of Ojo Bonito” on the Zuni Reservation. These sites were most likely great houses and are described in Chapter 5.

Detailed comparisons of the Zuni region and Chaco accelerated in the 1930s with the work of Roberts. In 1929, Roberts excavated a number of sites in the Kiatuthlanna area, near the Hardscrabble drainage. Roberts observed that some of the architectural characteristics he observed at Kiatuthlanna illustrated a distinct affiliation with Chaco Canyon. Eventually, Roberts (1931:174) reasoned that the material culture at Kiatuthlanna reflected a fusion of northern and southern types. Of course, through his work at Village of the Great Kivas the following year, Roberts was able to more firmly establish a connection between the Zuni region and Chaco Canyon.

In the 1950s, work by Woodbury and Woodbury (1956) in the El Morro Valley produced little evidence of a link with Chaco. Around the same time, the Peabody Museum initiated survey and excavation work in the Zuni-Quemado region. Danson (1957) extensively surveyed the region and highlighted several sites that were possibly Chacoan or post-Chacoan outliers. However, McGimsey (1980) was less convinced, and suggested that little or no connection existed on Mariana Mesa.

The 1960s provided the evidence necessary for establishing a Chacoan presence in the Zuni region, and research at this time laid the foundations for a more Chacoan linked research in this area. More recently, Chacoan related research in the Zuni region
has concentrated on the post-Chacoan period, between A.D. 1150 and 1300. Specifically, researchers have focused on explaining how and why an early, large, and dispersed Zuni population became so concentrated into a relatively small number of pueblos in a short period of time (e.g., Kintigh 1985). This research has led to a focus on post-Chacoan sites in the Zuni region and a disregard to Chacoan period sites in the area.

Although Chacoan research has been relatively sparse in the Zuni region, Vivian (2005:17-19) has proposed the following characteristics for Chacoan sites there:

1) They are usually situated on an elevated platform within an open landscape with high visibility.
2) Locations for great house construction were usually prepared by leveling and shaping an earthen platform as a foundation for the structure.
3) Buildings were usually multi-story and usually contained relatively large rooms and blocked-in kivas.
4) Berms generally surround entire structures and are interrupted by several road segments that usually entered from four cardinal directions.
5) Great kivas were formal, large, and roofed.

To Vivian, one of the strongest lines of evidence for a Chacoan connection lies in the presence of great kivas. Vivian (2005) suggests that within the Zuni-Quemado Zone, an area encompassing the northern headwaters of the Little Colorado River, about sixty-two percent of Chaco era sites had great kivas. The idea that great kivas represented a Chacoan presence dates back to at least the 1930s when Roberts claimed that great kivas are generally associated with some form of the Chaco culture. Stein (1987) built upon this model by suggesting that the great kiva was a distinctive characteristic of a Chacoan or Ancestral Puebloan ritual landscape. Great kivas, however, were present before the tenth century and the height of construction in Chaco Canyon. These proto-great kivas served as focal points for Early Bonito communities across the San Juan Basin (Van Dyke 2007).
In the past decade, Chacoan-oriented research in the Cibola area has seen a resurgence, not only in the amount of work being conducted but also the number of great house communities being reported. Along with excavations at Cox Ranch and Cerro Pomo by Washington State University (Duff 2005), the Zuni Chacoan Period Communities Project in 2005 documented numerous great house communities in the Zuni Reservation. In the Barth Well and Badger Springs areas, archaeological surveys documented a long history of growth alongside the development of community structures predating the Chacoan Period. With exception to these great houses, which are discussed in Chapter 6 and 7, three other great houses are known to exist on the Zuni Reservation: Gonzalez Well, Peggy’s, and LA 38012. Although these great houses are not the focus of this study, those with published data are described in Chapter 3.

This section has described the archaeology of Chaco Canyon and the history of Chaco related archaeological investigations in the Cibola region. The overview of Chacoan research in the Cibola region exposes one major handicap: we have very little data for establishing the degree of Chacoan presence in the Zuni region. Research in the Zuni region has long focused on what happened after Chaco, and as such we have a very poor understanding of how the area interacted with the rest of the Chacoan world during the Chacoan era. Vivian’s proposal for investigating the relationship between great kivas and Chaco is a start. In Chapters 5 and 6, I present data on six Chacoan communities in the Zuni region. Although this research presents the results of several block surveys, which are limited by their very nature, they do provide a wealth of information for better understanding the role of Chaco Canyon in the Zuni region. The following section sets the foundation for examining great house communities in the Zuni region. It highlights
what we know about Chacoan communities today, how archaeologists have explored outlying communities, and what Chacoan scholars consider to be the most pressing issues in outlier research.

**Chaco and Communities Outside the Canyon**

Archaeological research has been underway in Chaco Canyon since the days of Wetherill and Pepper in the 1890s (Lister and Lister 1981; Pepper 1920). The investigations of the past century have uncovered an astounding amount of information about Chaco Canyon and the Ancestral Puebloan farmers who inhabited this place. But we still have more questions than we have answers. Chaco Canyon seems an isolated, difficult place to live in today. Great houses in the canyon appear enigmatic and interpretations about their function range from elite residences to empty platforms for ceremony (Durand 2003).

Archaeological interpretations about Chaco Canyon are also sometimes conflicting. Chaco is of interest to archaeologists, in part, because we know so little. Chaco Canyon does not appear to fit any ethnographically identified, sociopolitical stage such as state or chiefdom (Saitta 1999; Yoffee 2001). Over the past century, archaeologists have proposed a variety of models to explain the sociopolitical development of Chaco and the organization of outliers that surround it (Mills 2002; Sebastian 1992; Vivian 1990). Most current explanations gravitate around the notion that Chaco Canyon was a place for ritual gatherings, with leader’s power stemming from exclusive access to ritual knowledge (Kantner 1996; Sebastian 1992; Wills 2000).
This section describes what we know today about Chaco Canyon, outlying great house communities, and the relationship between the two. Although many of the theories about Chaco refer specifically to the archaeology of Chaco Canyon, these studies have implications for understanding Chacoan great house communities in the southern San Juan. There are four major movements in Chacoan research that have dramatically changed our understanding of the meaning of the Chaco regional system.

First, Chacoan archaeology up until the 1970s and 1980s was largely an archaeology of Chaco Canyon. Although archaeologists had conducted excavations at various outlying great houses such as Lowry and Chimney Rock, few archaeologists thought about connections outside the canyon, and even fewer thought this relationship meant something. Today, it is well accepted that we need to understand outliers in their local as well as regional contexts, and understand that these contexts and relationships changed as Chaco changed (Cordell 1997:322). By the early 1980s, this idea was already in place as Powers et al. (1983) argued that outlying great house communities were likely the result of early clusters of Basketmaker sites (ca. A.D. 500) that eventually emerged as ceremonial centers in Pueblo I times (Vivian 1990).

Second, the recognition that Chaco Canyon and outlying great house communities represented “an integrated whole” (Judge 1991:15), provided the basis for a number of models about the development of Chaco Canyon (e.g., Irwin-Williams 1972; Lekson 1984; Windes 1984). In the late 1970s and early 1980s, this regional perspective was reinforced by outlier surveys conducted by the Chaco Center (Powers et al. 1983) and the State Historic Preservation Office (Marshall et al. 1979). These surveys led to the search
for a predictable pattern of outlying great houses, which included a great house, great kiva, connecting road, berm, and a surrounding community.

Third, during the 1980s various evolutionary and ecological models hypothesized about the role of Chaco Canyon as a regional center (Altschul 1978; Sebastian 1992:82; Vivian 1970). For example, Judge (1979, 1984), in an influential paper for the time, sought to explain the fluorescence and collapse of Chaco through an ecological approach which emphasized rainfall as the primary cause for Chaco’s shift from a redistribution-based economy to a ritually-based one (Judge 1984).

Fourth, the late 1990s represented a major transformation in Chacoan research, as archaeologists shifted their emphasis from debates about the “presence or absence of complexity,” to discussions of “how Chacoan political, economic, ritual, and social organization were structured” (Mills 2002:65). This shift was part of an overall trend towards the rejection of complexity at Chaco, and the replacement of polity with rituality (Lekson 2006:17).

It is apparent that archaeological interpretations of Chaco have changed greatly over the past hundred years. Although we have begun to think regionally, local histories are still regarded as important (Cameron and Duff 2008). In addition, outlying great houses are now distinguished from residential structures by their size and comparatively elaborate masonry—they were big bumps on a landscape of small bumps (Lekson 1991, 2000). Yet, considerable debate still exists concerning the presence of Chacoan traits and whether they are the result of direct influence from the canyon or local emulation (Van Dyke 1999a; Wilcox 1993).
Determining whether Chacoan great houses are the result of direct influence from Chaco Canyon or local populations emulating the same, albeit larger, structures of the canyon has repercussions for determining who constructed outlying great houses (Cameron 2009). To understand the role of Chaco Canyon in the southern San Juan, it is important to consider the temporal and spatial origins of Chacoan great houses. The following section outlines our current understanding of the Chacoan world, outlying great house communities, and the relationships that existed between Chaco Canyon and outlying communities.

*Beyond the Canyon: Outlying Great House Communities*

In a remote river valley in west-central New Mexico, thousand-year-old walls stand tall over an ancient landscape. It was against this backdrop that archaeologists began to ponder the idea of a connection between Chaco Canyon and the Zuni region. In the summer of 1930, Frank Roberts excavated at this very place, naming the site Village of the Great Kivas. Roberts’ work was not unaccompanied. Between 1916 and 1935, Aztec and Chimney Rock, along with Lowry Ruin, and Morris Sites 39 and 401 were found to have similar characteristics as Village of the Great Kivas and Chaco Canyon in general (Eddy 1977; Martin 1936; Morris 1919).

Archaeologists today assert that over 150 outliers like Village of the Great Kivas and Lowry Ruin were occupied during the eleventh and twelfth centuries (Kantner 2003; Mahoney and Kantner 2000). Gilpin (2003:175) suggests that the most pressing questions regarding outlying Chacoan community studies center on nature of outlying great house
Most Chacoan researchers have embraced the working definition of a Chacoan community as the cluster of small houses around a great house and great kiva, but were these site clusters really communities, and if so, in what sense? How were they organized? How did community members interact with each other? How did they interact with other communities? How much variability was there among communities? How did communities and the Chacoan ‘system’ change during the Chacoan era?”

This section addresses contemporary research on outlying great house communities and provides a basis for my study of great house community development in the Zuni region. Here I focus on four characteristics of Chacoan communities in the Zuni region: community origins, timing, historical events, and proximity to arable land. The similarities and differences between these themes, in part, illustrate how the Zuni region, and great house communities such as Village of the Great Kivas and communities in the Badger Springs and Barth Well areas, participated in the Chaco world. These characteristics also explore how local influences and previous developments directed community construction during the eleventh to thirteenth centuries.

The connection of great house communities outside Chaco Canyon to the canyon itself has been highly debated (Cameron and Duff 2008; Kantner 2003; Lekson 2006; Sebastian 1992; Vivian 1990, 2005; Wills and Dorshow 2012). Sebastian (1991, 1992), for instance, submits that great house communities were the result of institutionalized leadership that existed within Chaco Canyon and radiated out of the San Juan Basin. Vivian (2000) suggests that great house communities were long-term centers, aimed to marking community territory. Kendrick and Judge (2000:127) similarly argue that outlying great houses were designed to attract people, or magnets for regional
Although conflicting views on the connection between great houses outside the canyon to Chaco Canyon pullulate, the poles of the debate have recently been argued by Lekson (2006) and Kantner and Kintigh (2006). Kantner and Kintigh (2006) contend that Chaco Canyon did not have strong political or economic connections with great houses in the larger region, but was rather an important ceremonial center. There is some evidence that supports this view. For example, Kantner et al. (2000) found that trade and interaction at Red Mesa Valley great house communities was profoundly local, arguing that outlying great houses in the region were not tapped into a regional sphere of exchange. Gilpin and Purcell (2000) relatedly demonstrate that at the Peach Springs community, local exchange dominated long-distance trade.

Also intimate with the localized view of outlying Chacoan great houses is the notion that the relationship between outlying great houses and Chaco Canyon can be explained through a form of Renfrew and Cherry’s (1986) model of peer-polity interaction (Durand 2003; Kantner and Kintigh 2006; Kintigh 1994, 2003; Kintigh et al. 1996; Roler 1999). These scholars suggest that the relationships between great house communities embedded within competitive emulation where aspiring leaders engage in increasingly elaborate displays of wealth to bolster their position or status.

Windes (2001) contends that competition centered on the access to productive agricultural lands, or in other words, the proximity to arable land. The construction of Chacoan great house communities along major drainages and washes united populations and fostered competitive advantages over households or lineages (Kendrick and Judge 2000). Windes (2001) illustrates that during the Pueblo I and II periods, Chacoan...
communities were rarely located on mesa tops. Wills and Dorshow (2012) also argue that political power during the Chacoan era had an agricultural foundation. They argue that great house communities were constructed to control local production zones.

Durand and Durand (2000) argue that Chaco was one of the first experiments with sedentary agricultural village life. They note that the majority of outlying great house communities appear to be aligned to “garner the full range of benefits from agricultural production” (Durand and Durand 2000:108). In the post-Chacoan period, these attempts intensified and there is evidence of tumultuous movements of populations across the Southwest and the development of large, plaza-oriented villages that characterize the proto-Historic period. In the Guadalupe community, Roler (1999) documented a greater reliance on domesticated turkey in the post-Chacoan period, and Pippin (1987) notes an increase in the row number and cupule width for maize after A.D. 1150. In a more general sense, Munro (1994) has observed this pattern at an array of sites following the collapse of Chaco Canyon.

Kendrick and Judge (2000) have similarly suggested that the Chaco era represented a time of increased competition for productive lands. They suggest that corporate groups who incorporated great house architecture into their communities replaced the household in the competition of resources. They suggest that great houses attracted residents and consolidated power, signaling increased control over productive lands (Kendrick and Judge 2000:127).

Lekson (1999, 2006) alternatively stresses that Chaco Canyon was a central place in a big, well-defined region. He argues that although great house architecture outside the canyon can be variable, they are not more variable than those inside the canyon and
provide a meaningful pattern suggestive of integration. According to Lekson, great houses, great kivas, and berms all demonstrate that Chaco was an integrated system connected by roads that traversed across the landscape (Lekson and Stein 1992).

Van Dyke (2003) and Kantner (2003:210) argue that Chacoan features, such as core-and-veneer architecture, relatively large great houses, great kivas, and blocked-in kivas, do no appear together as cohesive packages of traits but rather “in regional and temporal clusters in which a set of communities share some but not all of the features seen in Chaco Canyon.” Kantner (2003) contends that great house communities illustrate cultural traditions based on local ideologies, suggesting that outlying great house communities contain too much diversity to be part of an integrated system.

Roadways and ceramics bear much of the weight of the nature of interaction between great house communities. In recent years, research on roadways has suggested that Chacoan roads may not have formed an interacting network of communities (Durand 2003; Kantner 1997; Roney 1992; Vivian 1997a, 1997b). These scholars contend that the majority of Chacoan roads connected communities with neighboring hamlets or surmised an ideological meaning (Sofaer et al. 1989).

The notion that roads were constructed with the function of funneling resources into Chaco Canyon has implications for understanding the relationship between Chaco Canyon and outlying great house communities. Lipe (2006) argues that a diversity of alliances and relationships existed between Chaco Canyon and the Chaco world. Lipe suggests that outlying great house communities were attempts to expand Chaco ideology and an opportunity for local elites to compete for power.
Toll (1985, 1991, 2001) has demonstrated that ceramics from across the San Juan Basin flowed into Chaco Canyon. Additionally, Cameron (2001) and Akins (1985) have illustrated that this pattern is mirrored by lithic and faunal material. These studies suggest that interaction between Chaco Canyon and outlying great house communities shifted through time. Roads, however, have been argued to be absent in many areas where lithic and ceramic material originated. Nonetheless, there are those who believe that roadways provided some sort of economic foundation to the Chacoan world. Snygg and Windes (1998), suggest that roadways were used to move construction beams to the central canyon, among other things.

Roads are straight and often wide engineered features that linked sites to a variety of places, including other sites and prominent natural features. In an updated study of the Chacoan world, Van Dyke (2003) determined that roads are present at nearly half of the known outlying great house communities. Lekson (2006) suggests that roads were used for transportation as much as they were used for monumental or symbolic aspects, contending that the dense system of roads in Chaco Canyon created a superfluous network of routes that were “clearly unnecessary for efficient pedestrian use” (Lekson 2006:13). Roads outside the canyon also display similar qualities. One important feature is that many roads appear to have been formally constructed only at their entrance to a great house. Kantner and Kintigh (2006:165) have argued that this suggests that “the construction of the longer roadways does not necessarily evidence regular interaction among Chacoan people…”

Great house architecture also plays a role in discussion regarding the nature of the Chaco regional system. Debates generally center on whether great house form exhibits
diversity or similarity across the Chaco world. Some scholars believe (e.g., Van Dyke 1999, 2003; Kantner 2003; Kantner and Kintigh 2006) that the diversity present in outlying great house architecture is not representative of interacting polities. Van Dyke (1999, 2003) in a comparative study designed to address the motivation for the construction of outlying great houses and the relationship between outlying Chacoan communities and Chaco Canyon suggested that similarities in Chacoan architecture could have spread throughout the Southwest without the supervision of Chacoan builders.

Despite architectural variability across great house constructions, there does appear to be some patterning in the material culture recovered from great houses across the Chacoan world (Kantner 2003). Durand (2003), for instance, has demonstrated that faunal and other ritual paraphernalia have been found in most outlying great houses. Painted wooden artifacts and raptorial birds suggest to Durand that Chacoan great houses were ritual stages sharing a cultural pattern across much of the Chaco world.

Ware (2002a) has alternatively argued that the Chacoan system symbolized a shift from kin-based to sodality-based control of ritual and political power. He contends that great houses represented residential structures for sodality houses. Gilpin (2003) also adheres to the view that outlying great houses were primarily residential and that its residents had an identity and status that distinguished them from the occupants of small houses. Ware (2002b) proposes that small houses were residences of matrilineages, sharing mutual ritual rights.

Recently, the idea that great houses functioned primarily as residential structures has taken a hit. A growing body of evidence suggests that great houses, at least in Chaco Canyon, were not primarily residential structures (Bernardini 1999; Lekson and Cameron
Evidence for this includes the low frequency of domestic features within great houses, such as hearths and mealing bins (Windes 1984, 1987). This pattern is apparently mirrored in outlying great houses as well. Durand (2003) demonstrates that of the 216 “archaeologically tested” great houses in the Chaco World Database, only fifteen were found to contain domestic features.

Household refuse has also led scholars to hypothesize about the function of great houses. In an examination of trash mounds at Pueblo Alto, Windes (1984) found that the rate of trash deposition and the quantity of imported ceramics present in middens did not represent typical household trash. Later, Toll (2001:71) echoed this interpretation and argued that Pueblo Alto trash mounds were “suggestive of periodical dumping events.” More recent advances have argued for a ritual/ceremonial function for great houses (Mills 2002; Renfrew 2001; Stein and Lekson 1992). Evidence for a ritual or ceremonial function of great houses include external features associated with great houses (i.e., berms), architecture, and most importantly, material culture.

Ceremony was also associated with great kivas. Caches of turquoise, beads, and other items have been found in sealed wall niches and under floor vaults in great kivas. Great kivas were large, circular rooms incorporating a bench, and often floor vaults, and a central hearth (Reed 2004). Van Dyke (2003) suggests that great kivas are more likely to be absent in outlying communities within forty to fifty kilometers of Chaco Canyon, supporting Breternitz et al.’s (1982) notion of the Chaco Halo, where sites located in the immediate area of Chaco Canyon are considered economically and ritually dependent upon sites in downtown Chaco (see also Van dyke 2002). Stein and Lekson (2002) have
argued that the scared position of the great kiva, along with other ritual features such as
great houses, roads, and mounds, together epitomize a sacred, constructed landscape.

Mahoney and Kantner (2000) suggest that ritual activity at great houses directed
regional levels of social organization, while local layouts of great house communities
were structured by local sociopolitical contexts. Kantner (2003) has argued that Chacoan
communities beyond the San Juan Basin were not closely tied to developments within
Chaco Canyon. He contends that more distant communities, such as Village of the Great
Kivas, acknowledged Chaco’s reputation by adopting Chacoan features and modifying
them to fit local social and ideological dynamics. How these factors transformed local
communities is central to understanding the development of outlying great house
communities.

Although all Chacoan outliers contain some kind of Chacoan-style architecture,
they are variable in terms of great house size, community organization, and location.
Ceramics and architecture tell us that in some instances, such as at the Barth Well and
Badger Springs areas, eleventh century people constructed Chacoan great houses in an
existing community. In other instances, as at Village of the Great Kivas and Cox Ranch,
great houses were built in previously unoccupied places.

Determining the community origins of Chacoan great houses has implications for
understanding who built these structures. The construction of Chacoan great houses in
ancestral communities and in previously unoccupied areas probably resulted from several
different kinds of processes. Van Dyke (2007) suggests that the origins of Chacoan
communities resulted from the following two scenarios: 1) local residents constructed
Chacoan great houses in the eleventh century as they began to participate in events at
Chaco and 2) Chacoan colonists erected Chacoan great houses in area that previously lacked community centers or were relatively uninhabited. These scenarios, although providing a simplified view of what were undoubtedly complex events, provide a starting point for thinking about the different kinds of relationships outlying great house communities had with Chaco Canyon.

Based on their excavations at Bis sa’ ani, Breternitz et al. (1982) initially suggested that two types of great house communities existed: ancestral and scion communities. Ancestral communities exhibited considerable time depth in the same location, particularly from Basketmaker III or Pueblo I times. A single great house that incorporated Bonito-style architecture, a great kiva, and formal roadways were seen as typical for ancestral communities. Scion communities were established as colonies during the height of Chaco Canyon (Marshall et al. 1982). They normally exhibit Bonito-style great house architecture, but were often of moderate dimensions and typically associated with roads (Graves 1990).

There is evidence for the establishment of great house communities in areas without long-established communities in the southern San Juan region. In the Cibola region, the construction of great house communities at both Cox Ranch Pueblo and Cerro Pomo followed little to no previous occupation (Clark 2010; Duff 2005). At the Village of the Great Kivas site, community construction began with or just after the construction of the great house. As I illustrate in Chapter 5, great house construction started in the late tenth century and continued into the early A.D. 1000s. Construction in the Village of the Great Kivas community began at Site NM:12:Y2:444, which was found to have a mean ceramic date of A.D. 1071. In the early stages of community development, small sites
were centered in the northern portion of the community, near the Village of the Great Kivas great house, and through time shifted away from the great house and great kivas.

Archaeologists today know little about the boundaries of Chacoan communities (Kantner 2003; Kintigh 2003). Gilpin (2003) and Mahoney (2000) attribute this to the lack of systematic surveying between site clusters. In the southern San Juan some great house communities appear to be more bounded than others. In the Red Mesa Valley, site clusters appear to be more bounded than site clusters in the South Chaco Slope (Gilpin 2003; Kantner 1996). In the Mesa Verde region, Varien (1999) found that great house communities were relatively evenly spaced about fourteen kilometers apart. Varien suggests that due to differences in proximity, the boundaries of communities in the area meant that community boundaries were more permeable than in other areas of the Chaco world.

Kantner (2003) notes that these differences, in part, lie in how community development is directed by local social and ideological dynamics. Kantner argues that not all great houses were created equally and varied in size and location. For example, not every site cluster during the Chacoan period contained a great house or great kiva, and not all great houses were surrounded by small house sites (Gilpin 2003; Kantner 2003). In addition, some sites contained multiple great houses and great kivas (Kantner 1996). Pierre’s Ruin, for instance, contained three great houses all occupied contemporaneously (Powers et al. 1983; Stein and McKenna 1988). Along the South Chuska Slope, great houses were often located away from site clusters (Kantner 1996). In the Rio Puerco of the West, Mac-Stod was an isolated great house without any small houses nearby (Gilpin 2003).
In some cases, Chacoan communities were composed of multiple great houses and clusters of small sites, as we see in the Zuni region at Barth Well and Badger Springs. At the Newcomb and Skunk Springs communities, sizeable clusters of small sites have been found in the area surrounding the original communities (Gilpin 2003; Marshall et al. 1979). Similarly, Gilpin and Purcell (2000) have argued a similar development for the Peach Springs community. Building off of Powers et al. (1983) and Mahoney (2000), Gilpin and Purcell contended that the Peach Springs community represented only the core of community, with small house clusters about three kilometers from the great house. Kantner (1996) has linked this pattern to political competition among aspiring leaders. He suggests that vying for political power had a spatial component with competitors competing in consecutively larger territories (Sebastian 1992).

Gilpin (2003:175) suggests that one of the most pressing questions regarding Chacoan communities, centers on how the community was organized and how this structure changed through time. The timing of Chacoan construction and how these influenced community organization is central to understanding great house communities. Windes et al. (2000), for example, note that important shifts at the Chaco East community during the mid- to late 1000s forced an increase in ritual activity at the site. Windes et al. trace this to a larger, regional increase in ceremonialism. Kintigh (2003) contends that archaeologists need to develop a better understanding of Chacoan community organization and how small sites are distributed in respect to the great house. Kintigh further argues that Chacoan researchers do not exactly know how to recognize Chacoan communities as we do not know not exactly what to look for and how communities change through time.
Van Dyke (1999a, 2003) has traced various differences in timing in the Chaco world and how these influenced local community developments through time. Between A.D. 900 and A.D. 1050, outlying great house construction was concentrated in the San Juan basin and south into the southern San Juan region. Van Dyke (2000) sees a focus of occupation during this time in the Red Mesa Valley, and by A.D. 1050, a shift in focus to the Four Corners region.

How local developments and differences in regional histories influenced local Chacoan construction has been the subject of a number of recent studies. Cameron and Duff (2008) have noted that by the late ninth century, the northern and southern San Juan regions experienced significantly different patterns of development that continued after the collapse of Chaco. In the northern San Juan, for instance, a history of great house construction, aggregation, and communal ritual and feasting led to a radically different post-Chacoan period than in the southern San Juan region, where sites were less standardized (i.e., lacking north-south orientation) and embedded within a more diverse regional history (Cameron and Duff 2008:44). Kantner (1996, 2003), has also argued that Chacoan communities in the southern San Juan region maintained closer ties to local histories and ideologies, suggesting that these had repercussions for community development and organization.

In the Zuni region, important shifts in community organization occurred throughout the Chacoan and post-Chacoan periods, and were shared across multiple communities. Important to understanding outlying great house communities is the extent to which great house communities were unified across the local landscape: did local developments influence multiple communities or did they operate at the community
level? In the Barth Well and Badger Springs areas, for instance, the Pueblo I and Pueblo II periods represented a time of tremendous population growth as seen in the number of roomblocks constructed during the period. In these areas, occupation and population growth continued until the early Pueblo III period. By about A.D. 1200, these communities were abandoned. Occupation continued in each area, however residents moved to the margins, away from previously occupied great houses.

Neitzel (1994) and Gilpin (2003) have demonstrated that the boundaries of the Chaco world were established by at least A.D. 925. By A.D. 950, about thirty-one great houses were in use. At this time, the focus of great house construction shifted to outside of the canyon. Construction during this time focused in the southern San Juan region including areas such as the Red Mesa Valley, the Chuska Mountains, the Rio Puerco of the West, and in the Acoma-Zuni area (Gilpin 2003; Kintigh 2003b; Vivian 1990).

Between A.D. 1100 and A.D. 1150, the number of great houses in the Chaco world continued to grow, but at a slower rate. By the beginning of the thirteenth century, the number of occupied Chacoan great houses declined as new forms of settlement emerged. In the Zuni region, the thirteenth century represented an unprecedented break from anything seen before. Post-Chacoan sites were grand, with individual roomblocks sometimes exceeding 500 rooms (Kintigh 1994:132). In these post-Chacoan sites, the great kiva was replaced with a new public structure, the unroofed great kiva. Their construction was witnessed by a much larger number of people and it unsealed the ritual and erection mysteries of the great kiva to a larger population. During this time, ritual and ceremonialism became less a source of power and more a means for integration and accommodation (Kintigh et al. 1996). Post-Chacoan sites also diverged from previous
Chacoan construction by incorporating large, planned, plaza-oriented villages and various aspects of duality in site organization.

The continued presence of Chacoan architecture after A.D. 1150 suggests that various Chacoan communities developed symbolic and historical connections with the villages that came before and after them. These historical events, as I call them, shaped and constrained future developments in local contexts (Cameron and Duff 2008). In Manuelito Canyon, an innovative study by Stein (1987; Fowler and Stein 1992) began to document similar patterns. They recorded the persistent occupation of numerous areas beginning in Basketmaker III times through the Pueblo III period. The Manuelito Model, as it became known, suggested that the community associations characteristic of the Chaco period were constitutive of a long-term pattern that began in the Basketmaker III period and continued through to the construction of large nucleated villages in the Zuni region during the late A.D. 1200s.

In the Mesa Verde region, Varien (2002:168) has referred to this process as a persistent community. Varien (2002:168) defines a persistent community as communities that “continuously occupied their sustaining localities.” Persistent communities are seen as a crucial dimension of social, economic, and political structure of local areas, suggesting that the persistent occupation of a historically constituted landscape shaped land-tenure and resource-access systems (Varien 1999, 2002).

Central to the concept of persistent communities is the notion of community continuity. As Basso’s (1996) seminal work on place calls to mind, to understand persistent communities is to understand spatial practices. In this way, the term persistent community is perhaps misleading. Reiser (2010) suggests that change often characterized
persistent communities as shifts in gender and demography changed within the community. Reiser argues, however, that throughout this change, community clusters continued to function as a way of creating and maintaining a web of relations among different communities. This illustrates that in order to understand persistent communities, archaeologists need to focus on the qualities of interaction among community members and how this leads to a community persisting across time and space.

The presence of persistent communities has implications for the study of great house communities in the Zuni region: did the construction of great houses in areas with long residential histories, sometimes dating back to Basketmaker times, create a meaningful association with the past? Some archaeologists believe so. Toll and Wilson (2000), for example, observed this phenomenon during excavations in the La Plata Valley, where Basketmaker and Pueblo I sites were commonly found under Pueblo II components. Toll and Wilson (2000:33) ultimately come to the conclusion that La Plata Valley residents deliberately associated themselves with the Basketmaker inhabitants: the “superimposition of Pueblo II habitations on Basketmaker structures is so regular…that there can be little question that this was intentional.” These multicomponent sites, due to their long occupational histories, thus carried multiple meanings for Pueblo II builders.

**Chaco and the Concept of Community**

Archaeologists have defined, approached, and explained the concept of Chacoan communities in a number of different ways. The term community is now a pervasive concept in American archaeology, yet it has proven to be frustratingly difficult to define
(Schachner 2012; Sweeney 2011). Although a consistent archaeological understanding of community is still yet to be developed, the concept has observed increased usage in recent decades. As with Chacoan communities, archaeologists have frequently assumed the existence of communities, endowed these invented communities with social meaning, and built complex historical arguments based on their interpretation (Kantner and Mahoney 2000).

The characterization of the Chacoan regional system rests, in part, on the archaeological invention of community in the region. It has been frequently assumed that the archaeological site is directly equivalent to a socially meaningful community and that this community has a coherent and unitary nature. A broader more nuanced view can be sought by reconsidering the archaeological approach to communities and by investigating the complex and changing dynamics of community identity. In order to revisit the concept of community itself we need to know what we mean by community, define the significance of community identity, and understand the interweaving links between geographic locality, community identity, and material culture.

It is here that the distinction between relational and geographic communities requires consideration (Gerritsen 2004; Isbell 2000; Wernke 2007). Sweeney (2011:31) defines a relational community as “Groups that have a sense of common identity based on the perception of shared interests.” In turn, Sweeney (2011:31) views geographic communities as “Groups that live within a given locality and that also have a sense of common identity.” My approach for Zuni Chacoan communities emphasizes the geographical nature of great house communities along the southern frontier of the Chaco world. In this thesis, community is used to describe an identity-bearing social group
whose conscious sense of collective belonging is rooted in the experience of residential proximity and shared space (Sweeney 2011).

This perspective relies on the detection of settlement clusters, or what Lipe (1992:3) refers to as “first-order, face-to-face communities.” Varien and Potter (2008:2) argue that the clustering of settlements provides a link connecting community studies to concepts of agency, structure, and identity construction. Though numerous archaeologists have detailed the dangers of such an approach (e.g., Cohen 1985; Peterson and Drennan 2005; Schachner 2012), it has become increasingly difficult to refute the notion that settlement clusters do exist in the archaeological record and that people in these clusters, living in close proximity to one another, did not interact. On the other hand, archaeologists should not assume the nature of that interaction or accept that the spatial distribution of communities results in a set type of interaction (Varien and Potter 2008).

In Southwestern archaeology, the term community was initially used as a synonym for “village” or “site cluster” (Hegmon 2002). However, since the early 1990s, Southwestern archaeologists have begun to use the concept more formally (Schachner 2012). This shift is due, in part, to the increased study of the Chaco era and an attempt to understand how small, dispersed residential pueblos were related to the architectural complexes with Chacoan-style great houses and great kivas (Marshall et al. 1979; Powers et al. 1983).

While some twenty-first century movements have sought to avoid defining the community altogether, a contemporary trend has attempted to find more specific definitions for particular types of communities. The typical Chacoan community, for example, is thought to have included a great house and often a great kiva surrounded by a
cluster of residential pueblos (Gilpin 2003). Mahoney and Kantner (2000) suggest that the community was a vital social unit, where Chacoan political, economic, and ritual performances were reproduced. Archaeologically, however, the definition of a Chacoan community has been based on a much humbler description. For example, in 1979 Marshall et al. presented the concept of communities as a cluster of great houses and great kivas surrounded by small houses. Later, Breternitz and Doyel (1987) defined a community as a cluster of sites all expressing contemporaneity and often, some form of site hierarchy. This approach has come to characterize Chacoan community studies in general (Lekson 1991) and drove the identification of many Chacoan communities throughout the Southwest.

Accompanying these definitions is a structural-functionalist interpretation of community based on the research of Murdock (1949) and Murdock and Wilson (1972). The structural-functionalist stance suggests that communities are essentially groups of people living in close proximity and interacting with one another on a regular, possibly daily, basis (Adler 2002; Kintigh 2003; Lipe 1970; Varien 1999). Varien (1999:6), for example, adapted Murdock’s definition of community when he stated: a community is a group of “households that lived in close proximity to one another and had regular face-to-face interaction.” Reaffirming his definition of the concept, Varien (1999:19) suggested that “a community consists of many households that live close to one another, have regular face-to-face interaction, and share the used of local social and natural resources.”

This foundational understanding of Chacoan communities has been approached from an array of positions. Wilcox (1993) contended that Chacoan great house communities were interacting polities and established a general rule of thumb: an
individual can walk thirty-five kilometers in a single day. Accordingly, Wilcox suggested that sites that are within eighteen kilometers of each other were places where people engaged in regular face-to-face interaction. Varien (1999) similarly modeled great house community interaction. He suggested that two kilometers was the maximum distance someone could intensively cultivate, seven kilometers the maximum distance someone could practice less intensive agriculture, and eighteen kilometers, the range a person could travel in a half day. Jalbert (1999; Jalbert and Cameron 2000) has adopted this approach to examine great house community interaction in the northern San Juan at the Bluff Great House Site.

Kolb and Snead (1997:611) alternatively define a community as a “spatially defined locus of human activity that incorporates social reproduction, subsistence production, and self identification.” Archaeologically, however, this definition has proved difficult to operationalize. Mahoney (2000), for instance, claims that archaeologists in the Southwest have an inaccurate perception of communities. Mahoney traces this fault to how communities in the Southwest are found, arguing that archaeological surveys of Chacoan communities are typically limited to the immediate vicinity of great houses and that these sites represent only a portion of the entire community (Lekson 1991). After examining large-scale pedestrian surveys of several Chacoan communities—such as H-Spear (Mahoney et al. 1995), Guadalupe (Pippin 1987), Bis sa’ ani (Breternitz et al. 1982)—Mahoney suggests that outlying great house communities are in fact much larger that previously acknowledged.

The conclusions of Mahoney have one major implication for understanding Chacoan communities: they illustrate the need to expand the boundaries of our definitions
of community to include demographically viable social entities. Here, Mahoney suggests that the distinction between sustainable and residential communities may be helpful. Sustainable communities refer to the number of people needed for a society to be reproductively viable. Based on research conducted by Wobst (1974), Mahoney contends that sustainable communities in the prehistoric Southwest must have incorporated at least 475 people: a magnitude much larger than archaeologists have acknowledged for most Chacoan communities.

As archaeologists become increasingly concerned with ancient communities, expectations of community organization and structure have become standardized, disparaging attempts to understand communities as arenas of social practice rather than theoretical constructs (Adler 2002:26; Schachner 2012). Although this thesis contributes to some of these expectations in its approach to understanding the geographic communities of the Zuni region during the Chaco era, it acknowledges that Chacoan archaeology is in need of a new definition of community, one that transcends the idea of built space and incorporated notions of cosmology, agency, and identity.

Our lack of knowledge of the social construction of Chacoan communities results from the fact that the concept of community has been undertheorized in archaeology as a whole. Communities tend to be talked about as if they were social actors—as if the communities were unitary entities in themselves that interacted with each other, developed new social structures, and created different cultural forms (Sweeney 2011). At this scale, internal divisions within the community are ignored, and the actions of individuals or minority groups are not thought relevant. Groups of people living together in close residential proximity, it is supposed, can be considered as an explicitly social
collective, acting as a single unified social actor. This view ignores individual and group agency within these settlements. Community cohesion is seen as automatic, rather than a specific type of social strategy. In Chapter 7, the final chapter of this thesis, I propose how future research investigating the social foundations of Chacoan communities can serve to redefine our understanding of great house communities and the change they impacted in the Zuni region throughout the Pueblo II period.

**Great House Communities in the Southern San Juan Region**

Interest in the Chacoan great houses of the Southern San Juan region began in the late nineteenth and early twentieth centuries with the work of Bandelier (1982), Spier (1917), and Roberts (1932). Although much of their work was speculative and descriptive, their research was a turning point for understanding Chaco Canyon from a regional perspective. To this day, however, few great houses in the Zuni region have become the focus of large, long-term exploration projects. Various clusters of great houses have been identified in the Southern San Juan region. These include great houses in the Red Mesa Valley (Van Dyke 1999b), the Chuska Slope (Marshall et al. 1979), and along Largo Creek (Duff and Schachner 2007; Fowler and Stein 1992) south of the Zuni Reservation. Together, these sites comprise the southernmost distribution of great houses.

This section describes four great house communities belonging to these areas of the southern San Juan region. Of the many great house communities in the region, these communities represent several of the most well reported and diverse Chacoan settlements in the region. Although the amount of excavation undertaken and quality of reporting
varies considerably, the distribution and nature of great houses in the southern San Juan provides an important avenue for understanding Village of the Great Kivas and other outlying great house communities in the Zuni region. The similarities and differences in great house construction, community development, and great house origins all present dramatically different implications for what Chaco was and the role of the extreme periphery in the Chacoan world.

The four great house communities described here offer opportunities to compare and contrast how local (Zuni) and regional (Chacoan) influences intersected and collided at outlying great house communities in the Southern San Juan region (Figure 2.1). Here I examine great house orientation, architecture, size; the number of great kivas present at each site; community organization, architecture, size, layout, and origin; and surrounding environments. Together, these comparisons suggest that local and regional influences were contested and negotiated, creating active places of cultural innovation. The Cox Ranch, Andrews, Casamero, and Navajo Springs great house communities are described here and in Chapters 6 and 7 used for comparison to Zuni area great houses. Chapter 7 then takes these comparisons a step further by briefly examining how Chacoan great houses in the Southern San Juan region diverged from those in the Northern San Juan.
Figure 2.1. Southern San Juan great house communities discussed in this chapter: a. Cox Ranch (Duff 2005), b. Andrews (Van Dyke 1999), and c. Navajo Springs (Warburton and Graves 1992).

**Cox Ranch Pueblo**

Cox Ranch Pueblo (LA 13681) consists of a focal great house surrounded by eighteen residential room blocks, eighteen midden areas, and communal features, which include a possible great kiva (post-Chacoan) and a walk in well (Duff 2005). Located about eighty kilometers south of the Zuni Reservation in west-central New Mexico, Cox Ranch represents one of the southern most expressions of Chacoan architecture. The Peabody Museum’s Upper Gila Expedition conducted an initial reconnaissance of the site
(Danson 1958), and in 2002 a Washington State University field school directed by Andrew Duff began a four-year intensive study of the great house and its associated community (Clark 2010).

Given its location on the fringe of two cultural areas, excavations at Cox Ranch have uncovered an intricate overlap of material culture. This is most evident in the architecture and unpainted pottery present at the site (Duff and Nauman 2010). The presence of both Cibola gray ware and Mogollon brown ware vessels, along with Chacoan-style architecture suggest that residents of Cox Ranch possessed different traditions which originated in the north and south, coming together at Cox Ranch Pueblo (Nauman 2007).

Excavations at the great house have revealed a fifty-room structure containing a single blocked-in kiva. Roughly D-shaped, the great house was constructed with core-and-veneer-banded masonry, which most closely resembles Chacoan Type II construction (Duff 2005; Lekson 1986; Nauman 2007). The great house was constructed in an east-west orientation, a feature common along the Mogollon Rim. Similar to its surrounding community, the great house was built along a low-level flood plain near Largo Creek.

Clustered around the great house were eighteen roomblocks, making for a total of 250 to 300 rooms present at Cox Ranch Pueblo (Clark 2010). The location of the great house appears to have dictated the organization and layout of its community, given the grouping of community sites around the great house (Duff and Nauman 2010). Community structures were constructed with local materials and none display evidence of core-and-veneer architecture. The majority of sites were constructed using small, irregular shaped stone intermixed with minimal chinking (Wichlacz 2009).
Cox Ranch Pueblo was occupied from about A.D. 1050 to A.D. 1130, a period that observed above average precipitation (Clark 2010; VanBuskirk 2004). Prior to this, the area was virtually unoccupied, with the exception of the Archaic period, which witnessed the migration of various mobile hunter-gatherer groups into the area (Duff 2005). The lack of previous occupation in the area implies that Cox Ranch was a scion community, founded by outsiders whose material culture represented traditions that developed in the northern and southern edges of the Chacoan world.

Andrews

The Andrews community is located in the Red Mesa Valley, about eighty kilometers south of Chaco Canyon. The great house and its surrounding community were investigated as part of a comparative architectural study conducted in 1995. The Andrews Community Archaeological Mapping Project (ACAMP) undertook a detailed survey, recording, and mapping project in order to document the extent of the Andrews community (Van Dyke 1999:57). Although the Andrews community was previously investigated by Marshall et al. in 1979, nineteen new sites were documented by ACAMP, bringing the site total to forty-one.

The Andrews great house (LA 17218) was constructed in the late A.D. 800s as a twelve-room structure (Marshall et al. 1979). Although the C-shaped structure was relatively small compared to others in the Red Mesa Valley, it contained five blocked-in kivas. Masonry at the great house appears to have been subpar, composed of nonbanded and discontinuously banded core-and-veneer architecture (Van Dyke 1999b). The great
The Andrews community contains twenty-three multi-room habitation sites and eight isolated rooms. Its organization and layout is dispersed along Casamero Draw and bounded to the south by Rincon Canyon. Investigations in the community suggest that it contains no core-and-veneer architecture, and that it was most likely occupied from the late 800s to the mid 1000s (Van Dyke 1999b). Mean ceramic dates indicate that community structures were constructed a generation or two prior to the great house, and throughout the occupation of the great house, retained access and control to the best farmland along Casamero Draw (Van Dyke 2000:97).

Casamero

The Casamero great house sits at the base of the Ojos Tecolotes Mesa overlooking the Casamero drainage. Located in the Red Mesa Valley, the Casamero great house exhibits core-and-veneer Chacoan-style architecture and is located about eighty kilometers south of Chaco Canyon (Harper 1988a; Marshall et al. 1979). The great house is L-shaped and about thirty meters in length. Although the site has never been excavated, archaeological survey of the area suggests that the great house was a two-story structure composed of approximately twenty-nine rooms and one blocked-in kiva. The great house was most likely constructed in the mid- to late A.D. 1000s and has a mean ceramic date of A.D. 1078 (Van Dyke 2000).
Archaeological survey around the Casamero great house documented an extensive community composed of about nineteen habitation structures dating to the Pueblo II period. Community layout and organization appears to not have been influenced by the construction of the Casamero great house, and community sites were dispersed along the broad alluvial valley drained by Casamero Draw (Harper 1988b). The first of these community structures were built in the early A.D. 900s and occupied until approximately A.D. 1220. One or two great kivas are distributed throughout the community, however no core-and-veneer architecture has been reported (Winter 1988).

Besides the presence of a single habitation structure that was occupied during Basketmaker III times, the area was devoid of prior occupation. Harper (1988b) and Mills (1988) suggest that the Casamero community saw its origins as a colony of the Andrews community—located less than five kilometers away—in the early A.D. 900s. Marshall et al. (1979) suggest that because Casamero observed extensive occupation in adjacent areas, its origin does not represent a scion community.

Navajo Springs

Lying about sixty kilometers west of Gallup, New Mexico, just outside the town of Navajo, Arizona, is the Navajo Springs great house. Investigations at the site by Northern Arizona University in the late 1980s documented an extensive community surrounding the great house. The outlying community is located along the Puerco River and is situated on a low hill with a commanding panoramic view (Warburton and Graves
1992). The discovery of roads entering the site suggest that its residents interacted with an array of populations, including residents of other great houses (Graves 1990).

The great house is oriented northeast-southeast and was constructed using core-and-veneer Chaco-style masonry. Constructed near the center of an expansive and dispersed community, the great house was composed of about forty rooms distributed across two stories. The L-shaped structure also incorporated 2 small kivas and one great kiva (Graves 1990).

Archaeological survey around the Navajo Springs great house recorded twelve habitation sites. Although the community structures were broadly distributed across the southern banks of the Puerco River, the community was topographically constrained by the Marble and Ladle Ridges located on the Puerco River floodplain. Community sites were constructed prior to the construction of the Navajo Springs great house, around A.D. 1000 (Graves 1990; Warburton and Graves 1992). Occupation of Navajo Springs continued until about A.D. 1125. During this period, increased rainfall was common (Graves 1990). On valley floors, such as where Navajo Springs is located, conditions were highly favorable to agriculture between flood events.

**Great House Communities in the Northern San Juan Region**

Interest in the Chacoan great houses of the northern San Juan began in the late nineteenth century. Since this time, more than forty great houses have been identified in the northern San Juan, some of which have become the focus of large, long-term investigation projects (Cameron 2009). Overall, the Chacoan archaeology of the northern
San Juan trumps the southern San Juan: more is known, more great houses have been excavated, and more has been published. Since much more is known about the Chacoan era in the northern San Juan region, this section discusses some of the major developments and characteristics of great house communities in this region. While comparing the great house communities of the southern San Juan to those in the north highlights the variability of Chacoan influence in both regions, it also illustrates the distinguishing traits of Chacoan developments in the Zuni region. These differences have implications for determining the influence of Chaco Canyon throughout the Chacoan world.

This section provides a broad summary of Chacoan era developments in the northern San Juan, focusing on great house orientation and architecture, size; the number of great kivas present at each site; community organization, architecture, size, layout, and origin; and surrounding environments in the northern San Juan. In Chapter 6, these developments are used for comparison to great house communities in the Zuni region and the Southern San Juan.

Chacoan Great Houses in the Northern San Juan Region

Lekson (2008) suggests that the idea behind great houses as a form of elite housing began in oversized pit structures at sites like Shabik’eshee during the Basketmaker III period. Wilshusen and Van Dyke (2006) argue, however, that the specific form of Chacoan great houses arose in the northern San Juan, in the A.D. 700s and 800s. Proto-great houses were generally situated in the center of a dispersed cluster.
of residential sites, and represented a new way of thinking about community organization. They often incorporated U-shaped room blocks, generally short lived and surrounded by oversized pithouses. By the early A.D. 900s, architectural data suggests that migrants from the San Juan region traveled south, bringing with them models for community organization developed at sites such as McPhee and Grass Mesa (Van Dyke 2007).

Great house architecture, size, and location bear much of the weight of arguments concerning the relationship of Chaco Canyon to outlying great house communities. In the northern San Juan, great houses were large, focal structures. Van Dyke (2003) found that large great house sites, such as Aztec East, tended to be in the northern San Juan region. At the Lowry community, located near Cortez, Colorado, three great houses are present, all larger than forty rooms (Kendrick and Judge 2000). Nevertheless, smaller great houses exist in the northern San Juan region. At the Morris Site 39, Morris excavated a great house containing twenty-five rooms and two blocked-in kivas (Morris 1939). The Edge of the Cedars great house, located in Blanding, Utah, is another example of a relatively small great house, containing about twelve rooms, two blocked-in kivas, and an adjacent great kiva (Hurst 2000).

The positions of these great houses, in contrast to community sites, are often exaggerated, placed upon prominent features across the landscape. The Bluff great house, for example, is located on a lofty terrace along the San Juan River (Cameron 2009). The Ida Jean great house sits on a ridge overlooking a shallow valley that drains into McElmo Creek (Bradley 2004). Perhaps the best and most stunning is the Chimney Rock great house, which is situated on top of a mesa overlooking the Piedra River (Eddy 1977).
Great house architecture is also important for determining the influence of Chaco Canyon in the Chacoan regional system. Although many of the northern San Juan great houses have distinctive architectural characteristics, they fit comfortably into the great house type defined in Chaco Canyon. Jalbert (1999) suggests that much of this variability is the result of local environments, local preference, and northern San Juan regional influences that undermined Chacoan-style construction in the region. The painstakingly coursed wall facings archetypical of great house in Chaco Canyon is sometimes found in the northern San Juan, for example at Aztec and Chimney Rock. Van Dyke (2003) argues that core-and-veneer architecture with finely banded masonry characterize Chacoan style constructions throughout much of the Chaco regional system. In the northern San Juan, compound walls combined with more irregularly coursed masonry appear to have characterized Chacoan constructions in the region (Lekson 1986).

Accompanying the expansion of great houses into the northern San Juan was the construction of several large great houses that rivaled the size and elaboration of those in Chaco Canyon (Lipe 2006). Salmon Ruin, for example, was composed of about 300 rooms constructed around A.D. 1090. The largest of these constructions was of course Aztec Ruins. Located on the Animas River, about eighty kilometers north of Chaco Canyon, Aztec Ruins is composed of three great houses occupied contemporaneously during the mid-1100s (McKenna and Toll 1992). The construction of these great houses, along with Salmon Ruin, have been argued to represent a shift in the ceremonial and political power of Chaco Canyon to the northern San Juan (Lekson 1999).
In the northern San Juan region, the Pueblo I period saw the establishment of what Lipe (2002) calls the San Juan pattern. The San Juan pattern is a multifaceted collection of architecture and settlement layout characteristics that included unit pueblos, north-south orientation, and great kivas as public architecture (Cameron 2009; Lipe 2006). Lipe argues that the San Juan pattern represented a powerful collection of symbols that characterized villages in the region, including Chaco Canyon, until the end of the thirteenth century when the area was effectively abandoned.

In a recent study of the formation of great house communities in the northern San Juan, Varien et al. (2007) note that a wave of new great house construction and immigration began after A.D. 1060. Lipe et al. (1999), similarly argues that Chacoan great houses began to be constructed in the region after A.D. 1075. Lipe (2006) suggests that the construction of the Aztec and Salmon great houses between A.D. 1090 and A.D. 1125 likely promoted the building of great houses throughout the northern San Juan region.

The northern San Juan region during the Chacoan era was characterized by small hamlets clustered around community centers, at least some of which were great houses. In the Mesa Verde region, Varien (1999) found that great house communities were relatively evenly spaced about fourteen kilometers apart. Architecturally, community sites in the northern San Juan were rather variable, incorporating a diverse set of construction styles and mediums. Jalbert (1999:140) documented four common styles of Chacoan community construction in the northern San Juan—jacal, unshaped sandstone,
roughly shaped sandstone, and pecked face sandstone—suggesting that local construction traditions were responsible for their variability.

There are exceptions to this pattern. The Chimney Rock community rather than reflecting a northern San Juan architectural style, exemplifies construction in Chaco Canyon. The striking similarities between Chimney Rock construction and that of Chaco Canyon has led some archaeologists to suggest a close connection between Chaco Canyon and Chimney Rock (Todd 2012). For example, Eddy (1977) has argued that Chimney Rock was an outpost established by priests from Chaco Canyon.

Chacoan community size and layout is also variable across the northern San Juan region. Jalbert and Cameron (2000) suggest that three factors account for the variability in settlement patterns seen in great house communities in the northern San Juan. Differences in timing, topographic restraints, and proximity to arable land appear to have directed community construction in the northern San Juan region. The Edge of the Cedars community, for instance, consists of five tightly clustered small house sites constructed near the great house (Fast 2011; Hurst 2000). In contrast, the Lowry community was composed of over sixty outlying residential sites dispersed across a 14.5 square kilometer survey area (Kendrick and Judge 2000).

Varien et al. (1996) argue that Chacoan community structure provided an important form of integration and social organization throughout Pueblo II times. Varien et al. suggest that the need to regulate access to resources directed community organization in the northern San Juan region. Dispersed community sites were constructed along productive zones where, during the eleventh century, great house
public architecture appeared “and functioned as some type of integrative center for these communities” (Varien 1996:106).

In a comparison of great house communities in the northern San Juan region, Todd (2012:159) noted that community construction was “haphazard,” and observed constant remodeling over time as needs for additional space arose. At great house communities such as Chimney Rock, Corral Canyon, and Ravine, Todd contends that people lived in both small houses and great houses, but that great houses served the additional purpose of an integrative and administrative center for the community.

Also playing a significant role in determining the locations of small sites is the origin of the great house. Few great house communities in the northern San Juan were constructed in areas with no previous occupation. Kendrick (1996), for instance, demonstrates that the Lowry great house location had a long history of occupation prior to the Chacoan era. In other areas of the northern San Juan region, persistent occupation is less common. The late Pueblo I and early Pueblo II periods (A.D. 880-950) in the northern San Juan saw a dramatic drop in population (Wilshusen 1999). Wilshusen and Van Dyke (2006) show that emigrants from the northern San Juan ultimately increased populations in the Chaco Canyon area during the late ninth and early tenth centuries. At this time, much of the northern San Juan region was abandoned. Varien et al. (2007) have illustrated that reoccupation in the region did not begin until after A.D. 1060. Although the dating of great houses and small houses may not be exact, they do suggest a significant time gap between the construction of pre-Chacoan communities and the establishment of great house communities in the mid- to late eleventh century.
Hurst and Till (2009) note that substantial Pueblo I occupations in southeastern Utah were abandoned during the late Pueblo I and early Pueblo II period, only to be reoccupied during the late Pueblo II period (A.D. 1075-1150). The Bluff great house location, situated in southeast Utah, for example, observed the construction of Basketmaker III and Pueblo I pit structures. Neighboring Pueblo I sites, including the Twin Rocks site (Hurst 1992), were also occupied during this time. Throughout the early and middle Pueblo II periods, the area experienced a decrease in population levels and temporary abandonment of the region. Cameron (2009) suggests that people who recently arrived in the area following this abandonment constructed the Bluff great house and other great houses in the region.

Toll and Wilson (2000) show that in the La Plata Valley great house construction also appeared in areas with large Basketmaker occupations. When examining the superimposition of structures, Toll and Wilson (2000:33) note that Chacoan communities followed a very specific pattern of settlement location that was established during Basketmaker times: “Basketmaker III structures are found with remarkable consistency to directly underlie Pueblo II structures.” Although it is clear that these locations were considered “optimal” for Basketmaker III and Pueblo II residents, the persistent occupation of these areas suggest that in addition to establishing historical connections, Chacoan communities followed similar settlement strategies as their Basketmaker III predecessors did.

In the Mesa Verde region, Chenault and Motsinger (2000) highlight a similar pattern of reoccupation of Basketmaker III sites and areas during the Pueblo II period. Their survey illustrates that the majority of Basketmaker III and Pueblo II sites are
located on mesa-top and other elevated features. The Morris 39 Site, for example, is an elevated Basketmaker site that, during Pueblo II times, was superimposed by Building I, a Chacoan great house (Dykeman and Langenfeld 1987; Toll et al. 1990). Cameron (2009) suggests that major depopulation episodes in southeastern Utah and across much of the northern San Juan transferred ideas about the importance of living in large social groups into Chaco Canyon. During the early and middle Pueblo II period, people who had recently arrived in the area replanted these ideas about great house construction and community organization in the northern San Juan.

Following the collapse of Chaco Canyon, many northern San Juan Chaco-style great houses continued to be occupied. Lipe (2006) argues that these post-Chacoan great house communities continued to play a large role in the ceremonial and social lives of the people of the northern San Juan. A tree-cutting date of A.D. 1172, for example, shows that people at the Lowry community continued to remodel the site following the collapse of the Chaco regional system. In southwestern Colorado, the Bass site also illustrates how people continued to construct Chaco-style buildings in the late twelfth and early thirteenth centuries. Constructed during the late twelfth century, the Bass site contains a great house, nine kivas, and four towers (Lipe and Ortman 2000), and appears to have continued to be a central structure in a widely dispersed community well into the A.D. 1200s. By the late Pueblo III period (A.D. 1225-1290), a new form of community organization emerged in the northern San Juan, centered on canyon-oriented locations (Lipe 2006; Lipe and Ortman 2000; Ortman et al. 2000).
Summary

Over a century of archaeological investigation at Chaco Canyon and beyond, has not provided the straightforward answers we desire on how great houses were used and the connection between great houses across the Chacoan landscape. If the history of Chacoan archaeology tells us anything it is that we need to understand outlying great houses in their local as well as regional contexts, and recognize that these contexts and their relationships changed over time as Chaco evolved (Cordell 1997). We must learn that ideas more than materials, molded and held Chaco together. Duff and Lekson (2006:315) have suggested that: “Ideas, apparently more so than materials, from both directions shaped Chaco and subsequent Pueblo history in important and enduring ways.” In this way, Chaco Canyon becomes one of many regions, each with its own traditions and history. As various regions interacted with Chaco, they drew upon their local and regional histories in ways that shaped a diverse range of relationships between Chaco and outlying great houses. And these too changed through time. At different points throughout Chaco’s history, some areas enjoyed closer ties to Chaco.

Recently, however, local architectural diversity at great houses outside of Chaco Canyon has been used to deny political connections between Chaco Canyon and great houses outside the Chaco core (Reed 2004; Van Dyke 1997, 1999a, 1999b). Seldom, is the architectural diversity of great houses inside the canyon acknowledged (Cameron 2009; Lekson 2006). Emerging from this summary is the impression that the concepts that drove the outlier hunts of the 1970s and 1980s need to be reevaluated. Mahoney
(2000) has demonstrated that narrow perceptions of community have limited what we call an “outlying great house.”

In chapters 6 and 7, I argue that we need to perceive of Chacoan communities as parts of larger movements that are embedded within local histories and traditions. Today, many would agree that there are many conceptions of Chaco Canyon, and these notions were clung to by local populations in their attempts to make sense of their surrounding world. Chacoan community surveys conducted by Zuni Cultural Resource Enterprise on the Zuni Reservation suggest that Chaco era developments were founded upon older forms of community development that saw their roots in the Basketmaker and Pueblo I periods.
CHAPTER 3

VILLAGE OF THE GREAT KIVAS AND THE CHACOAN WORLD

The prehistory of the Zuni region is a story that extends back seven thousand years to the Paleoindian period (Gregory and Wilcox 2007). This study focuses on a brief moment in this history, a time that observed the construction of Chacoan great houses across much of the Four Corners region. This is broadly referred to as the Pueblo II period. Although great house construction was a regional phenomenon during this time, it was adhered to by local populations differently. Regional histories and traditions for construction, ceremony, and interaction often intersected with Chacoan-style constructions in different ways (Cameron and Duff 2008). This chapter situates one such great house community, Village of the Great Kivas, in its prehistoric cultural context, focusing on the southern San Juan, and argues that understanding local histories is just as important as understanding the history of Chaco Canyon.

The prehistory presented here discusses relationships between the Cibola region and Chaco Canyon, focusing on a variety of themes crucial to understanding great house communities in the Zuni region. First, this chapter briefly examines how the location of agricultural lands directed great house construction. Throughout prehistory, the Zuni River and its tributaries would have served as one of the major sources for irrigation farming in the region (Dean 2007; Gregory and Nails 2007; Homburg et al. 2003; Kintigh
1985). This is especially intriguing for Village of the Great Kivas and the Barth Well and Badger Springs areas, as each is located along a major tributary of the Zuni River (Roberts 1932). In each of these areas, the presence of prime farmland appears to have been a major factor in great house construction.

In 1929, Roberts noted the existence of agricultural fields at Village of the Great Kivas. He went on to say (1932:103): “Not only is the land well suited to planting, but it is so located that drainage water from both canyons spreads out in a thin sheet over a large part of it.” Recently, archaeologists have reverberated Roberts’ observation. At the Andrews community in the Red Mesa Valley, the location of potential agricultural fields dictated not only the location of the Andrews community, but eventually the location of the great house as well (Van Dyke 1999b, 2000). In the northern San Juan this pattern is mirrored at the Cottonwood Wash community, where community sites were distributed along the broad San Juan River floodplain (Jalbert 1999; Jalbert and Cameron 2000:89). Kendrick and Judge (2000) also suggest a similar pattern for the Lowry area.

Second, this chapter tracks the development of great house communities in the Zuni region. It begins at Village of the Great Kivas, where great house construction began before the construction of its community. The emergence of persistent communities occupying the same location over time is an important pattern in the Zuni region (Fowler et al. 1987; Schachner 2008), and illustrates the construction of memory, or how eleventh century Ancestral Puebloans formed relationships with a real or imagined past. The multicomponent sites of the Zuni region carried multiple levels of meaning that great house builders during the Pueblo II period linked themselves to (Toll and Wilson 2000).
Thus, this chapter is about the history of the southern San Juan and specifically the Zuni region. While Chapter 2 provided a broad overview of the Chacoan world, this chapter narrows in on the Zuni region and its cultural developments during the Chacoan era. It highlights interaction between Chaco and the Zuni region, as seen through architecture and pottery, and begins with a discussion of the physical and environmental setting of Village of the Great Kivas, focusing primarily on its relation to agriculture.

The chapter then situates Village of the Great Kivas into the Chacoan world, presenting a brief history of the archaeology at the great house and our current understanding of the site. This history, which begins with Roberts’ groundbreaking excavations in 1929, and the work that has followed it, is directly related to tracking the origin, development, and abandonment of the Village of the Great Kivas community. Although this work would not be possible without Roberts’, the changes in American archaeology in the past eighty years has led to the development of different questions than Robert’s posed. Roberts guessed at the development of the great house and its chronological sequence, yet new information gleaned from mean ceramic dating, provides a sturdy chronological sequence to compare to the development of the Village of the Great Kivas community. This new information provides an opportunity to compare the dating of the Village of the Great Kivas great house to the dating of its community.

I conclude with a discussion of the population dynamics and settlement patterns of the Zuni region. I focus on the Chacoan Period, as well as the periods preceding and following it (Pueblo I-III periods). The Pueblo I period is especially important to consider in that it set the foundations for the community development seen during the Pueblo II period (Breternitz et al. 1982; Marshall et al. 1979; Windes and Ford 1992), and has been
increasingly understood as a time of tumultuous social change that led to the
development of the Chacoan world (Wilshusen and Van Dyke 2006). In the southern San
Juan, population density increased and residential mobility decreased just before the
Pueblo II period (Damp and Waseta 2004). By the late Pueblo I period, large agricultural
communities developed in areas, that during Pueblo II times, observed the construction of
Chacoan great houses. The Pueblo II period saw many changes to Zuni archaeology and
the construction of great houses in areas with and without evidence for previous
occupation. Chapters 6 and 7 discuss two of these areas, Barth Well and Badger Springs,
and positions them within the southern San Juan and the larger Chacoan regional system.

The Physical and Environmental Setting of Village of the Great Kivas

Village of the Great Kivas is located on the east side of Red Paint Canyon, home
to the Nutria Valley and the Nutria River, a major tributary to the Zuni River. The
elevation of the site ranges from 2073 meters (6800 feet) to 2164 meters (7100 feet)
above sea level. Village of the Great Kivas is located on a prominent ridge overlooking
the Nutria Valley. The setting of the site commands a 180-degree panorama of the
surrounding landscape. Various sections of the great house community are found along
the valley floor, none exceeding the elevation of the great house.

The Zuni Mountains are among the most dominant features of the landscape,
standing at approximately 2700 meters (8858 feet) above sea level (Ferguson and Hart
1985). Running along the western edge of the Zuni Mountains is the Nutria Monocline,
commonly referred to as the Hogbacks. Along the eastern and southern edges lie the
cinder cones and lava flows of Malpais. West of the Zuni Mountains is a vast landscape characterized by large mesas, narrow canyons, and buttes. Many of the canyons in this area open to form alluvial fans and the broad, flush plains of the New Mexico-Arizona border (Kintigh 1985:90).

The Zuni region falls within the Great Basin Conifer Woodland Biome (Brown and Lowe 1980), and the geology surrounding Village of the Great Kivas is characterized by Quaternary alluvial deposits, which are bounded by Cretaceous bedrock to the east and west. Through these landforms, flows the Zuni River, a major tributary of the Little Colorado River. The headwaters of the Zuni River watershed are located approximately forty kilometers east of Zuni, where the river meets the Zuni Mountains. The main tributaries of the Zuni River are the Nutria River and the Rio Pescado, which rely on winter snowpack in the Zuni Mountains and also on springs located throughout the watershed (Damp 2007). Numerous ephemeral drainages from the surrounding slopes also act as tributaries to the Zuni River.

Rock art panels are numerous along these landforms and in Red Paint Canyon, where Village of the Great Kivas is located. Illustrating prehistoric styles that range from the early Basketmaker period through Ancestral Puebloan. In addition, Roberts (1932) documented an extensive rock art panel along the face of a sandstone cliff behind the Village of the Great Kivas great house.

The soils in and around Village of the Great Kivas have been classified as belonging to the Lohmiller-San Mateo association. These soils are widely distributed throughout the region, and are characterized by deep, fine to medium-textured alluvium, emerging from sedimentary formations of sandstone and shale (Maker et al. 1974).
Kintigh’s (1985) review of the Zuni environment and agricultural technology discusses the agricultural potential of Zuni soils. Kintigh notes that the most productive agricultural soils are located in the lower portion of the Zuni River Valley, where Village of the Great Kivas, Barth Well, and Badger Springs are located. Maker et al. (1974:4) suggest that this area has “few or no limitations for use or no limitations for use as cropland under irrigation. It is productive and well adapted to irrigation.” Numerous prehistoric sites are known to occur in this area, and recently several new sites have been documented (Damp et al. 2000; Gratz 1977; Hunter-Anderson 1978), including a Pueblo II village located along Y Unit Draw. The area has also presented signs for some of the earliest evidence of agriculture in the region (Damp et al. 2002). 

A U.S. Geological Survey report (Cruz et al. 1994) provides the water discharge records for the Zuni River. The flow of the Zuni River in the research areas is largely determined by snowmelt and is greatest during the months of March and April. In the summer months, river flow drops dramatically and is recharged by summer monsoons in July and August. Runoff irrigation canals and water control features dating to over 2000 B.C. have been exposed in several tributaries of the Zuni River (Damp 2007). Two of these are located within several kilometers of the project areas and attest to the long history of irrigation farming in the Zuni region.

The Zuni region has a semiarid climate, but is nevertheless characterized by a significant amount of variability in both temperature and variability due to the area’s wide range in elevation and topography. Precipitation is generally confined to the summer months of July, August, and September. Rainfall in the area typically follows monsoonal patterns of brief, yet intense afternoon storms. Average precipitation is 301
mm (11.9 in), with a standard deviation of 85 mm (3.3 in; Kintigh 1985:92). January, generally the coldest month of the year has a mean temperature of -1°C (30°F), while July, generally the warmest month of the year has a mean temperature of 22°C (71°F; Kintigh 1985).

**Situating Village of the Great Kivas in the Chacoan World**

In 1930, Frank H. H. Roberts from the American Museum of Natural History traveled to the Zuni area in search of pithouses. Following a survey of the Ojo Caliente area, Roberts (1932:1) concluded that “the Ojo Caliente site was not of sufficient importance to warrant intensive investigations.” Hurriedly, Roberts requested a second permit from the Department of Interior to investigate “a group of small pueblo ruins in Nutria Canyon, 16.7 miles northeast form the pueblo of Zuni” (Roberts 1932:1). These “small pueblo ruins” were named Village of the Great Kivas by Roberts, who was particularly enamored by the site’s two large great kivas. Although Roberts had little understanding of the distribution and nature of outlying great houses, his previous work at Shabik’eshchee Village and Chimney Rock allowed him to speculate on its participation in a Chacoan regional system (Eddy 1977; Roberts 1932:156-158; Sebastian 1992:17).

Since the time of Roberts, Village of the Great Kivas has received very little attention from archaeologists. As part of a Zuni Cultural Resource Enterprise investigation of Y Unit Draw (Kendrick 1998) in 1998 and the Zuni Chacoan Period Communities project in 2003, Village of the Great Kivas was revisited and the Roberts’ collections reexamined in an effort to better understand the role of the site in Zuni
prehistoric as well to develop a plan for future preservation (Damp 2005b). Reanalysis of the site included a cultural resource survey of 259 hectares (640 acres) in October of 2003. The survey consisted of a one hundred percent pedestrian inspection of a one-mile block centered on Village of the Great Kivas. Results revealed that Village of the Great Kivas was only a small part of an expansive community that totaled over 300 rooms and twenty-four archaeological sites.

Village of the Great Kivas is located in the northeastern portion of the modern Zuni Reservation. Although Zuni became a hotspot for anthropologists of the 1930s (Benedict 1935; Cushing 1881), Roberts appears to have been the first non-Native American to record the existence of Village of the Great Kivas. The site consists of three room blocks, and two great kivas. Robert’s named the three roomblocks, Houses A, B, and C. House A was later determined by Roberts to be a great house (Figure 3.1). Roberts also identified a total of seven small kivas and four large refuse mounds. By the conclusion of his summer excavations, Roberts had excavated Houses A and B, one room from House C, and one of the great kivas. Though Roberts did not excavate the second great kiva, he did measure the kiva and outline it.

This thesis uses the results of a recent reanalysis effort by Eckert et al. (2000) to date the Village of the Great Kivas great house. In later chapters, their work is expanded upon and used to compare to mean ceramic dates calculated for small sites in the Village of the Great Kivas community. Based on ceramic data, House A and House B were contemporaneous. Eckert et al. (2000) suggest that House A was constructed first, about a generation before construction began at House B. Following the abandonment of the great house, House B (Figure 3.2) continued to be occupied for approximately a
generation longer as residents of Village of the Great Kivas attempted to distance themselves from the Chacoan great house. Overall, the results of the mean ceramic dating demonstrate that the great house was occupied sometime between A.D. 992 and A.D. 1204, and possibly until A.D. 1222. House B was constructed about thirty years after the great house was constructed and was occupied from A.D. 1027 until about A.D. 1227 (Figure 3.2).

House A, or the great house, is located in a D-shaped alcove of a small finger ridge above the Nutria River. The great house is slightly elevated over the surrounding landscape, allowing views west across the Nutria Valley. The great house itself faces the south, overlooking two great kivas, four small kivas, and two nearby roomblocks (Houses B and C).

Great Kiva 1 was constructed within the great house and was the only great kiva excavated by Roberts in 1930. The great kiva was composed of a main bench, a secondary, low bench, multiple subfloor vaults, and four masonry pillars which supported the roof. Overall, Great Kiva 1 measured 51 feet or 15.54 meters in diameter. Great Kiva 2 was located in a small court area formed by structures A, B, and C. Although Roberts did not excavate Great Kiva 2 he did trace the walls and provided a lengthy discussion about its construction (Roberts 1932:96-98). The second great kiva proved to be large—Roberts measured it at seventy-eight feet (23.774 meters)—surpassing the size of Casa Rinconada, which has a diameter of seventy-two feet.

In addition to the great house and Great Kiva 1, Roberts excavated House B and one room in House C. House B was found to contain twenty rooms and was located “some distance southwest of House A on the top of a slight knoll” (Roberts 1932:98). Its
architecture was exceptional; Roberts called it “more carefully worked and shaped,” however the structure was not associated with any kivas (Roberts 1932:100). Overall, House B was oriented north-south and was particularly unexciting to Roberts (1932:100): “There was nothing of particular interest in a majority of the rooms in House B.”
Figure 3.1. Plan of Village of the Great Kivas Great House. Figure based on Roberts (1932).
Figure 3.2. Plan of House B at Village of the Great Kivas. Figure based on Roberts (1932).
Roberts’ study was a masterful description of the site and a tour-de-force evaluation of the architecture, ceramics, and other items that he encountered during the summer months of 1930. *Village of the Great Kivas on the Zuni Reservation, New Mexico*, provided an extensive overview of development and growth of the site room by room. His in-depth knowledge of the site’s construction and architectural foundation allowed Roberts to make very detailed predictions of its growth throughout the late tenth, eleventh, and early twelfth centuries. Roberts’ comprehensive architectural investigation is used in this thesis in combination with GIS to evaluate the development of Village of the Great Kivas and its role in the Zuni region.

At Village of the Great Kivas, Roberts’ goals were to discern architectural relationships and ceramic descriptions in order to describe the site of Village of the Great Kivas in relation to other sites in the Southwest. In the ensuing analysis, many of my goals crosscut these relationships between the site and the greater Southwest. Although this work would not be possible without the excavations of Roberts, recent work by Eckert et al. (2000) and Kendrick (1998) at the Village of the Great Kivas great house allow for its comparison to the Village of the Great Kivas community.

In 1998, as part of an archaeological study of Y Unit Draw (Kendrick 1998), Damp and Kendrick reexamined the material that Roberts retrieved and recorded for the Village of the Great Kivas. Although their reinvestigation of the great house began with a settlement analysis of nearby sites, their work eventually led to the review of Roberts’ field notes from his 1930 excavations and the reanalysis of the ceramic and other artifactual data retrieved during his excavations. This work along with Roberts’ permits my reinterpretation of Village of the Great Kivas given our present knowledge of
Southwest and particularly Zuni prehistory. The following section discusses these new data and their implications for explaining the relationship between Chaco Canyon and the Zuni region from the Pueblo I to Pueblo III periods. The excavations conducted by Roberts and the recent reanalysis of the Village of the Great Kivas great house makes it possible for me to examine the relationship of the great house to its surrounding community, the community at Y Unit Draw, and Chaco Canyon.

Although the level of ceramic analysis conducted in this study does not allow for testing of interaction between great houses, the proximity of many of these great house communities in the three survey areas suggest that interaction did occur, at least between great houses in the Zuni region. The wide dispersal of community sites across each survey area make it difficult to bound specific communities, suggesting that Village of the Great Kivas was only part of a network of great houses in the Zuni region. Great house communities documented in the Badger Springs and Barth Well surveys allow for the examination of Village of the Great Kivas on two levels: the site and regional. These data suggest that Village of the Great Kivas and its surrounding community was first in a wave of Chacoan-style constructions in the eleventh and twelfth centuries. At Village of the Great Kivas, outlying roomblocks are sometimes double the size of the site’s great house, calling into question the central role of outlying great houses in community activities. In chapter 5, I argue that the placement of Village of the Great Kivas in an area with no previous population, along with its early dates, and emblematic architecture, suggest that Village of the Great Kivas represents direct contact with Chaco Canyon.
Cultural Developments in the Zuni Region

Excavation projects that have occurred in the past decade in the Cibola region allow us to evaluate the role of the southern San Juan region in the Chacoan world. Extensive studies in the Zuni region have provided data from periods before, during, and after the Chacoan period to which we can compare Village of the Great Kivas. These studies provide a clearer picture of the Chacoan period in the Zuni region, and in some cases illustrate how great houses in the area interacted with populations spread across the Zuni landscape. Excavations at Y Unit Draw, approximately five kilometers north of Village of the Great Kivas, demonstrates that agricultural communities in the Zuni region interacted with great house communities and participated in community-wide ceremonies (Eckert et al. 2000).

In this section, I discuss some of these new data and their implications for explaining the relationship between Chaco Canyon and the Cibola region. Unlike the northern San Juan, there is little evidence of population movement between the southern San Juan and Chaco Canyon during the Pueblo II period (Cameron 2009; Lipe 2006; Wilshusen and Van Dyke 2006). Rather, the Cibola region appears to have been more isolated during this period. Constructions in the Zuni area during Pueblo II times were much less standardized, especially in terms of kiva form (Duff and Lekson 2006:324), and unit pueblos appear to lack the consistent north-south orientation so common in the northern San Juan (Lipe 2006). Cameron and Duff (2008) contend that the seemingly homogenous social groups of the northern San Juan contrasted against the populations of the Cibola region, produced two sets of histories which adopted the idea of Chaco in two
very different ways. This section describes this history for the southern San Juan, and particularly, the Zuni region.

_Pueblo I_

The Pueblo I period (A.D. 700-900) in the southern San Juan, and its relationship to the great house construction in the late 800s in Chaco Canyon, is still something of a mystery to archaeologists (Kintigh 2003; Wilshusen and Van Dyke 2006). For many decades, this period was poorly understood and excavated sites were few in number. Some of the best-known, early excavations of Pueblo I sites were at the southern edge of the San Juan drainage in the West Puerco and Red Mesa Valleys (Gladwin 1945; Roberts 1931, 1939) or along the eastern slope of the Chuska Mountains (Morris 1959).

Today, we know of a few pre-A.D. 1000 great houses in the southern San Juan region (Vivian 1990). These appear to be clustered around Bosson Wash and along the Rio Puerco (Kantner and Kintigh 2006). In the Red Mesa Valley, a number of small communities date from the late ninth and early tenth centuries (Kantner and Kintigh 2006). At the Andrews community, eleven roomblocks and two great kivas are ceramically dated between A.D. 880 and A.D. 940. The Fort Wingate community reported an extensive but undefined Pueblo I component (Marshall et al. 1979:155). The Red Mesa Valley also contains several well-excavated, late ninth and early tenth century sites excavated by Gladwin.

The Pueblo I period in the Zuni region is generally characterized by the transition to above-ground architecture, constructed commonly of masonry, jacal, or both. “Kivas”
of various sizes became common during this period (Cordell 1997; Young and Herr 2012). Various types of ceramics have also become characteristic of this period; these include neckbanded graywares and early Black-on-white painted ceramics. Sites dating to this period consist of groups of pitstructures surrounding rectangular or curvilinear blocks of masonry rooms. The paucity of building stone indicates that the superstructure of these rooms was usually of jacal (daub). These surface rooms are believed to have functioned as storage facilities. In some cases these roomblocks are replaced with lines of semisubterranean slab-lined storage pits. Pitstructures are deeper than during Basketmaker III and contain ventilators as opposed to antechambers (Bradley 1994:225).

In the Zuni region, a few extensive pit house occupations dating to the A.D. 800s have been recorded. Many of these pithouse communities are located at or near later Chacoan great house communities in the Badger Springs and Barth Well areas on the western edge of the Zuni Reservation. H-Spear, a Pueblo II great house community near the New Mexico-Arizona border, is another example (Mahoney 2000). These communities are widely dispersed, taking advantage of fertile valley bottoms and river drainages.

In the Zuni region, the shift toward reliance on agriculture, which began in Basketmaker times, continues during Pueblo I times (Plog 1979) and in some areas there is evidence of terracing and irrigation (Damp 2000). Regionally, sites continue to be characterized by small villages, yet lowland floodplain villages display some degree of aggregation towards the end of the period. In the Barth Well and Badger Springs area, residential sites begin to cluster into relatively large communities along various floodplains and washes. In the early Pueblo II period, around A.D. 1000, these areas
accommodate the construction of several great houses located along prominent bluffs overlooking residential sites. Still, during the Pueblo I period, these sites only begin to approach the size of the smallest contemporary village in the northern San Juan (Wilshusen and Van Dyke 2006).

By the late A.D. 800s and early A.D. 900s a major shift was underway in the southern San Juan (Wilshuen and Van Dyke 2006). Around this time, populations began to cluster in communities and people began the first great house communities in the region. Although the prehistory of the Pueblo I period in the Zuni region is impaired by a lack of archaeological visibility of Pueblo I sites, interesting patterns emerge at the end of the Pueblo I period. By A.D. 900 four “zones” develop in the Zuni area (Duff and Schachner 2007). These include areas with Pueblo II settlement but no great house, areas with no previous population and a great house, areas that observe the emergence of a great house within earlier communities, and a large area east of the Zuni Reservation lacking evidence of Pueblo II settlement altogether. The development of these areas is briefly discussed in the following section.

**Pueblo II**

During the A.D. 900s and early A.D. 1000s, population density increased throughout the Cibola region. Many sites have been reported in Cheama Canyon (Fowler 1980), Nutria Canyon (Hunter-Anderson 1978), and Oak Wash (Anyon et al. 1992; Holmes and Fowler 1985). Pueblo II habitations were usually aboveground multi-room structures with full height masonry walls, built around a circular ceremonial chamber or
kiva typical of an Ancestral Puebloan village layout. While comparatively simple pitstructures with few features besides hearths, storage pits, and grinding stones were still used for domestic purposes, more elaborate pitstructures with full masonry construction, pilasters, benches, wall niches, and southern recesses were probably used for ritual purposes (Damp 1999).

As in Pueblo I, pitstructures continue to be used for habitation, but surface rooms become the dominant habitation form. Small masonry pueblos with associated pitstructures are typical of this period. Indented corrugated grayware becomes the dominant utility pottery, while Black-on-white designs greatly increase in diversity. White Mountain Redware appears towards the end of this period (Damp 1999). By the latter half of the period, Black-on-red wares from southern regions begin to appear, and in increasing quantities. In the Cibola White Ware series Red Mesa, Puerco, Escavada, Gallup, and Chaco Black-on-white are common.

Areas with substantial Pueblo I populations in the Zuni area continued to be occupied in the Pueblo II period. In the Barth Well and Badger Springs areas, numerous great houses are constructed in preexisting communities. The emergence of persistent communities inhabiting the same area over time is an important pattern in the Cibola region (Stein 1987). By the mid-A.D. 1000s, the Cibola region observed the construction of numerous great houses that formed a focus for surrounding communities (Cameron and Duff 2008; Duff and Lekson 2006). These great houses are often recognized by their relative size and more massive construction than neighboring contemporary sites.

Great houses in the western area of the Zuni Reservation are often U-shaped, composed of multiple stories, and elevated (Fowler et al. 1987). The Gonzalez Well great
house, for example, was constructed along the east edge of a prominent mesa overlooking a wide valley. Great kivas often accompany many of the great houses in the Zuni region; yet, prehistoric roads are virtually absent in these great house communities. Two roads, however, may be present at the Bosson Wash great house (Fowler et al. 1987). Van Dyke (2003) in a study of 188 great houses, illustrates that less than half contain documented roads, many of which lie in the Zuni region.

Great houses communities in the Zuni region were often situated along major floodplains, tributaries of the Zuni River, or prominent washes. Like in the Red Mesa Valley (Van Dyke 199b), Zuni Chacoan communities took advantage of prime farmland around great houses. The construction of great houses in the Badger Springs and Barth Well areas and the Navajo Springs great houses appears to have been dictated by the presence of productive agricultural communities. This pattern constrasts with what is seen at Cox Ranch and Village of the Great Kivas.

Also during this period, great houses, some with great kivas, appear in areas of the Zuni region lacking previous occupation (Fowler et al. 1987). In the southern Cibola area, along Carrizo Creek, two great house communities sprout up in the mid-to-late A.D. 1000s, in areas lacking previous occupation (Cameron and Duff 2008; Clark 2012; Damp 2005a). These include Cox Ranch Pueblo and Cerro Pomo. Village of the Great Kivas is an example of another Chacoan community sprouting in an area without previous occupation. These great house communities, and others constructed in areas with existing populations, have implications for determining who built these structures.

How Chacoan great houses interacted with Chaco Canyon also plays a role in determining who constructed Chacoan structures in the Cibola region. Toll (1991)
illustrates that material goods from the Cibola region were not clearly funneled toward Chaco Canyon. However, the northern Cibola region appears to have played a major role in the construction and development of great houses in Chaco Canyon. Ceramic information from the Las Ventanas great house, located in El Malpais National Monument, suggests that exchange was directed outside Chaco Canyon. At Cox Ranch Pueblo, along the southern boundary of the Cibola region, the plain-ware assemblage is dominated by Mogollon Brown Ware, as are assemblages from the surrounding community. Similarly, brown-ware assemblages dominate western areas along the Silver Creek and Upper Little Colorado River. Great houses in the Zuni and Puerco River regions were dominated by gray-ware ceramics. This suggests that the Zuni region included groups with “variable origins and connections that were most visibly united through construction of great house-oriented communities” (Duff and Schachner 2007: 191).
Figure 3.3. Great Houses in the Zuni region.
Archaeologists have argued that following the collapse of Chaco, after A.D. 1150, population declined throughout much of the Southwest (Dean et al. 1985). A widespread drought during the first half of the Pueblo II period (A.D. 1150-1300) is thought to be the cause of these major population shifts. Following Chaco’s collapse, many of the Chacoan population centers in the northern San Juan declined, however populations appears to have increased in the Zuni area during this period (Anyon and Ferguson 1984), particularly in the area of the Pescado River and its tributaries. During the Pueblo III period some great house communities continue to be occupied (including Village of the Great Kivas), and in other areas, new great house communities with open roofed great kivas are constructed (Kintigh et al. 1996). Some archaeologists see the Chacoan Period in the Zuni region as a somewhat minor event leading up to the Pueblo III period (Duff and Lekson 2006; Kantner and Kintigh 2006).

In the Zuni region, many Chaco-era great house communities are abandoned by the beginning decades of the thirteenth century, and new sites are occupied (Kintigh 1994). These post-Chacoan sites are generally constructed away from their Chacoan predecessors in areas without significant existing populations. Post-Chacoan communities, it appears, were more aggregated than previous communities in the region and incorporated a larger population into great house house-centered areas (Kintigh et al. 1996).

Pueblo III villages in the Zuni region consist of large clusters of associated buildings, built with contiguous roomblocks surrounding a plaza (Holmes and Fowler
1980; Hunter-Anderson 1978). Sites of this kind are well represented from Pescado to El Morro (Kintigh 1985) and were occupied until slightly after A.D. 1300. Kintigh (1996:135) notes the development during this time of a diversity of settlement sizes from small-dispersed pueblos to large communities. These communities included those that contained a great house and great kiva, those with only a great kiva, and those lacking both a great house and great kiva.

Ceramic assemblages of this period resemble those of Pueblo II times, with an increase in local design styles (Plog 1979). Orangewares and polychrome pottery make their appearance in the Western Puebloan area. Reserve, Tularosa, Pinedale, and Snowflake black-on-white are common Cibola White Wares; and White Mountain Redwares include Wingate, St. Johns, Pinedale, and Kwakina Polychrome (Kintigh 1982). Flaked and ground stone artifacts are essentially identical to those found in the Pueblo II period.

Many Chacoan great house communities occupied in Pueblo II times are completely abandoned during the first half of the Pueblo III period. At Village of the Great Kivas and in the Barth Well and Badger Springs areas, following the collapse of Chaco Canyon, these areas are virtually depopulated and void of occupation until the historic period. Other areas of the Zuni region remain populated or observe the construction of a post-Chacoan great house. The Hinkson site, for example, saw the construction of Chacoan-style structures including a great house and great kiva following the collapse of Chaco, around A.D. 1200 (Kintigh et al. 1996).

By the early A.D. 1200s, new forms of settlement and integration were developing in the Cibola region. Soon after A.D. 1225, several massive, nucleated
pueblos were constructed in the El Morro Valley, some with large, unroofed kivas. These do not appear to be plaza-oriented. These sites, of which Archaeotekopa and Kluckhohn are the largest, housed unprecedented numbers of people and reached sizes of up to 1200 rooms. (Huntley and Kintigh 2001, 2004) Together, these sites reflect a great deal of variability and experimentation. However, despite architectural variation, sites of all forms share a common decorated ceramic assemblage dominated by Tularosa Black-on-white and St. Johns Polychrome (Duff and Schachner 2007).

**Summary**

After over a century of excavation in the southern San Juan, archaeologists remain divided about the identity of the builders of the Zuni region great houses, how local populations responded to Chacoan great house construction, and what factors shaped community development in the Zuni region throughout the Pueblo II period. The investigation of the cultural developments before, during, and after Chaco demonstrate that surges in population during the late Pueblo I and early Pueblo II period eventually led to the construction of outlying great house communities.

The construction of great houses in the Zuni region during the Pueblo II period, among other things, appears to have been dictated by the presence of agricultural fields and the existence of productive farmland. This examination also illustrates the presence of multiple great house communities in the Zuni region that shared similar patterns of community formation and location. Other scholars see the Chacoan Period in the Zuni region as a somewhat minor event leading up to the Pueblo III period (Kantner and
Kintigh 2006). Although the Pueblo III period did see the continued occupation or construction of Chacoan great houses in the Zuni region, the Pueblo II period saw the construction and development of multiple great house communities. In Chapters 5 and 6 I present data on Village of the Great Kivas and several other great house communities in the Zuni area. These great house communities suggest that prior to the collapse of Chaco Canyon, a network of Chacoan great house communities existed in the Zuni region. In addition, these great house communities shared a similar local ideology that shaped and directed community development in the region, and illustrates the intersection of local histories with a regional, Chacoan history.

The prehistory of the Zuni region shows that aggregation and community development did not begin in the region until the Pueblo I period. These sites were generally clustered along lowland floodplains and represent some of the first agricultural villages in the region. In addition, this period, along with the Pueblo II period, observed a marked transition in the location of sites from higher elevations to valley bottoms and lowland floodplains.

The Pueblo II period saw the construction of Chacoan-style constructions across the region. The post-Chacoan period in the Zuni region represents a time of reorganization and transformation. During this time, some of the largest villages in the Zuni region develop, and many become clustered in the El Morro Valley. By the end of the Pueblo IV period, populations in the Zuni region are clustered about six historic towns, including Zuni Pueblo.

This chapter has provided the historical context of Village of the Great Kivas: its archaeology, prehistory, and surrounding environment. Because Roberts did not survey
the rest of Red Paint Canyon, the past eighty years has resulted in guesswork about Village of the Great Kivas and its role in the Chacoan world. In the following chapter, I present the methods used in this thesis, including the archaeological survey methods used at Village of the Great Kivas and in the Barth Well and Badger Springs surveys. The results of these surveys help in understanding Pueblo II developments in the Zuni region, specifically the origins of the great house communities in the region and their subsequent developments.
CHAPTER 4

METHODS

In Chapter 1 I highlighted the aims of this thesis. One of my primary objectives was to explore the origins and development of Chacoan communities in the Zuni region. In order to address this goal, this study incorporates new and unpublished data from three archaeological surveys of Chacoan communities in the Zuni region: the Village of the Great Kivas community survey, Barth Well, and Badger Springs. While Chapter 3 provided a brief history of research at the Village of the Great Kivas site, this chapter builds on that work by beginning to broaden our focus to the Village of the Great Kivas community. The work of Roberts (1932) and Eckert et al. (2000) at the Village of the Great Kivas great house provided me an opportunity to investigate the development of the Village of the Great Kivas community and compare it to the construction, development, and eventual abandonment of the great house. Roberts excavated the site, yet could not develop an accurate chronology for the great house, or Houses B and C.

In recent years, our understanding of the Village of the Great Kivas site has changed considerably. This shift is in part due to research by Eckert et al. (2000) at the Village of the Great Kivas great house. Their work has provided a solid chronological sequence for the great house based on mean ceramic dates. In the sections that follow,
and in Chapter 5, this chronology is compared to the mean ceramic dates and construction history I develop for the Village of the Great Kivas community.

The chapter begins with a discussion of survey methods. Archaeological surveys conducted by Zuni Cultural Resource Enterprise at three areas on the Zuni Reservation are described. Each of these surveys included a one-mile block reconnaissance centered on a Chacoan great house. Mahoney (2000) has recently demonstrated that small-scale surveys often miss significant portions of Chacoan communities. Archaeologists still understand little about the scale of Chacoan communities and their distribution around Chacoan great houses. In Chapters 5 and 6 I present the results of these three surveys, and although geographically limited, they do begin to paint a picture of community layout, scale, and development in the Zuni region. The concluding section of this chapter discusses ceramic dating techniques, how they were employed at Village of the Great Kivas, and my methods for community-wide comparison.

**Survey Methods**

In 2003 Zuni Cultural Resource Enterprise conducted a survey covering a one-mile radius around Village of the Great Kivas, a total of twenty-four sites were recorded. The survey included a one hundred percent cultural resource inventory that was carried out at the request of the Zuni Heritage and Historic Preservation Office. Initial interest in Village of the Great Kivas emerged from investigations at nearby Y Unit Draw. Excavations along Y Unit Draw exposed a previously unknown Basketmaker III through Pueblo II community. In 1998, as part of an archaeological study of Y Unit Draw
(Kendrick 1998), ZCRE reexamined the material that Roberts retrieved and recorded for Village of the Great Kivas. Reanalysis of the Chacoan site began with a one hundred percent archaeological inventory of the area surrounding the Village of the Great Kivas Site, which ultimately led to a trip to the Smithsonian Institute in Washington, D.C. to inspect Roberts’ field notes from his 1930 excavations and to reanalyze the ceramic and other artifactual data retrieved during his excavations.

Fieldwork at Village of the Great Kivas began in October of 2003. Zuni Cultural Resource Enterprise archaeologists walked parallel transacts spaced three meters (9.84 feet) apart across the entire project area. When a site was discovered, all pertinent information as called for on the Archaeological Records Management Site (ARMS) forms was recorded and a scale site map was produced using a Sokkia Total Station. Site boundaries were defined by the extent of the artifact scatter. All artifacts were analyzed in field.

For every site encountered, UTM coordinates were logged, along with USGS map locations, site type, and site size. Given the size of the community surrounding Village of the Great Kivas, site settings were also recorded, providing information about the site’s location, vegetation, and elevation. In order to supplement site size information (which was recorded in meters), room counts were determined, but only when standing architecture was present. Data recorded for every site generally included a description of the site’s architecture and associated surface scatters of ceramics and flaked and ground stone artifacts.

Stemming from archaeological investigations at Village of the Great Kivas was the Zuni Chacoan Period Communities Project (Damp 2005b), a small, underfunded
survey project undertaken by Zuni Cultural Resource Enterprise. In addition to the reanalysis of Village of the Great Kivas, the Zuni Chacoan Period Communities Project conducted similar archaeological surveys in two other areas thought to have significant Chacoan occupations: Barth Well and Badger Springs. Due to a lack of funding, each survey project contains its own level of completeness—an affliction that hinders anything more than superficial comparisons across the three great house communities. Overall, Village of the Great Kivas received the most extensive research, as it was the first to be surveyed and the closest to Y Unit Draw.

The goal for all three surveys was to inventory the community sites associated with the great house. Each survey project, like Village of the Great Kivas, included a one square mile pedestrian survey around their respective great houses. In total, 1,920 acres were surveyed, or 640 acres around each great house. For each community, survey crews ranged from three to five people spaced three meters apart. Survey methods were essentially identical across all three survey projects, with the exception that surveys in the Barth Well and Badger Springs areas did not map individual sites, only recorded their presence. The Principal Investigator for the Zuni Chacoan Period Communities project was Jonathan Damp. Each survey had a different field director. Donovan Quam served as the field director for Village of the Great Kivas, while Jerome Zunie was the field director at Barth Well, and Jeff Waseta for Bosson Wash.
Dating Village of the Great Kivas and its Community

Roberts’ excavations at the Village of the Great Kivas great house illustrated that it fit easily into the Chacoan great house type. The presence of Chacoan architecture, great kivas, multistory construction, and large rooms even compelled Roberts’ to speculate on its relation to similar, yet larger structures in Chaco Canyon. Nevertheless, Roberts was unable to attach dates to the construction sequence he developed for the Village of the Great Kivas great house (see Chapter 5).

Roberts did extract one date from the Village of the Great Kivas great house, a tree-ring date of A.D. 1015. Village of the Great Kivas thus proved to be one of the first tree-ring dated sites in the Southwest, but archaeologists still had little idea about how this one date fit into the development of Village of the Great Kivas. In 2000, Eckert et al. presented a new chronological sequence for Village of the Great Kivas. Using Roberts’ four-stage construction sequence, Eckert et al. endeavored to link dates to each construction episode and track the history of development at the Village of the Great Kivas great house.

The study analyzed nearly 400 vessels and sherds. Ceramic analysis uncovered a wide array of local ceramic types at the Village of the Great Kivas great house, including: Cibola and Little Colorado White Wares; White Mountain Redware; Tsegi Orange Ware; Cibola Gray Ware; Puerco Valley Red Ware; Puerco Valley Brown Ware; and Mogollon Brown Ware. Prevalent local types present at the community include Puerco, Reserve, and Escavada Black-on-white (Cibola White Ware); Wingate and Puerco Black-on-red, and Wingate Polychrome; and Plain Gray and Indented Corrugated (Cibola Gray Ware).
Non-local types, include: Padre and Holbrook B Black-on-white (Little Colorado White Ware); Kana-a, Dogoszhi, and Tusayan Black-on-white (Tusayan White Ware); Mesa Verde Black-on-white (Mesa Verde WhiteWare); and Tusayan B Polychrome (Tsegi Orange Ware).

The results of Eckert et al.’s study are presented in Chapter 5. In the following section I outline my methods for dating the Village of the Great Kivas community. Using an approach similar to Eckert et al.’s, I develop mean ceramic dates for each residential site in the Village of the Great House community. In Chapter 5, these dates are compared to the developmental history of the great house and tested for contemporaneity. Chapter 5 also outlines a history of growth and development at the Village of the Great Kivas community, and explores how the community grew and transformed during the eleventh, twelfth, and thirteenth centuries.

The Village of the Great Kivas Community

The community surrounding Village of the Great Kivas is composed of twenty-four sites. Of the twenty archaeological sites recorded during the Zuni Cultural Resource Enterprise survey, eighteen consist of multiple residences, three sites are artifact scatters, and three sites were made up of simple features (all rock art). All sites, with the exception of simple feature sites, were dated using ceramics. Surface ceramics were systematically examined at various rooms and middens across the twenty-one datable sites. When artifact densities higher than 2.5 sherds/meter$^2$ were encountered, all ceramic artifacts within a five-by-five-meter area were examined. When densities lower than 2.5
sherds/meter$^2$ were encountered, all visible ceramics were recorded. All ceramic analysis of the Village of the Great Kivas community was conducted on-site.

Generally, two ceramic chronometric methods are used to date surface ceramics: ceramic grouping and mean ceramic dating (Goetze and Mills 1993; South 1977; Van Dyke 1997). In the Southwest, dating by means of ceramic groups is one of the most common dating methods, especially for surface assemblages (Goetze and Mills 1993b). Ceramic groups encompass various ceramic types that dominate during a given time period. Nevertheless, there are various problems with the technique. For example, ceramic grouping requires that all time periods are represented by an ideal assemblage, leaving it up to the analyst to subjectively match archaeological assemblages against ideal ones (Van Dyke 1997). Ceramic group assemblages used in this thesis are based on Douglas (1987), Fowler (1989), and Mills (1988) and are summarized in Table 4.1.

<table>
<thead>
<tr>
<th>Ceramic Group</th>
<th>Dominant Stylistic Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Pueblo I (A.D. 700-800)</td>
<td>Lino Gray, Fugitive Red, La Plata B/W, White Mound B/W</td>
</tr>
<tr>
<td>Late Pueblo I (A.D. 800-900)</td>
<td>Kana-a Neck Banded, Narrow Neck Banded, White Mound B/W, Kiatuthlanna B/W</td>
</tr>
<tr>
<td>Early Pueblo II/Early Bonito Phase</td>
<td>Narrow Neck Banded, Neck Corrugated, Red Mesa B/W, Escavada B/W</td>
</tr>
<tr>
<td>(A.D. 900-1040)</td>
<td></td>
</tr>
<tr>
<td>Late Pueblo II/Classic Bonito Phase</td>
<td>Neck Corrugated, Indented Corrugated, Gallup B/W, Escavada B/W, Puerco B/W, Chaco B/W</td>
</tr>
<tr>
<td>(A.D. 1040-1100)</td>
<td></td>
</tr>
<tr>
<td>Early III/Late Bonito Phase (A.D. 1100-1140)</td>
<td>Indented Corrugated, Gallup B/W, Puerco B/W, Chaco B/W, Chaco-McElmo B/W</td>
</tr>
</tbody>
</table>

*Note: Adapted from Van Dyke (1997:140).*
Mean ceramic dating techniques provide absolute date estimates for ceramic assemblages made up of types with known ranges of production (South 1977; Van Dyke 1997). It is also important to note that although production ranges for various ceramic types have been established in the Southwest, mean ceramic dating was originally developed by South (1977) for use at historic sites, where manufacturing ranges for historic ceramics were known. In addition to this caveat, mean ceramic dating techniques are also accompanied by a number of assumptions: 1) ceramic types have unimodal frequency curves; 2) these frequency curves overlap; 3) the date of a type can be represented by its midrange; and 4) the mean ceramic date of an assemblage can be calculated using the mean dates for each type weighted by frequency (Van Dyke 1997).

In the past two decades, mean ceramic dating has been used extensively (Goetze and Mills 1993; Graves 1990). Christenson (1994) in an assessment of the technique, tested the results of mean ceramic dating against a tree-ring dated Kayenta assemblage and concluded that mean ceramic dating can be as accurate as tree-ring dating. Although mean ceramic dating relies on decorated ceramics, there are exceptions. These include: Narrow Neck Banded and Kana-a Neck Banded, Lino Gray, and Fugitive Red (Van Dyke 1997:143). The types, date ranges, and median dates used to calculate mean ceramic dates for Village of the Great Kivas are adapted from Damp et al. (2000) and Van Dyke (1997). As part of this thesis, mean ceramic dates were calculated for twenty-one sites at Village of the Great Kivas and its community, including Houses A, B, and C.

As mentioned, surface ceramics have been used widely as temporal indicators for Chacoan sites in the absence or supplementation of excavation data (e.g., Fowler et al. 1987; Graves 1990; Marshall et al. 1979; Mills 1988; Powers et al. 1983; Van Dyke 1997,
Although some have critiqued the use of mean ceramic dating, when production spans for ceramic types are well established, as in the Southwest, mean ceramic dating can provide an enhanced temporal resolution than ceramic group dates.

Following ceramic analysis, mean ceramic dates—from all datable rooms—were entered into GIS. This GIS approach combined the ceramic database with a GIS-based map in order to evaluate the extent of occupation at the Village of the Great Kivas community during the eleventh through thirteenth centuries. Procedures used to create GIS maps were multi-stepped. First, I imported the ceramic database from Village of the Great Kivas into ESRI’s ArcGIS from Microsoft Excel (see Cordell and Damp 2010). Ceramic assemblages and mean dates were first sorted by room number. Spatial and temporal attribute data were then linked, following unification of the data, and were finally matched to their GIS provenience location (room polygon). Base maps were then modified to show the locations of ceramic artifacts excavated from room contexts.

In order to link the mean ceramic dates of community sites to the great house, site maps needed to be integrated into GIS. Using survey notes, along with base site maps produced during the 2003 survey, I first scanned all site maps, then georeferenced their location onto a base map. Georeferencing is crucial for illustrating the relationships between site data and other imagery, and essentially entails defining the existence of data in physical space and establishing its location in terms of the map’s projection.

Once all the data was integrated with GIS, I was able to interpret the development of the Village of the Great Kivas community through time. A critical component of my analysis was the investigation of the development of the Village of the Great Kivas community in a multiscalar study that was broadly diachronic and comparative in scope.
A key consideration was to compare the growth and development of Village of the Great Kivas site with its community, surrounding communities, and other outlying great house communities in the Zuni region. The ceramic database, combined with a GIS-based approach, was found to provide the comparative framework needed for accomplishing this goal.

Overall, this step was critical in understanding the relationship between Village of the Great Kivas site and its twenty-four surrounding sites. Mapping and analyzing the development of the Village of the Great Kivas community allowed me to observe larger shifts across the community, and view how these community structures transformed into something very different from unit pueblos before and after. In addition, this step illustrated several important transformations at Village of the Great Kivas during the thirteenth century, including shifts in the community’s focus and organization.

Also critical to my analysis was applying a multiscalar perspective. In considering the development of Village of the Great Kivas, and its local as well as regional role, it became important to see how the construction of the site affected local and regional developments. As Lightfoot et al. (1998:202) note, “Different scales of analysis may provide very different insights into the organizational principles, worldviews, and identities of individuals, groups, and communities.” As such, I based my study on two scales of analysis: local (community) and regional (Zuni region).

Recently, Kintigh (2003:109) has suggested that the existence of communities surrounding Chacoan great houses needs to be “demonstrated, not assumed.” Demonstrating a relationship between the two requires three things: a social link between the residential structures of the community, a link between the community and great
house, and contemporaneity. Huntley et al. (1998) and Duff (1993, 1994) provide useful models for establishing connections between communities and Chacoan great houses with ceramic technology, and these were relied upon heavily throughout the analysis. Eckert et al.’s (2000) investigation was also crucial to how the development of the Village of the Great Kivas community correlated with the construction of the great house.

After establishing a connection between an outlying great house and its community, researchers have generally investigated the scale and size of the community itself (Gilpin and Purcell 2000; Mahoney 2000). Bounding Chacoan communities has been approached from a number of different perspectives. To this, Kintigh (2003:110-111) has stated:

“Visual analysis of [Chacoan communities] has considerable virtue, though quantitative analysis may, on occasion also prove useful (Ammerman 1981; Kintigh and Ammerman 1982). It might be quite illuminating, for each available survey area, to compile figures on room (or site) density (i.e., rooms/km2) within a set of concentric rings around the Chacoan architectural complexes. A relatively sharp falloff in density would be a reasonable indicator of a residential community boundary.”

Adopting and modifying this approach, residential community boundaries may also be delineated through applying GIS to survey data and mapping site/room density. The use of GIS at Village of the Great Kivas also permits a more rounded view of Chacoan communities, in that it depicts individual roomblocks rather than entire sites. Community structures can then be portrayed as proportional to their size (number of rooms), as well as date. Though useful, the above approaches have recently undergone revision. Mahoney (2000) has demonstrated recently that outlying great house communities in are highly variable in terms of their construction and maintenance suggesting that small-scale surveys often miss significant portions of Chacoan-era populations.
The comparative approach used in this thesis led me to incorporate data from other Pueblo II communities in the Zuni region. Of these, the Barth Well and Badger Springs areas are the best represented in this thesis. The final portions of my analysis focuses on establishing a chronology for Village of the Great Kivas and its surrounding community. Recently, it has been argued that the occupation of Village of the Great Kivas is dated to Pueblo III times, given the presence of White Mountain Redware at the site: “Although often held up as a paragon of Chaco-period great houses, it should be noted that much of the occupation at Village of the Great Kivas may date to the early Pueblo III period (A.D. 1150-1225). Evidence for later occupation includes extensive remodeling of the great house itself; the construction of a large, likely unroofed great kiva; and the presence of early Pueblo III White Mountain Red Ware (Roberts 1932)” (Schachner 2008:191).

In order to evaluate this claim, ceramics were first plotted into GIS to their corresponding rooms to show mean dates of construction, a technique similar to the one outlined above. In addition to plotting mean dates, all ceramic types were linked to their rooms of discovery; following Roberts’ excavation notes and ZCRE survey records. As a result, I was able to see where early Pueblo III ceramics were found at the site. These results are presented in Chapter 5.
Summary

This chapter has provided the methods used in this study: how I gathered my data, how I compared within and across communities, and the procedures used during field survey. It then discussed the Village of the Great Kivas community—how sites were recorded, mapped, and described, before briefly covering the field methods of the Zuni Chacoan Period Communities Project.

As indicated, this study relies heavily on the use of mean ceramic dating and GIS. Together, these approaches have allowed me to document many of the changes seen at Village of the Great Kivas and its surrounding community in the late tenth, eleventh, and thirteenth centuries. Also integral to this study was a comparison of outlying great house communities. Detailed community comparisons have given me the opportunity to examine differences in site function and social interaction throughout the tumultuous Pueblo II period. These are presented in Chapter 6.

In Chapter 3 I presented a short history of research at the Village of the Great Kivas site. The following chapters use the methods presented here to build upon previous research at the site in order to understand the development of great house communities in the Zuni region. In Chapter 5, I focus on the Village of the Great Kivas community, its origin, development, and collapse. Chapter 6 incorporates data from great house communities in the Zuni region (Barth Well and Badger Springs) and compares these to other Chacoan communities in the southern San Juan (see Chapter 2).
CHAPTER 5

CHACOAN COMMUNITIES AND VILLAGE OF THE GREAT KIVAS

Perched at the base of a prominent cliff above the Nutria River is the Village of the Great Kivas great house. Beginning in the mid-eleventh century numerous small sites were constructed around the great house, establishing the Village of the Great Kivas community, a cluster of residential sites distributed along the fertile floodplain of the Nutria River and its drainages. Although the area was not used prior to the A.D. 900s, during the Pueblo II period, this location became the center of an expansive Chacoan community.

This chapter summarizes the results of the Village of the Great Kivas community survey, addressing some of the major aims of this thesis presented in Chapters 1 and 2. The results of the Village of the Great Kivas community survey have implications for understanding the origins of the site and the nature of the great house. The placement of Village of the Great Kivas in an area with no previous occupation, along with its early dates, and emblematic architecture suggest that Village of the Great Kivas was one of the few scion communities in the southern San Juan. This chapter positions the Village of the Great Kivas community within the history and chronology of the great house, with the purpose of understanding the relationship between the two and the role of Village of the Great Kivas in the Zuni region.
This chapter also addresses the concept of Chacoan communities in the Zuni region, proposing that understanding the variety of sites surrounding great houses can serve to redefine our ideas about the development of outlying Chacoan communities and how local and regional histories intersected throughout the Chacoan world. The Village of the Great Kivas community survey documented two different types of residential sites: isolated roomblocks and residential complexes composed of multiple roomblocks. These sites, their locations and distance from the great house are all crucial for understanding the Village of the Great Kivas community. The construction and development of small sites in the Village of the Great Kivas community serves to illustrate major changes in the community’s focus and organization through time. In addition, changes in the layout of the Village of the Great Kivas community and a rapid depopulation of the area suggest that Chaco had a short and minimal effect in the Zuni region.

Yaeger and Canuto (2000) suggest that one of the most fundamental approaches to community-based studies is the ideational method, which examines a community in terms of its social identity and situational relations. For example, how local ideologies regulate community layouts, and how these shift over time. At the Chaco East community, researchers found evidence for a substantial shift in site function during the late 1000s, as the community shifted from an economic focus to a largely ritualistic one (Windes et al. 2000). Similar changes are described for Village of the Great Kivas in this chapter.

Over time, archaeologists have approached the concept of Chacoan communities from a number of different perspectives. One of the most recent, presented by Kantner and Mahoney (2000:11), contends that “the community would have been the fundamental
social unit in which Chacoan political, economic, and ritual behaviors were sustained and reproduced at the local level, regardless of the existence of a regional political authority.” 

Archaeologically, however, the definition of a Chacoan community has been based on a much humbler description. For example, in 1979 Marshall et al. presented the concept of communities as a cluster of great houses and great kivas surrounded by small houses.

Later, Breternitz and Doyel (1987) defined a community as a cluster of sites all expressing contemporaneity and often, some form of site hierarchy. While this approach has come to characterize Chacoan community studies (Lekson 1991) and drove the identification of many Chacoan communities, to date we have little information on Chacoan communities. In addition, community organization and structure around great houses is not yet well understood.

By community, I mean a group of people living in close proximity and interacting with one another on a regular, possibly daily, basis. This definition of community has long been used in the Southwest (e.g., Adler 2002; Kintigh 2003; Lipe 1970; Varien 1999), and follows Murdock’s (1949) and Murdock and Wilson’s (1972) structural-functionalist interpretation of community. I use this definition for two reasons. The first is that this thesis is not based on agent-centered models, but rather considers a community to be a spatial pattern of settlements whose proximity indicates interaction. Second, this thesis does not focus on the roots of Chacoan communities in the Zuni region. Although the Basketmaker and Pueblo I roots of outlying Chacoan communities are investigated, this study instead chooses to spotlight the Pueblo II period—a turbulent period of large-scale change in community function and layout in the Zuni region.

Together, these varying approaches to Chacoan communities all intersect on one
major idea: communities are spatial patterns of settlements whose close proximity suggests interaction between households and a community center (great house). This approach is similar to Adler’s (2002) definition of community, which incorporates the issue of spatialization. Spatialization refers to the notion that shared identity and interaction occur on a localized scale. Yet, spatialization also acknowledges that “spatial distance between households is not necessarily equivalent to social distance” (Adler 2002:28). In this thesis, this idea has allowed me to not only investigate the development of the community at Village of the Great Kivas, but also to investigate ties and interaction among outlying Chacoan communities in the Zuni region.

Gilpin (2003:173) has noted that Chacoan scholars have often used “the community concept as an interpretation of the settlement patterns observed on the ground.” Although this chapter does the same, it acknowledges that there are problems with approaching community studies in this manner (Fast 2011)—the Zuni area, and the southern San Juan region in general, is littered with archaeological sites. To this, Varien (1999:147) has offered a compromise: “small residences form larger clusters, with relatively empty areas between clusters” allow for cleared definitions of boundaries.

Nevertheless, we are left with one last snag: how do we define communities without clear boundaries? Mahoney and Kantner (2000) have demonstrated that archaeologists rarely investigate questions of Chacoan boundary maintenance. One issue related to Chacoan community boundaries is: do great house communities interact with only one great house, or do communities encompass multiple, interacting great houses (Fast 2011; Gilpin and Purcell 2000; Lipe et al. 2011; Mahoney 2000)? Although this question is tackled in Chapter 6, in this chapter I set the foundation for understanding
Chacoan great house communities in the Zuni region through an analysis of the Village of the Great Kivas community.

This chapter begins with a description of the great house at Village of the Great Kivas: what has been said before about it, its chronology, and how its reanalysis has shed light on its development. Next, I present descriptions of the community sites located within a one-mile block around the great house at Village of the Great Kivas. I then discuss how this community may have developed in the eleventh and twelfth centuries, and provide an overall chronology for the community based on the ceramic and GIS analysis described in Chapter 4.

**Dating the Village of the Great Kivas Great House**

The Village of the Great Kivas great house is an imposing feature in the Zuni region, and evidence that Chaco Canyon exerted some level of ceremonial or political influence in the southern San Juan. Roberts’ excavations at the great house in 1930 illustrated that the site was occupied sometime during the Pueblo II period, given its architecture and ceramic and tree-ring dates. In this section, I build upon the work of Roberts and others in order to develop a modern understanding of the Village of the Great Kivas great house and how the great house may relate to the development of the Village of the Great Kivas community.

The work of Roberts (1932) and Eckert et al. (2000) at the Village of the Great Kivas great house provide an opportunity to investigate the development of the great house and compare it to the construction, expansion, and abandonment of the Village of
the Great Kivas community. Eckert et al. offered a solid chronological sequence for the
great house based on mean ceramic dates. This chapter uses this chronology and
compares it to the mean ceramic dates and construction history developed here for the
Village of the Great Kivas community. In this section I describe what we know now
about the construction of the Village of the Great Kivas great house and what this means
for understanding the development of the Village of the Great Kivas community.

Roberts’ Four Stages

Roberts identified four stages of development during his excavations at the great
house in the summer of 1930. Although he was unable to pinpoint exact dates for these
four phases, Robert’s detailed stratigraphic and architectural analysis allowed him to very
accurately construct a growth sequence for the great house (House A). In his analysis
Roberts suggested that the great house had very humble beginnings, proposing that
originally, the great house was composed of thirteen rooms and two small kivas (Kivas A
and C).

Roberts argued that the great house took this form “for some time before the
construction of the western tier of rooms and the great kiva was undertaken” (Roberts
1932:31). Roberts illustrated additions to the great house during Stage II through floor
relations across the great house, investigating the level of the floors and the collection of
debris below the floor, seeing Stage II as a rapid and planned moment of construction
during which blocks of rooms were constructed throughout the great house. By the end of
Stage II, a total of nineteen rooms were present at the great house, along with two small kivas (Kivas A and C) and Great Kiva No. 1.

Stage III to Roberts was a time during which “considerable changes took place and the outward appearance of the structure was modified to a marked degree” (Roberts 1932:35). Seeing these changes as largely involuntary, Roberts stated:

“Evidence indicated that the stimulus for new constructional activity was the direct result of a calamity which descended, literally, upon the community. Several large boulders and a great amount of earth became dislodged and rolled down the talus slope, to crash against the rear wall of the building in the vicinity of kiva C and rooms 31, 40, and 43. That this occurred subsequent to the erection of the dwelling was shown by the fact that several inches of material containing ashes, charcoal, potsherds, and other refuse, underlay the mass of material which had come down the talus.” (Roberts 1932:35).

Following the abandonment of the rooms destroyed by the landslide, new additions were constructed in front of Kiva A and east of the great kiva. By the end of Stage III, the great house consisted of twenty-five rooms. At this time, Kiva C was abandoned and a new kiva, Kiva B, was constructed as its replacement. Overall, two small kivas were in use during this Stage III (Kivas A and B) and the great kiva.

The final configuration of the great house was reached during Roberts’ Stage IV. Construction during this period was focused on the east and west wings of the great house. Roberts suggests that thirty-one new rooms were constructed during this period, as the great house achieved its final form. Additionally, Roberts saw construction during Stage IV as irregular, haphazard, and rushed: “There is no question concerning the inferiority of their architecture, if such it may be called. The ground plan shows clearly the irregularity of the rooms, and the masonry in the wall was much poorer than that in the older portions of the building” (Roberts 1932:39).
Stage IV also saw the addition of four new small kivas: Kivas 1, 2, 3, and 4. Unlike previous small kivas, Kivas 1-4 were constructed away from the great house and undoubtedly had a function different from the blocked-in kivas. Roberts called these “subterranean dirt kivas,” a name that attests their unique qualities. To Roberts, these four kivas were “transitional,” marking the shift from circular kivas to rectangular ones (Roberts 1932:77). Nevertheless, these four kivas were all constructed in a roughly D-shape and contained simple features when compared to Kivas A, B, and C. Along with the continued use of Kivas A and B, a total of six kivas were in use throughout Stage IV. By the end of Phase IV a total of fifty-three rooms were in use at the great house.

One of the goals of the Village of the Great Kivas community survey was to reinvestigate Roberts’ development stages for the Village of the Great Kivas great house and propose absolute dates for each stage. Mean ceramic dates and date ranges for Stages I-IV were calculated by Eckert et al. (2000). Figure 5.1 presents the results of Eckert et al.’s study of the great house chronology, and provides a time line based on the mean ceramic dates for all four construction stages.

![Figure 5.1](image)

**Figure 5.1.** Date ranges for Robert’s four great house construction stages (based on Eckert et al. [2000]).
As part of their study, Eckert et al. estimated date ranges for each of Roberts’s four stages of construction. Table 5.1 presents these results. Ceramics indicate that the Village of the Great Kivas great house was occupied from the late A.D. 900s until the early 1200s, and probably no later than A.D. 1222 (Eckert et al. 2000). These dates illustrate that the Village of the Great Kivas great house was in use throughout much of the Chacoan occupation of Chaco Canyon. Following the abandonment of Chaco Canyon around A.D. 1150, the Village of the Great Kivas great house continued to be occupied and remodeled for some time.

Although the post-Chacoan (after A.D. 1150) occupation of the Village of the Great Kivas great house lasted for only half a century, changes at the great house and community suggest a withdrawal of Chacoan presence in the region. For example, Roberts’ Stage IV occupation of the great house (mean ceramic date A.D. 1135; Eckert et al. 2000) was characterized by an “irregularity” in construction (Roberts 1932:39), suggesting that the residents of Village of the Great Kivas in the mid-twelfth century did not possess the knowledge or resources to conduct Chacoan-style constructions.

Comparisons between the Village of the Great Kivas great house and its community form the core of this chapter. The date ranges reached by Eckert et al. for the Village of the Great Kivas great house suggest that great house construction and remodeling occurred over a period of two centuries. Community construction, on the other hand, appears to have been much more constrained, occurring during a short, hundred-year period. Mean ceramic dates demonstrate that community construction was underway by A.D. 1070, nearly seventy years after the construction of the Village of the Great Kivas great house. The data presented below does not explain what occurred during
the great houses’ early history: did it stand alone, or where there other small sites that lay undetected by recent surveys? Nevertheless, it is most likely that the Village of the Great Kivas great house sat alone in its lonely splendor for several decades before the construction of its first community site.

In the following sections, I describe the results of the Village of the Great Kivas community survey and efforts at dating community sites. The majority of community sites in the Village of the Great Kivas community were built during the late eleventh and early twelfth centuries, throughout the height of construction at Chaco Canyon, and about two generations after the Village of the Great Kivas great house was constructed. Ceramics from the Village of the Great Kivas community illustrate that both the great house and community were occupied contemporaneously in the eleventh through early thirteenth centuries.
Table 5.1. Ceramic data for Village of the Great Kivas great house (adapted from Eckert et al. 2000).

<table>
<thead>
<tr>
<th>Provenience</th>
<th>Sherd Count</th>
<th>Types Present</th>
<th>Date Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great House</td>
<td>180</td>
<td>18 Escavada B/w</td>
<td>A.D. 875-1300</td>
</tr>
<tr>
<td>All Proveniences</td>
<td></td>
<td>2 Gallup B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 Puerco B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 Red Mesa B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Red Mesa-Puerco B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>18 Reserve B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Reserve-Tularosa B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Tularosa B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Holbrook &quot;B&quot; B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Padre B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Reserve Corrugated Smudged</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Mesa Verde B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Woodruff Smudged</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Showlow B/r</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Showlow Red</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Showlow Red Smudged</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Tusayan B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Tusayan Polychrome B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Dogoszhi B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>21 Puerco B/r</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>27 Wingate B/r</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 Wingate Poly, Houck</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 Wingate Poly, Querino</td>
<td></td>
</tr>
<tr>
<td>Great House</td>
<td>7</td>
<td>4 Puerco B/w</td>
<td>A.D. 875-1200</td>
</tr>
<tr>
<td>Stage 1</td>
<td></td>
<td>1 Red Mesa B/w</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Puerco B/r</td>
<td></td>
</tr>
</tbody>
</table>
| Great House Stage 2 | 54 | 6 Escavada B/w  
|                    |    | 6 Puerco B/w  
|                    |    | 2 Red Mesa B/w  
|                    |    | 9 Reserve B/w  
|                    |    | 4 Reserve-Tularosa B/w  
|                    |    | 1 Tularosa B/w  
|                    |    | 1 Tusayan Polychrome B  
|                    |    | 6 Puerco B/r  
|                    |    | 7 Wingate B/r  
|                    |    | 4 Wingate Poly, Houck  
|                    |    | 8 Wingate Poly, Querino  
|                    |    | A.D. 875-1300  |

| Great House Stage 3 | 6 | 1 Escavada B/w  
|                    |   | 1 Reserve B/w  
|                    |   | 1 Showlow Red  
|                    |   | 1 Showlow Red Smudged  
|                    |   | 1 Puerco B/r  
|                    |   | 1 Wingate B/r  
|                    |   | A.D. 1000-1200  |

| Great House Stage 4 | 3 | 2 Puerco B/w  
|                    |   | 1 Mesa Verde B/w  
|                    |   | A.D. 1050-1250  |

**Village of the Great Kivas Community Sites**

Archaeological survey along the floodplain of the upper Nutria River recorded twenty-four archaeological sites belonging to the Village of the Great Kivas community. How these sites interacted with and their relation to the great house is crucial for understanding the role of Chacoan communities in the Zuni region. Here, I present the results of the Village of the Great Kivas community survey. Although the descriptions of
the community sites at Village of the Great Kivas provide an incomplete picture of the community that once existed at Village of the Great Kivas, the sites do begin to provide an image of the layout and density of Chacoan communities in the Zuni region.

This section focuses on residential sites found within the Village of the Great Kivas community. At the center of this discussion are sixteen residential sites. Although the Village of the Great Kivas community survey documented twenty-four archaeological sites, including eighteen multiple residences, three artifact scatters, and three simple features (Figure 5.2), only datable residential sites are included in the following descriptions. Dating these sites, using the methods outlined in Chapter 4, provides an opportunity to compare them to the Village of the Great Kivas great house and other dated Chacoan communities in the southern San Juan. These comparisons are presented in Chapter 6.
Figure 5.2. Site types in the Village of the Great Kivas community.
Site Descriptions

The Village of the Great Kivas community extends across the Nutria River valley. Residential sites are found along the Nutria River and several of its tributaries, in clear sight of the great house. Within the Village of the Great Kivas community, a typical habitation site contains one or more roomblocks and one or more associated middens and/or kivas. The roomblocks are linear, C-shaped, or L-shaped and range in size from one room to roomblocks containing nearly one hundred rooms. Additionally, a water control device was identified just south of the great house and was associated with an artifact scatter dating to the Pueblo II period.

Three clusters of residential sites were also located during the Village of the Great Kivas community survey. The first is a northern cluster of sites, which includes the Village of the Great Kivas great house and community sites 442, 443, 444, 448, 449, and 450. The second cluster is located towards the eastern boundary of the community. These sites include: 451, 452, 453, 454, 455, and 464. The third cluster is positioned south of the great house and includes sites 461, 462, and 463. In addition, two types of residential sites were encountered during the Village of the Great Kivas community survey. The first type is described as a multiple residence, characterized by a single roomblock containing one or more rooms. The second was a residential complex with associated roomblocks, which is characterized by a larger, central roomblock surrounded by smaller roomblocks.

The following site descriptions of the Village of the Great Kiva community focus on these two types of residential sites. The chronology of the community and the location
of community sites have implications for understanding the origins and development of Village of the Great Kivas as a whole. Here I provide a brief summary of each site, describing the size of each, the number of roomblocks present, its location relative to the great house, mean ceramic date, and the number of kivas present. Changes in the number of rooms and kivas present at community sites is important for tracking changes in community focus through time. These descriptions are similar to the Chacoan community descriptions presented in Chapter 2. In Chapter 6, Chacoan communities in the southern San Juan are compared and then contrasted against those in the northern San Juan.

These descriptions and the subsequent analysis presented in this chapter are directed by some of the research goals of this thesis. First, it was crucial to understand the origins of the Village of the Great Kivas community: was the Village of the Great Kivas great house constructed within an existing community, or was it built in an area that had not been recently inhabited? The answer to this question is central to understanding the identity of Chacoan great house builders. Second, what do small sites in the Village of the Great Kivas community tell us about its history of development? And third, how did Zuni populations in the Pueblo II period respond to Chacoan great house construction?

To answer these questions I look to the results of the Village of the Great Kivas community survey. The following section describes sixteen community sites located in the Village of the Great Kivas community. These are organized chronologically, based on mean ceramic dates developed for each community site. Ceramics suggest that the development of the Village of the Great Kivas community occurred over approximately an eighty year time period. In the following pages, community descriptions are divided
into four roughly equal phases of twenty years (see Table 5.2): Phase I (A.D. 1071-1091); Phase II (A.D. 1091-1111); Phase III (A.D. 1111-1131); and Phase IV (A.D. 1131-1152).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Years (A.D.)</th>
<th>Site No.</th>
<th>Mean Ceramic Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>1071-1091</td>
<td>NM:12:Y2:444</td>
<td>A.D. 1071</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:450</td>
<td>A.D. 1076</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:453</td>
<td>A.D. 1082</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:443</td>
<td>A.D. 1083</td>
</tr>
<tr>
<td>Phase II</td>
<td>1091-1111</td>
<td>NM:12:Y2:448</td>
<td>A.D. 1092</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:449</td>
<td>A.D. 1095</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:455</td>
<td>A.D. 1098</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:461</td>
<td>A.D. 1106</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:462</td>
<td>A.D. 1109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:442</td>
<td>A.D. 1110</td>
</tr>
<tr>
<td>Phase III</td>
<td>1111-1131</td>
<td>NM:12:Y2:454</td>
<td>A.D. 1112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:452</td>
<td>A.D. 1125</td>
</tr>
<tr>
<td>Phase IV</td>
<td>1131-1152</td>
<td>NM:12:Y2:464</td>
<td>A.D. 1134</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:463</td>
<td>A.D. 1135</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:451</td>
<td>A.D. 1138</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NM:12:Y2:447</td>
<td>A.D. 1152</td>
</tr>
</tbody>
</table>

*Phase I (A.D. 1071-1091)*

During the first phase of community construction in the Village of the Great Kivas community, four small sites were constructed. The construction of these sites, which are clustered around the great house, began to form a northern cluster of community sites in close proximity to the great house and a large, flat span of the Nutria River floodplain.
Located in the northwest portion of the Village of the Great Kivas community, about one kilometer northwest of the great house, Site NM:12:Y2:444 sits along an unnamed drainage flowing into the Nutria River (Figure 5.3). The site is represented by a single roomblock measuring 18 meters north to south by 24 meters east to west, and an associated surface scatter of ceramics, flaked stone, and ground stone artifacts. Given the size of the structure and surface architecture, an estimated ten to twelve rooms are present in the roomblock. The surface ceramic assemblage includes Cibola White Ware, Cibola Gray Ware, and White Mountain Red Ware, representing a mean ceramic date of A.D. 1071. This date indicates that Site 444 was one of the first sites to be constructed in the Village of the Great Kivas community.
Figure 5.3. NM:12:Y2:444 site sketch.

NM:12:Y2:450

A mean ceramic date of A.D. 1076, places Site NM:12:Y2:450 within Phase I of community development (Figure 5.4). The site is positioned half a kilometer northeast of the great house, at the base of a talus slope overlooking the Nutria River valley. As one of the north-easternmost habitation sites in the Village of the Great Kivas community, Site 450 consists of four roomblocks with a possible total of twenty-three to thirty rooms and
a single midden. Overall, the site measures 106 by 80 meters, making it one of the largest in the Village of the Great Kivas community.

Figure 5.4. NM:12:Y2:450 site sketch.
Also belonging to Phase I is Site NM:12:Y2:453, a multiple residence site containing six to eight rooms (Figure 5.5). The site is located about a kilometer southeast of the great house along the eastern bank of the Nutria River. Situated within a cluster of residential sites that were constructed during later construction phases, Site 453 consists of a single roomblock, kiva, and midden. The presence of White Mound Black-on-white, Gallup Black-on-white, Escavada Black-on-white, Red Mesa Black-on-white, Reserve Black-on-white, and Wingate Black-on-red indicate a mean ceramic date of A.D. 1082.

Figure 5.5. NM:12:Y2:453 site sketch.
The final site to belong to the first phase of community construction is Site NM:12:Y2:443, a multiple residence site containing ten to fifteen rooms (Figure 5.6). The site is located just east of Site 444, about a kilometer northwest of the Village of the Great Kivas great house. The site is positioned just above an unnamed drainage that flows into the Nutria River. Consisting of a single roomblock and a midden area, Site 443 measures 64 by 44 meters. The assemblage of surface ceramics at the site indicates a mean ceramic date of A.D. 1083.

Figure 5.6. NM:12:Y2:443 site sketch.
Phase II (A.D. 1091-1111)

Phase II saw the construction of six new residential sites. Generally, these sites are found closer to the Village of the Great Kivas great house and in a residential cluster of sites east of the Nutria River. Construction in the northern end of the Village of the Great Kivas community, located near the great house, ended in Phase II. Sites constructed during Phases III and IV are found in the southern and eastern portions of the community, at a distance from the great house.

**NM:12:Y2:448**

Site NM:12:Y2:448 is situated at the base of a mesa, about half a kilometer northwest from the Village of the Great Kivas great house (Figure 5.7). A mean ceramic date of A.D. 1092 places the site within the second phase of community construction. As one of closest community structures to the great house, Site 448 contains a single linear roomblock measuring 50 meters southwest to northeast by 25 meters northwest to southeast. Surface architecture suggests that four to six rooms are present in the roomblock. In addition to being located near the great house, the site is positioned in the northern portion of the Village of the Great Kivas community, an area that by the end of Phase II saw the construction of all of its sites.
Located in the northeast portion of the Village of the Great Kivas community, about 200 meters northeast of the great house, Site NM:12:Y2:449 sits along an unnamed drainage flowing into the Nutria River (Figure 5.8). The site is characterized as a residential complex with associated roomblocks site, and contains three linear roomblocks with a possible room total of twenty-three to twenty-seven rooms. The assemblage of surface ceramics at the site indicates a mean ceramic date of A.D. 1083.
Figure 5.8. NM:12:Y2:449 site sketch.

NM:12:Y2:455

Site NM:12:Y2:455 is situated along the arroyo edge of the Nutria River (Figure 5.9). It is located in the cluster of community sites that together make up the eastern boundary of the community, although community sites may extend beyond this. Located
about a kilometer from the Village of the Great Kivas great house, the site consists of a single linear roomblock containing two to three rooms. With a ceramic assemblage containing Red Mesa Black-on-white, Gallup Black-on-white, Escavada Black-on-white, Reserve Black-on-white, Wingate Black-on-red, and Indented Corrugated, Site 455 has a mean ceramic date of A.D. 1098.

**Figure 5.9.** NM:12:Y2:455 site sketch.
**NM:12:Y2:461**

A mean ceramic date of A.D. 1106, places Site NM:12:Y2:461 within Phase II of community development (Figure 5.10). The site is positioned about two kilometers south of the great house, along a small ridge overlooking the Nutria River floodplain. The site consists of a single linear roomblock measuring 6 meters north to south by 5 meters east to west. Three to four rooms are present in the roomblock. The site is located in the southern portion of the Village of the Great Kivas community, belonging to a small cluster of four sites that occupy the floodplain of a unnamed river drainage.

![Figure 5.10. NM:12:Y2:461 site sketch](image-url)
NM:12:Y2:462

Site NM:12:Y2:462 is located about 200 meters southeast of Site 461 (Figure 5.11). It is positioned about two kilometers south of the Village of the Great Kivas great house, along a small ridge overlooking the Nutria River floodplain. The site consists of a multiple residence with an associated surface scatter of ceramics, flaked stone, and ground stone artifacts. The ceramic assemblage indicates a mean ceramic date of A.D. 1109. At the site two features were identified. The first is a linear roomblock measuring 13 meters north to south by 15 meters east to west, containing ten to twelve rooms. The second is a kiva with a diameter of 4.5 meters, with a depth of at least 40 centimeters. The site is located in the southern portion of the Village of the Great Kivas community and belongs to the same cluster of residential sites as Site 461.
The final site to belong to the second phase of community construction is Site NM:12:Y2:442, a residential complex with associated roomblocks site containing twelve to nineteen rooms (Figure 5.12). Located in the northwest portion of the Village of the Great Kivas community, about half a kilometer northwest of the great house, the site sits along an unnamed drainage flowing into the Nutria River. The site is represented by a
two roomblocks and an associated surface scatter of ceramics, flaked stone, and ground stone artifacts. Site 442 was the last site to be constructed in the northern, great house portion of the Village of the Great Kivas community. Construction in the following phases was directed towards the southern and eastern areas of the community.

Figure 5.12. NM:12:Y2:442 site sketch.
Phase III (A.D. 1111-1131)

Two sites were built during the third phase of construction at the Village of the Great Kivas community. These sites were constructed away from the great house in an cluster of community sites that together define the eastern boundary of the community. During this time, the Village of the Great Kivas community saw the construction of some of its largest community sites. Although only two sites were constructed during Phase III, this period observed the greatest amount of growth in regards to room and kiva number.

**NM:12:Y2:454**

Located in the eastern portion of the Village of the Great Kivas community, about one kilometer southeast of the great house, Site NM:12:Y2:454 sits along the eastern arroyo edge of the Nutria River (Figure 5.13). Situated in an eastern cluster of community structures, the site is represented by six roomblocks, four kivas, five middens, and an associated surface scatter of ceramics, flaked stone, and ground stone artifacts. As the largest site to be constructed in the Village of the Great Kivas community, the site contains an estimated 110 rooms. Site 454 has the largest number of kivas in the community, second only to the Village of the Great Kivas great house. Kivas are associated with specific roomblocks, with the largest roomblock at Site 454 incorporating two kivas. The ceramic assemblage at the site indicates a mean ceramic date of A.D. 1112.
Figure 5.13. NM:12:Y2:454 site sketch.

NM:12:Y2:452

A mean ceramic date of A.D. 1125, places Site NM:12:Y2:452 within Phase III of community development (Figure 5.14). The site is positioned about one kilometer southeast of the great house, along a small ridge overlooking the Nutria River floodplain. The site belongs to an eastern cluster of community sites that together define the eastern
boundary of the Village of the Great Kivas community. The site consists of a single linear roomblock with a scatter of ceramics, flaked stone, and ground stone artifacts. Given the size of the structure and surface architecture, an estimated thirty to forty rooms are present in the roomblock. The surface ceramic assemblage includes Cibola White Ware, Cibola Gray Ware, and White Mountain Red Ware, indicating that Site 452 was the last site to be constructed during the third phase of construction in the Village of the Great Kivas community.

Figure 5.14. NM:12:Y2:452 site sketch.
**Phase IV (A.D. 1131-1152)**

Phase IV saw the construction of four new residential sites. All of these sites are found south of the Village of the Great Kivas great house towards the center and southern portions of the community. These sites complete construction at the eastern and southern clusters of residential site, where construction began during late Phase I. Consisting of relatively large roomblocks sometimes associated with large middens and kivas, these sites represent the final construction of community sites at Village of the Great Kivas.

**NM:12:Y2:464**

Located in the southeast portion of the Village of the Great Kivas community, about two kilometer southeast of the Village of the Great Kivas great house, Site NM:12:Y2:464 sits along the eastern arroyo edge of the Nutria River. Situated in the eastern cluster of community structures, the site is represented by a single roomblock and an associated surface scatter of ceramics, flaked stone, and ground stone artifacts. Given the size of the structure and surface architecture, an estimated four to six rooms are present in the roomblock. The surface ceramic assemblage includes Cibola White Ware, Cibola Gray Ware, and White Mountain Red Ware, representing a mean ceramic date of A.D. 1134. This date indicates that Site 464 was one of the first sites to be constructed in the fourth phase of construction in the Village of the Great Kivas community.

Unfortunately, no site map is available for NM:12:Y2:464.
NM:12:Y2:463

A mean ceramic date of A.D. 1135, places Site NM:12:Y2:463 within Phase IV of community construction (Figure 5.15). The site is positioned about two kilometers south the Village of the Great Kivas great house, along a relatively flat portion of the Nutria River valley. As one of the southernmost sites in the Village of the Great Kivas community, Site 463 is a residential complex with associated roomblocks site. The site consists of four features. Feature one is a linear roomblock containing approximately ten rooms. The second feature is a smaller roomblock containing about two rooms. Feature three is a midden and Feature four is a kiva located about a meter east of the roomblock.

Figure 5.15. NM:12:Y2:463 site sketch.
NM:12:Y2:451

Site NM:12:Y2:451 is a multiple residence site located about a kilometer south of the Village of the Great Kivas great house (Figure 5.16). Sitting at the edge of an arroyo overlooking the Nutria River, Site 451 consists of a single linear roomblock containing about eight rooms. A mean ceramic date of A.D. 1138 indicates that the site was one of the last to be constructed in the eastern cluster of community sites. The site is located at the eastern edge of this community cluster, constructed directly on the Nutria River floodplain.

Figure 5.16. NM:12:Y2:451 site sketch.
NM:12:Y2:447

The final site to belong to the fourth phase of community development, and the last site to be constructed in the Village of the Great Kivas community is Site NM:12:Y2:447, a multiple residence with associated roomblocks site (Figure 5.17). The site consists of three roomblocks, two kivas, and two midden areas. Given the size of the three structures and surface architecture, an estimated thirty-five rooms are present at the site. Kivas at the site are associated with the two largest roomblocks. The site is located at the center of the Village of the Great Kivas community, and is the only residential site to have occupied this central position. About half a kilometer from the great house, the construction of this site may indicate a shift in the focus of the Village of the Great Kivas community following the collapse of Chaco around A.D. 1150. A mean ceramic date of A.D. 1152 suggests that this site was among the last to be constructed in the community.
Village of the Great Kivas Community Development

Ceramic dates provide an exceptional picture of the century of growth, development, and abandonment in the Village of the Great Kivas community (Figure 5.18). This section summarizes the results of the Village of the Great Kivas community survey, while addressing some of the major research goals of this thesis. This chapter has focused on understanding the Village of the Great Kivas community and what the site can tell us about Chacoan communities in the Zuni region. In Chapter 6, the Village of the Great Kivas community is compared to other great house communities in the southern
San Juan region, illustrating some of the major similarities and differences between Chacoan communities on the southern frontier of the Chaco world.

Although the goals of this study have been detailed in the previous chapters, some of the specific goals driving research at the Village of the Great Kivas community should be highlighted. One of the major aims of this thesis was to understand the origin and development of the Village of the Great Kivas great house and community: was the Village of the Great Kivas great house constructed within a preexisting community, and when was the community abandoned?
Figure 5.18. Development of the Village of the Great Kivas community. (Yellow: Phase I; green: Phase II; blue: Phase III; brown: Phase IV; red: great house.)
Also of importance to understanding the Village of the Great Kivas site are the community sites located along the Nutria River and its tributaries. The community survey documented two different types of residential sites. These sites, their locations and distance from the great house all have implications for understanding the development of Chacoan communities in the Zuni region and the nature of Chaco Canyon in the southern San Juan. The notion that early community construction was concentrated around the Village of the Great Kivas great house illustrates that the initial focus of the community was the great house. During the second half of community construction, large community sites were constructed at a distance from the great house, particularly in residential clusters along the eastern and southern portions of the community. The construction of these sites moved the residential focus of the community away from the great house towards the center of the community and the fertile floodplain of the Nutria River. Here I summarize these changes while describing the origin, development, and layout of the Village of the Great Kivas community.

*Community Origin*

Understanding the origin and beginnings of the Village of the Great Kivas site is central for explaining the relationship between Chaco Canyon and the southern San Juan region. Exploring the origins of the Village of the Great Kivas great house also has implications for determining who built these structures. If the Village of the Great Kivas great house was built within an existing community, local populations are most likely to
have undertaken construction. However, if the great house was built in an area lacking previous occupation, we may consider the role of outsiders in its construction.

The Village of the Great Kivas community survey found a relatively aggregated community of small sites along the upper Nutria River and some of its major drainages and tributaries. These sites were constructed and occupied predominately during the Pueblo II period. Mean ceramic dates from the community suggest that construction began in the mid-A.D. 1000s and continued until the mid-A.D. 1100s, as construction in Chaco Canyon came to a halt.

At the Village of the Great Kivas site, ceramic evidence demonstrates that construction at the great house began during the late A.D. 900s. Eckert et al. (2000) argue that the great house continued to be occupied and remodeled up until the early thirteenth century when it was abandoned. Although it is uncertain how long after the great house was constructed when the first community site was built, it is significant that the majority of small sites were constructed after A.D. 1000 and overlap with the period when the Village of the Great Kivas great house was built and occupied.

The Village of the Great Kivas community survey did not document evidence of human occupation prior to the Pueblo II period. Rather, occupation in the area around the Village of the Great Kivas site began with the construction of the great house in the late A.D. 900s. As discussed in Chapter 2, Breternitz et al. (1982) believe that scion communities were established as colonies during the height of the Chaco era, contending that they were composed of populations that separated from older, ancestral communities. In the Zuni region, Village of the Great Kivas represents one of the earliest and most
representative examples of Chacoan-style construction, suggesting that its builders came from somewhere beyond the Zuni region.

Community Development

The results presented in this chapter offer significant insights into great house community organization in the Zuni region during the Pueblo II period (Table 5.3). Ceramics indicate that construction in the Village of the Great Kivas community began during the mid-eleventh century. Over the next century, small sites were constructed along the Nutria River and its drainages. In the early decades of the eleventh century, Village of the Great Kivas was composed of three structures: the great house, House B, and House C (Eckert et al. 2000; Roberts 1932: 156). Mean ceramic dates suggest that construction away from these structures, in the Village of the Great Kivas community, most likely began around A.D. 1070. By A.D. 1100, an additional six habitation sites were constructed around the great house adding approximately 158 rooms to the community. In the following century—up until about A.D. 1150—nine more residential complexes were constructed, marking the largest construction phase seen at the site.

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Mean Ceramic Date (A.D.)</th>
<th>Site Type</th>
<th>Site Size (sq. meters)</th>
<th>No. of Rooms</th>
<th>No. of Kivas</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM:12:Y2:444</td>
<td>1071</td>
<td>Habitation: multiple residence</td>
<td>2816</td>
<td>10-15</td>
<td>0</td>
</tr>
<tr>
<td>NM:12:Y2:450</td>
<td>1076</td>
<td>Habitation: multiple residence</td>
<td>1504</td>
<td>10-12</td>
<td>0</td>
</tr>
<tr>
<td>NM:12:Y2:453</td>
<td>1082</td>
<td>Habitation: residential complex with associated community</td>
<td>1435</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>NM:12:Y2:443</td>
<td>1083</td>
<td>Habitation: multiple</td>
<td>12642</td>
<td>10-15</td>
<td>0</td>
</tr>
</tbody>
</table>
The first phase of community development saw the construction of small sites in the northern part of the Village of the Great Kivas community (Figure 5.19). Located near the Village of the Great Kivas great house, these sites were relatively small, often composed of a single roomblock containing eight to fifteen rooms. During this period four small sites were constructed. Although none of these small sites displayed evidence of kiva construction, kivas were present at the Village of the Great Kivas great house.

During the second phase of community construction six new sites were added to the Village of the Great Kivas community (Figure 5.20). Much like Phase I, many of these sites were constructed in the northern portion of the community, near the great...
house. Small sites, however, do begin to occur beyond this portion of the community during Phase II, and are constructed in the eastern and southern ends of the community, where they begin to form distinct community clusters. Throughout Phases III and IV, small site construction is focused in these areas of the community. Phase II sites constructed near the great house again are relatively small, usually incorporating a single roomblock containing fifteen rooms. Beginning with the height of construction in Chaco Canyon, around the early twelfth century (Lekson 1984), noticeably larger sites appear in the eastern and southern ends of the community. These sites are larger, and in the case of Site 462, include kiva structures. By the conclusion of Phase II, seventy-one rooms were added to the Village of the Great Kivas community.

The third phase of community construction introduced a new form of community organization (Figure 5.21). During this period, sites are constructed away from the great house, and small site clusters begin to form in the eastern and southern ends of the community. Generally, these sites are large residential sites with associated roomblocks. Relating to the height of construction at Chaco Canyon, Phase III construction was the largest seen at the Village of the Great Kivas community, totaling at over 150 rooms and four kivas. Two small sites were constructed during this period. Site 454 was comprised of six roomblocks, 110 rooms, and four kivas. Containing almost double the amount of rooms excavated by Roberts at the great house, Site 454 may represent a transition in the focus of the community in the early A.D. 1100s. Site 452 was found to contain a single roomblock with approximately thirty to forty rooms.

The final phase of community construction dates from about A.D. 1131 to A.D. 1152. During this period small sites continue to be constructed away from the great house,
focusing in the southern and eastern portions of the Village of the Great Kivas community (Figure 5.22). Four sites were constructed during this period, adding sixty-one rooms and one kiva to the community. Site 447 is interesting here not only because of its size but also because it was the first site to occupy a central position in the community. At the site, three roomblocks are present, containing thirty-five rooms and two kivas.
Figure 5.19. Phase I community sites (A.D. 1071-1091).
Figure 5.20. Phase II community sites (A.D. 1091-1111).
Figure 5.21. Phase III community sites (A.D. 1111-1131).
Figure 5.22. Phase IV community sites (A.D. 1131-1152).
Changes in room number and kiva number and their distribution in the Village of the Great Kivas community suggest important transitions in the focus of the community through time. These shifts also illustrate how the Village of the Great Kivas community grew and expanded throughout the eleventh and twelfth centuries. During the height of Chacoan construction in the Chaco Canyon (Phases II and III) construction in the Village of the Great Kivas community soared (Figure 5.23). By the end of Phase III, construction in the Village of the Great Kivas community changed. While fewer sites were construction during late Phase III and Phase IV times, these small sites were significantly larger, containing more roomblocks and more kivas.

![Figure 5.23. Changes in room, kiva, and site frequency through time at the Village of the Great Kivas community.](image)

**Community Layout**

The organization and layout of Chacoan communities has much to tell us about the role of Chaco Canyon in the Zuni region. As shown in Chapter 2, archaeologists have
approached Chacoan community formation and organization a number of different ways. Within individual communities, distance between small sites and great house structures has been seen as an indicator of community integration and a measure of Chacoan social and political control (Windes et al. 2000:49). At the Village of the Great Kivas community, changes in community layout and a gradual distancing of community sites from the great house suggest that Chaco had a short and minimal effect in the Zuni region.

Initially, the construction of small sites in the Village of the Great Kivas community appears to have been directed by the location of the great house and areas of prime farmland. Early sites constructed in the Village of the Great Kivas community (Phase I and early Phase II sites) were clustered around the great house. These sites were generally small, multiple residence sites comprised of small middens and no kivas. During late Phase II times, small sites are found about one to two kilometers away from the Village of the Great Kivas great house. These sites are usually large, multiple residence with associated roomblocks sites. Often incorporating larger middens and numerous kivas, Phase III and IV sites while still belonging to the Village of the Great Kivas community, seem to have had some form of social control. This is evident not only in the distance between these sites and the great house, but also the scale of these sites. Site 454, for example, contained over 110 rooms, almost double the number of rooms present in the Village of the Great Kivas great house.

The layout of the Village of the Great Kivas great house also appears to have been restricted geographically. Similar to Chimney Rock, topographic features on the landscape such as arroyos, drainages, mesas, and the Nutria River valley constrained the
Village of the Great Kivas community. This is seen in the eastern cluster of small sites, which are located at the base of the arroyo edge of the Nutria River.

Overall, the presence of early, smaller sites near the great house and later, larger sites away from the great house suggests that a transition in the community focus at Village of the Great Kivas was underway by the early A.D. 1100s. During the A.D. 1130s and 1150s only larger, multiple residences with associated community sites were constructed. These sites shifted the residential and presumably social focus of the Village of the Great Kivas community away from the great house and towards small site clusters in the eastern and southern portions of the community.

However, not all great house communities in the Zuni region experienced similar changes. In Chapter 6, I introduce the results of two other Chacoan community surveys conducted by Zuni Cultural Resource Enterprise. The great house communities encountered in these areas display a very different form of community development, rooted in differences in the origins of these Chacoan communities. These results suggest that Village of the Great Kivas was one of the first great house constructions in the Zuni region and set the stage for later Chacoan-style constructions.

Summary

Over eighty years have past since Roberts’ excavations at the Village of the Great Kivas site. Since this time, archaeologists have speculated about the role of Village of the Great Kivas in the Chacoan world (Schachner 2008:191) and its lack of small sites found around many outlying great houses in the Four Corners region (Kintigh 1996; Powers
Chapters 2 and 3 illustrated that this situation does not only apply to Village of the Great Kivas; archaeologists still know little about Chacoan communities in the southern San Juan, particularly in the Zuni region.

This chapter has presented the results of an archaeological survey conducted by Zuni Cultural Resource Enterprise at the Village of the Great Kivas community. It began with a summary of Roberts’ 1930 excavations at the great house and how his original interpretations have changed over the past decade. This summary set the basis for comparisons to the Village of the Great Kivas community. The construction of the Village of the Great Kivas community was found to overlap with the period when the Village of the Great Kivas great house was built and occupied.

Descriptions of the small sites found in the Village of the Great Kivas community were then provided. These descriptions focused on the size, location, and mean ceramic dates of community sites. Ceramics recorded during the Village of the Great Kivas community survey provided an exceptional picture of the century of growth, development, and abandonment in the Village of the Great Kivas community. In the concluding sections of this chapter, I examined the origins, development, and layout of the community, arguing that understanding the array of sites surrounding great houses is essential for understanding the development of outlying Chacoan communities.

In the following chapter, the data presented here is used as a stepping-stone for investigating Chacoan communities in the Zuni region and beyond. Chapter 6 presents the results of archaeological surveys conducted by Zuni Cultural Resource Enterprise in the Barth Well and Badger Springs areas. The history of development and the timing of Chacoan-style construction in these areas have major implications for understanding the
Pueblo II period in the Zuni region. Together, these great house communities contend that we need to perceive of Chacoan communities as parts of larger movements that are embedded within local histories and traditions.
CHAPTER 6

GREAT HOUSE COMMUNITIES IN THE ZUNI REGION

During the eleventh and twelfth centuries, much of the northern Southwest was a landscape of Chacoan great houses. Across the bluffs and dunes of the San Juan Basin, Ancestral Puebloans built Chacoan-style architecture in nearly a hundred great house communities. The collapsed remains of some outlier great houses—such as Gonzalez Well and Bosson Wash—form mounded annals of a once dynamic past. Enclosing these great houses is usually a surrounding community of small, domestic sites (Fowler et al. 1987; Marshall et al. 1979; Powers et al. 1983).

The Zuni region, particularly during Chaco’s heyday (A.D. 1020-1100), participated in these events, observing the construction of multiple great house communities across its countryside. Architecture and ceramics bond theses great house communities across the Chacoan landscape. Although the construction of Chacoan communities, such as Village of the Great Kivas, occurred relatively early in Chaco’s history (Van Dyke 2007; Vivian 2005), we still know little about the people who erected these structures, their role in local settings, and the degree to which local history directed Chacoan developments.

This chapter is about great house communities in the Zuni region. Chapter 5 focused on just one of these communities, Village of the Great Kivas, and provided a
foundation for identifying commonalities and assessing the variability of Chacoan communities in the northern San Juan and Zuni regions, and the role that a single great house community played in its local and regional context.

Regional and local perspectives concerning the Zuni region are drawn from great house community comparisons presented in Chapter 2. This chapter begins locally by providing a sketch of what we know about Chacoan great houses in the Zuni region. It then illustrates how recent surveys conducted in the Barth Well and Badger Springs areas of the Zuni Reservation (Figure 6.1) have expanded our knowledge of the Chacoan era in the Zuni region. Archaeological surveys in both areas documented expansive residential communities accompanying several Chacoan great houses.

The survey data presented in this thesis from the Badger Springs (Appendix A) and Barth Well (Appendix B) areas are then compared to great house communities in the southern San Juan, including Village of the Great Kivas. These comparisons demonstrate that the Zuni region shared histories of great house community development and abandonment, suggesting that local traditions triumphed over Chacoan ones during the late Pueblo II period. The final portion of this chapter contrasts the southern San Juan, specifically the Cibola region, with the Chaco era developments of the northern San Juan. Both regions, illustrate that Chaco’s “Big Idea” was continually contested and negotiated against a backdrop of migration, history, and tradition.
While this chapter goes beyond Village of the Great Kivas by investigating great house community construction in the southern San Juan region, it is directed by some of the major aims of this thesis. First, it endeavors to understand how residential settlements are distributed with respect to Chacoan structures. As with the Village of the Great Kivas community, this chapter argues that is no simple answer to this question. To this, Kintigh (1996:135) has stated: “Were the outliers located within existing, dispersed clusters of pueblos or did they ‘attract’ settlements to a general area? Alternatively, were the outliers isolated, did they ‘repel’ local settlement, or was there no evident relationship?” This
remains one of the largest unanswered questions in the Chacoan archaeology of the Zuni region.

At Village of the Great Kivas, the great house appears to have attracted residents of small sites during the first half of its construction history. By A.D. 1100, residents at the Village of the Great Kivas community began to move away from the great house, constructing large roomblocks, sometimes containing over one hundred rooms, one to two kilometers away from the great house. Great house communities in the Barth Well and Badger Springs areas display a different form of community organization. The differences between these two areas and the Village of the Great Kivas community lies, in part, with the origins of the community and associated great house. As areas documented with long, deep histories of occupation, Barth Well and Badger Springs suggest that we need to reverse this question to: how did residential settlements attract Chacoan great houses?

In addition to the origin of great house communities, this chapter contends that three other factors shaped Chacoan community development in the Zuni region: historical events, timing, and the proximity to arable land. Each of these factors is explored in this chapter and accounts for many of the differences seen between great house communities in the Zuni region. In Chapter 5, great house origins, timing, and proximity to arable land were all found to be influential factors in the development of the Village of the Great Kivas community. Given the lack of occupation in the area prior to the construction of the Village of the Great Kivas great house, historical events played a marginal role in the development of the Village of the Great Kivas community.
The comparison of great house communities in the Zuni region and beyond (southern and northern San Juan) revolves around a singular question: how unified were Chacoan developments in the Zuni region? This chapter demonstrates that while there are some notable similarities between great house communities in the northern and southern San Juan, there are also differences. The differences between great house communities across the Chaco regional system suggests that although regional (Chacoan) influences directed outlying great house community construction, local influences had to be dealt with. Chacoan communities in the Zuni region, for example, continued the tradition of great house construction that began in the northern San Juan and San Juan Basin regions. Much like these communities, many Pueblo II communities were centered around Chacoan great houses that likely served both residential and integrative purposes. Region-wide developments during the late Pueblo II and Pueblo III periods, however, significantly reinterpreted this idea, leading to the formation of post-Chacoan communities and the later proto-Historic plaza-centered villages (Cameron and Duff 2008; Kintigh 1985, 1994; Kintigh et al. 1996).

The Zuni Chacoan Landscape

Scattered across the Zuni landscape are great house communities that inhabited the southern fringe of the Chacoan world. Recent archaeological surveys on the Zuni Reservation have documented three great houses communities at Village of the Great Kivas and in the Badger Springs and Barth Well areas. Before examining Chacoan communities in the Barth Well and Badger Springs areas, I describe known great houses
in the Zuni region, focusing on Gonzalez Well and Bosson Wash. While the quality of reporting at these sites varies considerably, they provide an important context for understanding great house communities in the Zuni region.

**Gonzalez Well Great House**

About seven miles north of modern day Zuni Pueblo lies Gonzalez Well (LA 49192), a multistory U-shaped Chacoan great house (Figure 6.2). First recorded by T. J. Ferguson in 1984, the site consists of a great house, two smaller rubble mounds, and a midden area (Fowler et al. 1987). Constructed upon the east edge of a mesa overlooking a wide valley and Bosson Wash, the Gonzalez Well great house was constructed in an east-west orientation and incorporated two blocked-in kivas. Surface ceramics suggest that the great house was constructed in the last part of the eleventh century and occupied until the early twelfth century. Although no community is known to exist around Gonzalez Well, the area has never been intensively investigated.

**Bosson Wash Great House**

On the east side of a ridge overlooking Bosson Wash and Zuni Twin Buttes lies the Bosson Wash great house (Figure 6.2). First recorded by the Anasazi Monuments Project (Fowler et al. 1987), the Bosson Wash great house is a single-story U-shaped structure oriented in an east-west direction. No great kiva appears to be present at the site; however two roads and a berm are most likely present (Fowler et al. 1987). Although
Pueblo I ceramics such as neckbanded grayware and Whitemound or Kiatuthlanna Black-on-white are present at the site, the great house was most likely constructed during the Pueblo II period, and is roughly contemporaneous with the Gonzalez Well great house (Fowler et al. 1987). Gallup Black-on-white, Escavada Black-on-white, and Red Mesa Black-on-white dominate the Pueblo II ceramic assemblage. In 2005 the Zuni Chacoan Period Communities Project conducted an archaeological survey of the area around the Bosson Wash great house; these results are presented below.

Figure 6.2. Location of Bosson Wash and Gonzalez Well great houses.
The Zuni Chacoan Period Communities Project

Although all great house communities contain some kind of Chacoan-style architecture, they are remarkably variable in terms of great house sizes and numbers, great kiva numbers and locations, and configurations of earthworks and roads. Surface ceramics and architecture suggest that in some instances—as at Andrews, Casamero, and Navajo Springs—Chacoan great houses were erected in existing communities. At other times, as seen at Village of the Great Kivas, people constructed new outlying great houses in previously unoccupied places.

This section presents the results of two recent surveys conducted by Zuni Cultural Resource Enterprise in 2005 on the Zuni Reservation. As part of the Zuni Chacoan Period Communities Project, which developed in the wake of investigations at Village of the Great Kivas, Zuni Cultural Resource Enterprise had the opportunity to intensively survey the Badger Springs and Barth Well areas of the Zuni Reservation. The results of these surveys demonstrate that a wide range of relationships existed between the Zuni region and Chaco Canyon.

The Barth Well and Badger Springs surveys documented long histories of occupation beginning in early Basketmaker times. As with other outlying great house communities such as Andrews, these communities may have originally been more insular, unattached to the Chaco regional system (Van Dyke 2007). Beginning in the eleventh century, when these communities decided or were lured into events at Chaco Canyon, locals or outsiders erected great houses. At scion communities, such as Village of the
Great Kivas, people from Chaco Canyon or other outliers who were intimately part of Chaco, established great houses (Gilpin 2003).

In the pages that follow, I describe the Badger Springs and Barth Well surveys, discussing the sites encountered in each area while illustrating the development and layout of each area’s great house communities. Although the survey data available for the Badger Springs and Barth Well areas are not as exhaustive as those presented in Chapter 5, the following discussion paints a broad picture of great house communities in the Zuni region.

Because the origins of outlying great house communities has major implications for understanding the role these communities played in the Chaco regional system and their layout and organization, my discussion of each area begins in Pueblo I times. In Barth Well and Badger Springs, great house communities remain unchanged from the Pueblo I to early Pueblo III period. These persistent communities illustrate the importance of historical events, timing, and proximity to arable lands in the formation of great house communities in the Zuni region. The Pueblo II period saw the construction of great houses in these areas along several unnamed buttes and mesas. Developments during the Pueblo III period are also presented in this section for each area. Similar events at great house communities during Pueblo III times in the Zuni region show how Chacoan communities in the region underwent comparable changes just before and after they were abandoned. Overall, these changes suggest that the influence of Chaco Canyon in the Zuni region was minimal and brief, leaving few lasting effects in the region.
Tucked away in the Bosson Wash Valley, obscured by a range of mesas and buttes, is the Badger Springs survey area. Located just northwest of Zuni Pueblo, along the base of the Zuni Twin Buttes, the Badger Springs area is crosscut by Bosson Wash, a tributary to the Zuni River. Relatively broad in this area, the Bosson Wash Valley extends over much of the survey area. To the west of the survey area is an assortment of talus slopes and mesas, which overlook much of the modern-day Zuni Reservation. Overall, two major topographic areas exist in the survey area, with the eastern portions of the project area being the most diverse. The western half of the survey area is located along Bosson Wash, a relatively flat valley bottom well suited for agriculture.

The Badger Springs area was an important place in the Zuni region since Basketmaker times. An archaeological survey by Zuni Cultural Resource Enterprise in 2005, centered upon the Bosson Wash great house, documented several large pithouse communities in the area. The Pueblo I period, however, marked a dramatic increase in population and site number in the Badger Spring area (Figure 6.3). These sites are characterized by larger roomblock constructions with large middens. The majority of sites belonging to this period were occupied before and after Pueblo I times. During this period, sites continued to be clustered along the northern and western edges of the Bosson Wash. One difference in community layout from the Basketmaker period, is that Pueblo I sites gradually shift to lower elevations—slowly making the move from talus slopes to the Bosson Wash floodplain.
During Pueblo II times, very few small sites were added to the existing communities in the Badger Springs area (Figure 6.4). By the opening decades of the eleventh century, however, three Chacoan great houses were constructed in the area, within these existing Badger Springs communities. These include Bosson Wash, Badger Springs, and FN 60. Unlike other areas in the Zuni region during this time, where occupation was often “patchy,” settlement of the Badger Springs area was dense and more closely packed (Kintigh 1996).
The Badger Springs great house is a large great house accompanied by a probable great kiva (Figure 6.5). It is located on a ridge overlooking Bosson Wash. Surface ceramics suggest that it was occupied from approximately A.D. 1100-A.D. 1200. The layout of the great house resembles that of Gonzalez Well and Bosson Wash, reinforcing the notion that all three great houses were occupied contemporaneously. The Badger Springs great house is a large, linear masonry rubble mound indicative of a multi-story great house and is oriented in an east-west direction. The site also contains a number of
surface artifact concentrations, some of which include small amounts of sandstone rubble. Several of these appear to be midden areas associated with the great house, while several others are not as clearly associated and may represent undetected small habitations of non-masonry construction, such as those documented at the Owen site in southwest Utah (Lipe et al. 2011).

Figure 6.5. Badger Springs great house and kiva depression. Photo faces west. Photo courtesy of Jonathan Damp.

Kintigh (1996:135) briefly refers to the Badger Springs great house community as post-Chacoan, given the expansive community surrounding it, and compares it to Spier’s Site 81, a post-Chacoan site located about twenty-five kilometers to the east. The Zuni Chacoan Period Communities project results support some of Kintigh’s conclusions. Like Kintigh, the Zuni Chacoan Period Communities Project documented a great house, great kiva, and associated community at the Badger Springs site; however, surface survey
suggests that the community was occupied during Pueblo II times. The large amount of Gallup Black-on-white and Escavada Black-on-white indicate that the great house and great kiva were constructed during Pueblo II times, around A.D. 1100.

Community construction during Pueblo II times in the Badger Springs area was negligible: few new small sites were built. However, the new community sites that were constructed during this period continued to shift to lower elevations and the valley bottom saw an increase in site frequency. Surface architecture suggests that residential sites during this period are primarily roomblocks with kivas. Sites during this period also begin to cluster around great houses, however, great houses were also constructed in areas where population was large and clustered. Roomblocks during this period were often situated along the edges of canyons and along Bosson Wash.

Following the Pueblo II period, great house occupation ceased in the Badger Springs area—with the exception of the Badger Springs great house, which was occupied until early Pueblo III times. Archaeological survey of the area documented only eleven sites that dated to the Pueblo III period (Figure 6.6). Of these, almost all were newly established sites constructed on the eastern edge of the survey area.
Figure 6.6. Pueblo III sites recorded in the Badger Springs Area. Red dots are great houses which are only occupied in the early Pueblo III period.

The Badger Springs survey documented a long history of occupation in the area. Occupation began during Basketmaker times, and by the Pueblo I period skyrocketed to an unprecedented number of sites (Table 6.1). During the Pueblo II period, nine new small sites were constructed in the area. These sites were clustered around the valley bottoms and along Bosson Wash. The Pueblo II period also observed the construction of three Chacoan great houses. These great houses were constructed along prominent mesas in the area and within the preexisting community at Badger Springs.
Table 6.1. Community sites occupied in Badger Springs area by time period.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>No. of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pueblo I (A.D. 700-900)</td>
<td>58</td>
</tr>
<tr>
<td>Pueblo II (A.D. 900-1150)</td>
<td>67</td>
</tr>
<tr>
<td>Pueblo III (A.D. 1150-1300)</td>
<td>11</td>
</tr>
</tbody>
</table>

Although great houses were constructed within clusters of small sites, the Badger Springs community extended across much of the Bosson Wash valley. Chacoan great houses in the Badger Springs area were placed within clusters of four to five small sites. Community sites extending beyond this area are generally located two to three kilometers from the great houses. The construction of great houses in areas of high population density illustrates the importance of linking Chacoan architecture to local history. Following the abandonment of the great houses, residents began to leave the area. During the Pueblo III period sites are scarce in the area and constructed at a distance from Chacoan great houses. The Badger Springs survey documented eleven small sites dating to the Pueblo III period (see Figure 6.6).

Barth Well Community Survey

Traveling south of the Badger Springs area, down the Zuni River drainage and across the bluffs of Ojo Caliente we arrive at Barth Well. The Barth Well area is located southwest of Zuni Pueblo, near the late Prehistoric and Historic site of Hawikku. The survey area, centered on the Chacoan structure, Joe 2, lies in a relatively sparse and flat stretch of the Zuni River Valley. Running through the center of the project area is the
Zuni River, approximately sixty miles away from where it merges with the Little Colorado River.

Similar to the Badger Spring great house community, great houses recorded in the Barth Well Wash area were constructed in a region that experienced a long history of occupation. Archaeological survey suggests that the Badger Springs area was first occupied during Basketmaker III times. During Pueblo I times, the area experienced tremendous growth and expansion, and in the Pueblo II period, two great houses were constructed in the Barth Well community. Overall, the Joe 1 and Joe 2 great houses are roughly contemporaneous with the three great houses documented in the Badger Spring area.

Pueblo I sites are found along the higher elevations of the survey area, away from the Zuni River (Figure 6.7). Nevertheless, some sites begin to appear along the valley bottom during this period and along the Zuni River floodplain. These sites are located in the northern and western areas of the survey area. Residential sites become more common during this period and are clustered in an area where, during Pueblo II times, two great houses were constructed.
One small site was constructed during the Pueblo II period (Figure 6.8). The bulk of sites occupied during this period developed from previous Basketmaker and Pueblo I sites. Overall, very few new sites were constructed during the period. Also during this time, sites begin to occupy all elevation levels in the project area, and clusters begin to form along the Zuni River floodplain. During the early eleventh century, two great houses are constructed in the area.
Figure 6.8. Pueblo II sites recorded in the Barth Well area. Red dots are great houses.

According to surface ceramics, the occupation of both Joe 1 and Joe 2 most likely continued into early Pueblo III times. Between A.D. 1150 and A.D. 1200, use of the great houses ceases. A large majority of the sites in use during the Pueblo II period continued to be used in Pueblo III times (Figure 6.9). By A.D. 1200 many of these sites fell into disrepair, and the area was largely abandoned.
Figure 6.9. Pueblo III sites recorded in the Barth Well area. Red dots are great houses.

Much like the Badger Springs community survey, archaeological survey of the Barth Well area revealed a long history of occupation in the area. Many of the sites in the area were multi-component sites, meaning that they were in use for long periods (the majority from Pueblo I through Pueblo III times; Table 6.2). The site distribution of the area, particularly during Pueblo II and Pueblo III times was relatively dense—contrasting much of the Zuni region (Kintigh 1996).
Table 6.2. Community sites occupied in Barth Well area by time period.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>No. of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pueblo I (A.D. 700-900)</td>
<td>18</td>
</tr>
<tr>
<td>Pueblo II (A.D. 900-1150)</td>
<td>19</td>
</tr>
<tr>
<td>Pueblo III (A.D. 1150-1300)</td>
<td>19</td>
</tr>
</tbody>
</table>

Great houses in the Barth Well area were located at higher elevations along the edges of canyons and bases of mesa slopes. These great houses were constructed in clusters of sites belonging to the Barth Well community. Beyond these clusters, small sites were found along some of the minor tributaries of the Zuni River, about three kilometers from one of the great houses.

Comparing Zuni Region Great House Communities to Other Southern San Juan Great House Communities

During the eleventh century, as construction in Chaco Canyon increased, connections between Chaco Canyon and the surrounding San Juan Basin became more significant. By the A.D. 1100s, outlying Chacoan communities had spread across an area nearly 200 miles in diameter, encompassing northwest New Mexico and neighboring portions of Utah, Colorado, and Arizona. Different relationships existed between Chaco Canyon and its sphere of great houses found across the Southwest.

Recognizing how Zuni great house communities were different or similar to one another is crucial for understanding this relationship. This section compares the Zuni great house communities discussed in this chapter and in Chapter 5 to other southern San Juan Chacoan communities. Although archaeologists have begun to investigate the
relationships between the Chacoan world and Chaco Canyon, we know little about the role the Zuni and greater southern San Juan region played during the Pueblo II period in the Chacoan regional system. In the northern San Juan region, archaeologists have developed a more detailed picture of Chacoan communities. How Zuni great houses communities are similar or differ from these sites is key to understanding the Chaco world and the variety of relationships these regions enjoyed with Chaco Canyon.

This section summarizes four factors that were central to Chacoan community formation in the Zuni region (Table 6.3): community origins, timing, historical events, and proximity to arable land. Together, these factors account for much of the diversity seen in Zuni great house communities, and suggest that Chacoan construction in the Zuni region represent a unified landscape of developments beginning by at least the late Pueblo I period.

Determining the origins of outlying communities, or whether Chacoan great houses were constructed in areas with long histories of human occupation has implications for understanding who built these structures. If we can determine that a great house was constructed in an area with previous occupation we might suggest local construction. However, if we find the construction of a great house in an area with no recent occupation, we may appeal to its construction by outsiders, maybe even migrators from Chaco Canyon (Cameron 2009). The presence of ancestral and scion communities in the Zuni region suggest that the region enjoyed a variety of relationships with Chaco, the strongest perhaps being Village of the Great Kivas.

Timing, or the development of outlying Chacoan communities and how they changed through time, is also central to understanding the Chaco regional system. Van
Dyke (2003, 2007) has demonstrated that differences in timing in the Chaco world influenced local community developments throughout the Chaco era. Important shifts in the organization of Zuni Chacoan communities illustrates that the region shared patterns of organization, growth, and development.

The origins and timing of Chacoan communities in the Zuni region intersected with the symbolic and historical connections that Chacoan communities imbued with the villages that preceded and succeeded them. These historical events illustrate that Chacoan great house construction during the eleventh century in the Zuni region struggled to incorporate pre-established communities into the Chaco regional system. In the Zuni region, these events followed the establishment of a scion community, Village of the Great Kivas.

As in the northern San Juan region, the control over productive lands appears to have, in part, shaped the development of Chacoan communities in the Zuni region. Kendrick and Judge (2000) have suggested that the Chaco era represented a time of increased competition for productive lands. They suggest that corporate groups who incorporated great house architecture into their communities replaced the household in the competition for resources. Durand and Durand (2000) also argue that Chaco was one of the first experiments with sedentary agricultural village life. At Village of the Great Kivas, and great house communities in the Barth Well and Badger Springs areas, great house construction was focused along rivers, drainages, and washes. Within these communities, great houses were built on top of commanding landscape features overlooking cluster of small sites dispersed along the floodplains of the Zuni River and its tributaries.
<table>
<thead>
<tr>
<th>Great House Community</th>
<th>Great House Location</th>
<th>Community Organization</th>
<th>Community Location</th>
<th>Origin</th>
<th>Date (A.D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village of the Great Kivas</td>
<td>Edge of community; level with community</td>
<td>Aggregated</td>
<td>Along river floodplain and associated drainages</td>
<td>Scion</td>
<td>Late 900s-early 1200s</td>
</tr>
<tr>
<td>Badger Springs</td>
<td>Center of community; elevated on landscape feature</td>
<td>Dispersed</td>
<td>Along river floodplain and associated drainages</td>
<td>Ancestral</td>
<td>Early 1100s-early 1200s</td>
</tr>
<tr>
<td>Bosson Wash</td>
<td>Center of community; elevated on landscape feature</td>
<td>Dispersed</td>
<td>Along river floodplain and associated drainages</td>
<td>Ancestral</td>
<td>Early 1000s-early 1200s</td>
</tr>
<tr>
<td>FN 60</td>
<td>Center of community; elevated on landscape feature</td>
<td>Dispersed</td>
<td>Along river floodplain and associated drainages</td>
<td>Ancestral</td>
<td>Early 1000s-early 1200s</td>
</tr>
<tr>
<td>Joe 1</td>
<td>Center of community; elevated on landscape feature</td>
<td>Dispersed</td>
<td>Along river floodplain and associated drainages</td>
<td>Ancestral</td>
<td>Early 1000s-early 1200s</td>
</tr>
<tr>
<td>Joe 2</td>
<td>Center of community; elevated on landscape feature</td>
<td>Dispersed</td>
<td>Along river floodplain and associated drainages</td>
<td>Ancestral</td>
<td>Early 1000s-early 1200s</td>
</tr>
</tbody>
</table>

Northern San Juan great house communities depart from this pattern in a number of ways. Many of these differences are embedded within local and regional histories. The construction of Chacoan great houses in the Zuni region appears to have been more insular, following a more local recipe for community organization. Here, historical
connections and persistent communities played a large role in how Zuni populations received and interpreted the ideas flowing out of Chaco Canyon. In the final portion of this section I provide a comparison of Zuni region great house communities with those presented in Chapter 2 (Table 6.4). I begin with a summary of the southern San Juan, examining great house community formation across the region. These comparisons, in turn, set the basis for later comparisons of great house communities in the northern San Juan region, and offer an opportunity to compare and contrast how local (Zuni) and regional (Chacoan) influences intersected and collided at outlying Chacoan communities.

Table 6.4. Southern San Juan community comparisons.

<table>
<thead>
<tr>
<th>Site</th>
<th>Great House Orientation</th>
<th>Great House Size</th>
<th>Great House Location</th>
<th>Comm. Size</th>
<th>Comm. Organization</th>
<th>Origin</th>
<th>Date (A.D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrews</td>
<td>Northeast-southwest</td>
<td>C-shaped; 12 rooms; 1 story</td>
<td>Center of community; elevated on landscape feature</td>
<td>31 habitations sites</td>
<td>Dispersed</td>
<td>Ancestral</td>
<td>Late 800s-1000s</td>
</tr>
<tr>
<td>Casamero</td>
<td>East-west</td>
<td>L-shaped; 29 rooms; 2 story</td>
<td>Center of community; elevated on landscape feature</td>
<td>19 habitations sites</td>
<td>Dispersed</td>
<td>Ancestral</td>
<td>Early 900s-1200s</td>
</tr>
<tr>
<td>Village of the Great Kivas</td>
<td>North-south</td>
<td>Linear; 60 rooms; 1 story</td>
<td>Edge of community; level with community</td>
<td>18 habitations sites</td>
<td>Aggregated</td>
<td>Scion</td>
<td>Late 900s-1200s</td>
</tr>
<tr>
<td>Navajo Springs</td>
<td>Northeast-southwest</td>
<td>L-shaped; 40 rooms; 2 story</td>
<td>Center of community; elevated on landscape feature</td>
<td>12 habitations sites</td>
<td>Dispersed</td>
<td>Ancestral</td>
<td>Early 1000s-1100s</td>
</tr>
<tr>
<td>Cox Ranch Pueblo</td>
<td>East-west</td>
<td>D-shaped; 50 rooms; 1 story</td>
<td>Edge of community; level with community</td>
<td>18 habitations sites</td>
<td>Aggregated</td>
<td>Scion</td>
<td>Mid-1000s-1100s</td>
</tr>
</tbody>
</table>
Community Origins

Understanding the beginnings of Zuni great house communities is central for explaining the relationship between Chaco Canyon and the southern San Juan region. Exploring the origins of these great house communities also has implications for determining who built Chacoan great houses. Two great house communities discussed in this thesis, Cox Ranch and Village of the Great Kivas, have great houses that were built before the construction of their communities. These scion communities illustrate that differences in community origins influenced later community development, directing the layout and organization of small sites across the landscape.

The Village of the Great Kivas community survey found a relatively aggregated community of small sites along the upper Nutria River and some of its major drainages and tributaries. These sites were constructed and occupied predominately during the Pueblo II period. Mean ceramic dates from the Village of the Great Kivas community suggest that community construction began in the mid-A.D. 1000s and continued until the mid-A.D. 1100s, as construction in Chaco Canyon came to a halt. The Village of the Great Kivas community survey did not document evidence of human occupation prior to the Pueblo II period. Rather, occupation in the area around the Village of the Great Kivas site began with the construction of the great house in the late A.D. 900s.

Investigations at Cox Ranch Pueblo revealed little evidence for residential occupation in the area prior to the construction of the Cox Ranch great house (Duff 2005). A community survey around the great house documented about eighteen residential
roomblocks occupied during the eleventh and twelfth centuries. The lack of previous occupation in the area implies that Cox Ranch was a scion community, founded by outsiders to the area. Community formation and development at Village of the Great Kivas, however, appears to have occurred over a longer period of time. At Village of the Great Kivas, community sites were not constructed alongside or directly after the great house was built. Rather, decades past before construction began at the first small house site. Throughout the next century, community sites were constructed south and east of the great house, dramatically transforming the organization and layout of the community.

The five great houses documented in the Barth Well and Badger Springs areas were all constructed in existing communities. During both surveys, Zuni Cultural Resource Enterprise recorded several expansive Basketmaker and Pueblo I communities. The formation of these communities—their layout and organization—changed little during the Pueblo II period.

In both the Cox Ranch and Village of the Great Kivas communities the great house was located on the northern edge of the community. These communities, compared to ancestral communities in the region were aggregated, positioned within one to two kilometers from the great house. In both cases, the great houses, were positioned level with the community, meaning that they were not situated on bluffs, mesas, or other prominent landscape features.

At the Andrews community, construction at small sites was largely completed by the early A.D. 1000s, when the Andrews great house was built (Van Dyke 1999b). Over the next half-century, several small (three to four room) structures were constructed towards the southern end of the community. By the mid-eleventh century the Andrews
community was relatively dispersed along a broad valley drained by Casamero Draw (Van Dyke 1999).

Pre-Chacoan communities in the Barth Well and Badger Springs areas were dispersed communities, in comparison to the Village of the Great Kivas and Cox Ranch communities. Taking advantage of major floodplains and river valleys, these communities saw the construction of multiple Chacoan great houses throughout the Pueblo II period. The construction of these great houses, however, had a small effect on the layout and organization of these communities. Great houses in both the Barth Well and Badger Springs areas were constructed near the center of existing communities on prominent landscape features. Few small sites were constructed after the erection great houses in each area, and from the Pueblo I period until the early A.D. 1200s, the distribution of small sites in these great house communities remained relatively static.

Timing

The timing of great house construction in Chacoan communities played a significant role in community development. In the Zuni region differences in timing resulted in differences in community layout and the location of small sites relative to the great house. The Village of the Great Kivas community survey revealed that the great house was constructed prior to community sites. Throughout the first half of occupation at the Village of the Great Kivas community, small sites were constructed in the northern portion of the community, near the great house (see Figures 5.21 and 5.22). This pattern of development formed a relatively aggregated community, centered on the Village of the
Great Kivas great house. Although the second half of occupation at the Village of the Great Kivas community saw the construction of community sites away from the great house; these small site clusters were located about one to two kilometers from the great house.

At Cox Ranch Pueblo, community construction coincided with the building of the great house. During the mid-A.D. 1000s, small sites were constructed around the great house. The Cox Ranch community core was characterized by an aggregated cluster of about eighteen small sites within one kilometer of the great house. Cox Ranch and Village of the Great Kivas illustrate that in scion communities, the location of the great house, at least in part, directed the location and layout of community construction.

Archaeological survey in the Barth Well area discovered a dispersed community situated along the Zuni River floodplain and its major drainages. By the Pueblo I period, the layout and organization of the Barth Well community was in place. During the Pueblo II period, two Chacoan great houses were constructed within this prearranged community. In the Badger Springs area, the eleventh century saw the construction of three great houses in the area. These great houses, like those in the Barth Well area, were constructed in a preexisting community largely dispersed along Bosson Wash and its floodplain. Although the Pueblo II period observed the construction of eleven sites in the Badger Springs area, these sites had a minimal impact on the layout and organization of the community.

The Navajo Springs community mirrors some of the patterns seen in the Barth Well and Badger Springs areas. The Navajo Springs great house was constructed within a preexisting community during the early eleventh century (Graves 1990). Following the
construction of the Navajo Springs great house, few residential community sites were built. Community sites are broadly distributed across the southern banks of the Puerco River, and topographically constrained by the Marble and Ladle Ridges located on the Puerco River floodplain. The Navajo Springs great house, on the other hand, was constructed near the center of this expansive and dispersed community and “prominently-located” (Warburton and Grave 1992:58).

The Bosson Wash and Badger Springs surveys illustrate that persistent communities were present in the Zuni region by at least the Pueblo I period. In the Zuni region, the foundations of Chacoan communities were in place by the early Pueblo I period and remained virtually unchanged until the early Pueblo III period, with the abandonment of many Chacoan great houses in the region and the collapse of Chaco Canyon. As the comparison to the Navajo Springs great house community illustrates, in ancestral communities the construction Chacoan great houses had little effect on community organization, leading to a dispersed community arrangement usually along washes and river drainages.

**Historical Events**

Ancestral communities illustrate the importance of constructing Chacoan great houses in areas with long histories of occupation. As Chacoan-style constructions surged throughout much of the Southwest in the eleventh century, residents of some ancestral communities may have adopted Chacoan-style architecture as “a badge of membership or participation” (Van Dyke 2007:176). Regardless of their motivations, in the eleventh
century ancestral communities constructed Chacoan great houses and great kivas, sometimes replacing tenth century great kivas.

At the Andrews and Navajo Springs great house communities, this shift is readily apparent. Throughout the tenth century, Andrews and Navajo Springs were dispersed communities constructed along various drainages, washes, and rivers. In the early eleventh century, residents of Andrews and Navajo Springs erected great houses and great kivas at the center and amid prominent landscape features of their communities (Marshall et al. 1979; Warburton and Graves 1992).

In the Badger Springs area, the Badger Springs, Bosson Wash, and FN 60 great houses all highlight the importance of constructing great houses in areas with long histories of occupation. Archaeological survey of the Badger Springs area documented a relatively large population living in the area since Basketmaker and Pueblo I times. In the Barth Well area, the Joe 1 and Joe 2 great houses were constructed within a smaller community dispersed along the floodplain of the Zuni River. During the Zuni Chacoan Period Communities Project, archaeologists recorded several pithouse sites in the Barth Well area dating to the Basketmaker III period. Occupation of the area continued into Pueblo I and II times, however the location of these sites remained the same.

Great house communities such as those found in the Badger Springs and Barth Well areas, as well as others in the southern San Juan region, illustrate how preexisting communities were incorporated into the Chacoan regional system. Repeatedly constructed at the heart of early Pueblo II communities upon natural topographic elements enhancing visibility, these great houses created new community focal points that could not be overlooked by local populations. Despite of this, scion communities
such as Village of the Great Kivas and Cox Ranch, often saw the construction of Chacoan
great houses along the periphery of the developing community and were not exaggerated
by natural landforms.

Throughout much of their histories of occupation, the communities found in the
Badger Springs and Barth Well areas remain unchanged until their abandonment in the
late Pueblo II and early Pueblo III periods. These multicomponent sites carried multiple
layers of meaning for Pueblo II builders, forming a social relationship between its
builders and a real or imagined past. The placement of Chacoan great houses in
preexisting community suggests that great house construction in the Zuni area was
largely an effort of legitimization. The Badger Springs and Barth Well surveys illustrate
how the foundations of Chacoan communities in the region were established by at least
the Pueblo I period. Chacoan great houses that were constructed in preexisting
communities illustrate how Chaco struggled to link itself to local traditions, ideologies,
and histories.

The Village of the Great Kivas community departs from this pattern observed in
the Barth Well and Badger Springs areas. In the Zuni region, early great house
construction may have targeted areas lacking an existing population. From these, great
houses arose and communities formed. Following the establishment of Village of the
Great Kivas, Chacoan construction expanded and was directed towards areas with large
populations who demonstrated a long and deep connection with the region. Placed in
embellished positions, these great houses were constructed along prominent bluffs and
mesas that overlooked their respective communities.
The introduction of Chacoan great houses into preexisting Zuni communities incorporated Chacoan-style construction into an existing social, economic, and political structure that was in place since Basketmaker times. Unlike Village of the Great Kivas and other scion communities, ancestral communities were comprised of existing populations whose persistent occupation of a historically constituted landscape shaped land-tenure and resource-access systems. These systems developed within the context of the community (Varien 1999, 2002), and illustrated a tried and true way of life. Archaeological evidence suggests that the construction of Chacoan great houses in these areas rarely changed community structure and organization.

Proximity to Arable Land

The location of arable soils also influenced Chacoan community layout (Durand and Durand 2000; Kantner 1996, 2003; Kendrick and Judge 2000). Throughout prehistory, the Zuni River and its tributaries served as one of the major sources for irrigation farming in the region (Damp 2007). At the Village of the Great Kivas community and in the Barth Well and Badger Springs areas, community sites were located along the Zuni or Nutria Rivers and their many drainages. In each of these areas, the presence of prime farmland appears to have been a major factor in great house construction.

Roberts (1932:103) commented on the prime location of the Village of the Great Kivas for agriculture. Its location on the flat bottom of the Nutria Valley made it the ideal setting for cultivation. The Village of the Great Kivas community survey documented
eighteen residential sites located beside the Nutria River and along its drainages and washes. The Andrews great house community illustrates the importance of agricultural land in Chacoan community construction. Investigations in the Andrews community suggest that the majority of community structures were constructed a generation or two prior to the great house and along on best farmland along Casamero Draw (Van Dyke 2000). These sites remained occupied and retained access to this land until the mid-A.D. 1000s, when the great house and community was abandoned. At the Navajo Springs community, small sites were broadly distributed across the southern banks of the Puerco River. These community structures were constructed prior to the building of the Navajo Springs great house, around A.D. 1000 (Graves 1990), and “farmed the arable land along the Puerco” (Warburton and Graves 1992:65).

Congruent with Village of the Great Kivas, Barth Well and Badger Springs observed the construction of relatively large communities along highly productive and arable tracts of land. Today, Barth Well and Badger Springs continue to be used by Zuni farmers who have continued their traditional farming practices in the area (Cleveland et al. 1995). In the Bosson Wash area, for example, evidence for maize extends back to about 250 B.C. (Damp 2007). The presence of this early corn has been corroborated by subsequent studies in the Zuni area (Damp et al. 2002), suggesting that the occupation of the Bosson Wash area began with the arrival of early corn and irrigation technology during the beginning of the pithouse period, and ended with the development a great house community in the Pueblo II period. The archaeological surveys at Barth Well and Badger Springs suggest that the builders of Chacoan great houses deliberately associated themselves with Basketmaker and Pueblo I inhabitants. The development of these relationships followed the
construction of a scion community, Village of the Great Kivas, and not only created a meaningful association with the past but also incorporated productive lands and populations into Chacoan communities.

**Comparing Southern San Juan Great House Communities to the Northern San Juan Region**

The northern and southern San Juan regions comprise two different archaeologies. Although disparities are evident earlier between the two regions, the Pueblo I period marked a dramatic shift in the Ancestral Puebloan world. The development of large villages during this time in the northern San Juan marked a significant social change that eventually led to the development of the Chaco regional system (Windes and Ford 1992). Lipe (2006) also sees an early connection between the northern San Juan and Chaco Canyon in the San Juan pattern, an arrangement of architecture and settlement layouts that persisted centuries until the depopulation of the northern San Juan in the fourteenth century.

Connections between the southern San Juan and the Cibola region are shakier. In the Red Mesa Valley at outlying great house communities such as Andrews and Casamero, some archaeologists believe local inspirations led to the construction of Chacoan great houses. Just north, along Lobo Mesa, great houses such as Blue J and Bluewater Spring, participated in a localized system of production and exchange of ceramics, illustrating that great house communities in the area rarely relied on a wider, regionally based economy (Kantner et al. 2000).
Other archaeologists argue for a more direct influence of Chaco Canyon in the southern San Juan region. Chacoan great houses have been documented in the Quemado area (Fowler et al. 1987), along the Rio Puerco of the West (Fowler and Stein 1992), and in Acoma (Dittert 1959). Unlike the northern San Juan, however, the Cibola region during the Pueblo I period was relatively unimportant. Cibola area populations were sparse and patchy, and in inhabited areas, populations were low and relatively mobile (Duff and Lekson 2006). Great house architecture bonds these areas together.

Archaeologists have used the presence of multiple stories, blocked-in kivas, core-and-veneer banded masonry, and “big bumps” on the landscape to demonstrate Chaco’s touch across much of the Southwest. Great houses are regional and imply to many some form of influence from Chaco Canyon.

Communities are, of course, the principal focus on this thesis. Chacoan communities also illustrate Chaco’s touch outside of the canyon. Great house communities, such as those found the in Badger Springs and Bosson Wash areas, show how pre-Chacoan (Basketmaker and Pueblo I) inspirations contributed to great house community development in the Zuni region. The communities in the Barth Well and Bosson Wash areas, and others like them, had their foundations set prior to the construction of great houses in the early eleventh century. The erection of non-local architecture, while changing the socio-political and ritual lives of Zuni residents, had a minimal effect on how people lived together. In other words, community layout and organization remained local throughout the Chaco era.

The location of great houses across much of the Chacoan world suggests some form of patterning and influence outside of Chaco Canyon. Outlying great houses were
highly visible and often constructed upon prominent landscape features, such as mesas, bluffs, and dunes. Great houses in the Zuni region, such as Gonzalez Well, Bosson Wash, Badger Springs, and Joe 1 all indicate that visibility and the significance of natural features were important in the construction of great houses in these communities. In these areas, great houses were constructed at higher elevations, particularly on mesa tops, away from the river and wash drainages, and situated in positions that dominated the landscape.

Exceptions do arise, however, to this pattern. Scion communities, for example, placed less emphasis on the location of great house structures. At Cox Ranch Pueblo and Village of the Great Kivas, great houses were constructed level with the community, unsupported by landscape features. Bis sa’ ani, the thirty-seven-room great house and archetype scion community (Breternitz et al. 1982), was constructed at level with its community which overlooked the floodplain of Escavada Wash (Mahoney 2000). Great house location, thus, was much more standardized and imposing in ancestral communities in comparison to scion communities such as Village of the Great Kivas.

Community formation in the Cibola region occurred during the Pueblo I period. The foundations of future Chacoan communities were assembled at this time and remained relatively unscathed throughout the Chacoan era. Recent archaeological surveys in areas such as Barth Well and Badger Springs illustrate how Chacoan great houses were implanted in preexisting communities in the Zuni region. Jalbert (1999) in his overview of northern San Juan great house community development suggests that timing, topographic restraints, and proximity to arable land all directed community development during the Chacoan period. Though the previous chapters have demonstrated that these
too influenced community development in the Zuni region, other factors, largely historical ones also seem to have played a role.

Abandonments during the ninth and tenth centuries in the northern San Juan resulted in massive depopulations of the area, particularly around the Mesa Verde region (Varien et al. 2007; Wilshusen and Ortman 1999; Wilshusen and Van Dyke 2006). Although many of the same areas and sites that were occupied before this abandonment saw the construction of great houses in the mid- to late Pueblo II period (Chenault and Motsinger 2000; Toll and Wilson 2000), depopulation of the area during the late Pueblo I and early Pueblo II period hindered the development of early persistent communities.

Cameron (2009) notes that only two of Varien’s (1999) northern San Juan persistent communities were occupied prior to A.D. 1050. Toll and Wilson (2000) have demonstrated that in the northern San Juan, Chacoan great house communities were often superimposed over older, Basketmaker III habitations that lacked Pueblo I components. In the Mesa Verde region, Chenault and Motsinger (2000) highlight a similar pattern of reoccupation of Basketmaker III sites and areas during the Pueblo II period. They illustrate that Chacoan communities in the Mesa Verde region, while being constructed above Basketmaker III settlements, were constrained to mesa-top areas that, during the Pueblo I period, were largely abandoned.

At the same time the northern San Juan region was experiencing a population decline, the Zuni region observed an increase in population density along with environmental changes that made the region quite favorable for dry farming (Cameron and Duff 2008; Dean 1992). These differences, in part, resulted in the continued occupation of the region and allowed for the emergence of persistent communities that
inhabited the same location over a long period of time (Fowler et al. 1987; Schachner 2008).

In the Cibola region, the Manuelito Model has represented an attempt to explain why site layouts persist through time and share common characteristics across a wide area. It illustrated that a pattern, characteristic of Chaco, began during the Basketmaker III period and continued until the construction of large nucleated villages in the Zuni region during the late A.D. 1200s (Fowler et al. 1987; Fowler and Stein 1992; Stein and Fowler 1996).

The Manuelito Model has important implications for understanding great house communities in the Zuni region. Schachner (2008), for instance, illustrates how the Manuelito Model when applied to the Zuni region emphasizes the importance of ritual structures and landscapes and views them as crucial for agricultural communities with deep historical roots. In the Barth Well and Badger Springs areas, the addition of Chacoan great houses into established Zuni communities fused Chacoan-style construction into an existing social, economic, and political structure that was in place since Basketmaker times. These areas represented productive agricultural zones that were in place by at least 250 B.C. (Damp 2007).

Contrasted against persistent communities in the Zuni area, the repeated use of sites and areas during the Pueblo II period across much of the northern San Juan region was not directly tied to agricultural strategies (Toll and Wilson 2000). Some northern San Juan great houses, rather, sought to develop links with historically important areas as an ideological effort designed to establish historical connections and legitimize the
construction of Chacoan great houses in a region that, until recently, was largely depopulated.

Persistent communities in the Zuni region, on the other hand, followed a stricter form of community organization. Stein and Fowler (1996:116) note that Chacoan community construction in the Zuni region was directed by “a rigid social and political structure that defined and maintained the boundaries of the old communities from at least Basketmaker times on.” Among Zuni great house communities, the development of this pattern and the continued occupation of the region throughout many of the depopulation episodes of the northern San Juan allowed great house communities to adopt a very specific and outlined form of community organization. In the Barth Well and Badger Springs areas, the formation of long-term organization structures directed the development of Chacoan communities. The organization and layout of these communities were in place by the end of the Pueblo I period and changed little until the abandonment of great houses in the early thirteenth century, when a dramatic reorganization of the region occurred (Kintigh et al. 1996; Schachner 2008).

In northern San Juan great house communities such as the Bluff great house, Lowry Pueblo, and Morris 39, experienced a less local form of community organization that resulted from dramatic depopulation episodes throughout large parts of the region. Pueblo II migrants into the northern San Juan region brought with them ideas about community layout, great house construction, and social organization. Wilshusen and Van Dyke (2006) demonstrate that although some of these ideas may have originated in the northern San Juan region, they were radically reorganized in Chaco Canyon, forming a
complex and dynamic history that, during the post-Chacoan period, led to the establishment of a new regional system with Aztec Ruins at its center.

The Chaco regional system, centered on Chaco Canyon, ended around A.D. 1150. At this time, the northern San Juan region experienced a period of population disruption and decline. Some great house communities were abandoned, while others continued to be occupied well into the A.D. 1200s (Lipe 2006; Lipe and Ortman 2000). Lipe (2006:303) argues that throughout much of the northern San Juan region the “Chacoan pattern” prevailed: “Most of the Northern San Juan Chaco-style Great Houses built in the late A.D. 1000s and early 1100s continued to be occupied or were reoccupied during the 1200s and they may well have retained considerable importance in the ceremonial and social life of their associated communities.”

Great house communities in the northern San Juan region not only continued to be occupied but were also remodeled. The Lowry great kiva, for example, contains a tree-ring cutting date of A.D. 1172, demonstrating that the site was used several generations after its construction (Ahlstrom 1985). By A.D. 1225, populations in the San Juan region increased and although most Chaco-era great houses continued to be occupied, they underwent significant remodeling. At the same time, extensive building efforts were underway at Aztec Ruins, which momentarily formed the post-Chacoan ceremonial center for the northern San Juan (Brown et al. 2008; Cameron 2009; Lekson 1999).

In the Zuni region, the post-Chacoan period represents a period of tumultuous reorganization and the emergence of new forms of social organization (Duff and Lekson 2006; Kintigh et al. 1996). In contrast to the northern San Juan, many Chaco-era great house communities were abandoned by the beginning of the thirteenth century. Village of
the Great Kivas, for example, was abandoned during the opening decades of the A.D. 1200s (Eckert et al. 2000). In the Barth Well and Badger Springs areas, depopulation of Chacoan communities most likely began by A.D. 1150, and was completed by A.D. 1220. During this time, community site construction halts and the few small sites that are built appear along the periphery of the Badger Spring and Barth Well survey areas.

After about A.D. 1200, most Chaco-era great house communities were abandoned and Zuni residents replanted these ideas at post-Chacoan sites in the Zuni region (Duff and Lekson 2006). The construction of these new post-Chacoan great houses—away from previously occupied Chaco-era great house communities—ended a long-standing history of persistent communities in the Zuni region. Although post-Chacoan sites continued the tradition of Chacoan-style architecture, as evident in the construction of Chacoan great houses, great kivas, and berms, they reorganized and refocused community organization in the region (Kintigh et al. 1996).

The abandonment of persistent communities with deep historical roots in the Zuni region may have accompanied the development of large, well-defined post-Chacoan communities. Duff and Lekson (2006) argue that many of the Chaco-era great houses we recognize in the Zuni region actually date to the post-Chacoan period. This notion suggests that Chacoan ideas and symbols assumed a greater importance during the post-Chacoan period and resulted in the tight-knit communities we see developing during the fourteenth and fifteenth centuries (Huntley and Kintigh 2001, 2004).

The construction of post-Chacoan communities in areas without preexisting populations marked a dramatic shift from how local residents perceived of place and social organization. Kintigh (1994) argues that after the collapse of Chaco Canyon,
competition among rival coalitions of villages dominated the Zuni landscape. Kintigh suggests that these new, emerging communities appropriated symbols originating in Chaco Canyon into a process of peer polity interaction that resulted in an increase in complexity and population aggregation throughout the region. Emergent social groups, perhaps, attempted to distance themselves from previous Chaco-era great houses and communities by establishing new communities elsewhere in the region.

Stein (1987) refers to this period as a transitional phase during which Chaco-style structures continued to be built. Stein contends that the individual elements of Chacoan architecture survived the collapse of Chaco Canyon were restructured into subsequent centers. The revitalization of Chacoan-style architecture in the Zuni region not only altered the location of these centers, but also represented distinct structural and architectural changes.

Post-Chacoan communities in the Zuni region were composed of compact, multistory houses, great kivas, and roads, and berms (Cameron and Duff 2008). Unlike previous Chaco-era great kivas, post-Chacoan great kivas were large and unroofed, arguably used to integrate larger numbers of people than the old Chaco-style, roofed great kiva (Kintigh et al. 1996). Post-Chacoan communities were also larger than their Chacoan predecessors. In contrast to the populations disruption the northern San Juan experienced following the collapse of the Chaco regional system, population in the Zuni region continued to increase until about A.D. 1225.

The constructions of new, post-Chacoan communities incorporated larger resident populations in closely associated room blocks. The Hinkson site, for example, encompassed over thirty residential room blocks that were constructed within 200 meters
of the great house (Kintigh et al. 1996). Fowler et al. (1987:103) note that fundamental to the Manuelito Model is the notion that the adoption of Chacoan-style architecture in Chacoan and post-Chacoan communities resulted in long-term political and ritual continuity throughout much of the “Anasazi world.” Evidence from the Zuni region, which incorporates data from the Barth Well and Badger Springs communities, suggests that although post-Chacoan communities were ideologically founded on appropriated aspects of the Chacoan regional system, these communities were not persistent during the Pueblo III and Pueblo IV periods throughout much of the region.

Post-Chacoan communities in the Zuni region, in turn, represented a new form of social organization that was contingent on some, but not all, elements of Chacoan architecture. Where these communities diverged from earlier Chacoan great houses communities was in location and the departure from persistent, deeply rooted communities. By A.D. 1300, a new form of social organization emerged, established upon the considerably different post-Chacoan foundations of the late twelfth and thirteenth centuries (Duff and Lekson 2006; Kintigh et al. 2004).

**Summary**

This chapter has been about great house communities in the Zuni region. During the tenth, eleventh, and twelfth centuries the Zuni region witnessed the construction of multiple great houses. Similar to Village of the Great Kivas and over a hundred other Chacoan communities, these great houses were associated with smaller, residential sites, together forming great house communities.
Regional and local comparisons to Zuni Chacoan communities suggest that the construction of great houses in preexisting communities while changing the socio-political and ritual lives of Zuni residents, had a minimal effect on community development. Recent archaeological surveys in the Barth Well and Badger Springs areas revealed that many Chacoan communities in the region had deep historical roots. In both areas, these roots extend back to Basketmaker III times. During the Pueblo I period, until the late tenth century, these patterns strengthen and eventually provide the foundations of Chacoan communities in the region. Throughout the Pueblo II period, multiple great houses are constructed in the Barth Well and Badger Springs areas within these communities.

Comparisons among and between great house communities in the Zuni region demonstrate that four factors were central to Chacoan community formation in the Zuni region (see Table 6.3): community origins, timing, historical events, and proximity to arable land. Together, these factors were found to account for many of the similarities and differences between Chacoan communities in the Zuni region.

Historical events and community origins were among the two most influential factors that directed community development in the Zuni region. These differences led to two different types of great house communities (ancestral and scion), and have implications for who built Chacoan great houses and relationships between Chaco Canyon and the Zuni region.

The emergence of persistent communities in the Zuni region during late Basketmaker and Pueblo I times emphasizes the importance of historical events in the construction of Chacoan outliers. In the Barth Well and Badger Springs areas, great
house builders deliberately constructed great houses at the center of expansive communities that were located on the floodplains of the Zuni River and its tributaries. These great houses were built at higher elevations, particularly on mesa tops, away from the river and wash drainages, placed in areas that dominated the landscape, and, in almost all cases, allowed for a panoramic viewpoint of the surrounding landscape.

Following the collapse of the Chaco regional system around A.D. 1150, dramatic reorganizations and movement of populations transformed this long-lasting pattern. After about A.D. 1200, the majority of Chacoan great house communities in the Zuni region are abandoned and construction became focused on new, post-Chacoan communities. Unlike the northern San Juan region, which observed the continued occupation of Chacoan great houses throughout the post-Chacoan period, post-Chacoan sites in the Zuni region represented both an ideological and physical departure from anything seen before in the region. Areas with long histories of occupation, sometimes reaching back to Basketmaker times, such as Barth Well and Badger Springs, are abandoned and post-Chacoan construction becomes concentrated away from these areas. In addition, these sites introduced a new form of community organization to the Zuni region, the unroofed great kiva.
CHAPTER 7

SUMMARY AND CONCLUSIONS

This thesis has been about great house communities in the Zuni region; more specifically, it explored the origins, development, and abandonment of Village of the Great Kivas and other Chacoan communities in the Barth Well and Badger Springs areas of the Zuni Reservation. The problem in investigating the Chacoan period in the Zuni region, like much of the Chacoan world, is the lack of research that has been conducted there. Only one Chacoan period great house has been excavated on the Zuni Reservation. For over eighty years Chacoan scholars believed Village of the Great Kivas was an isolated find: no associated community and no contemporary neighboring great houses.

In recent years, our understanding of the Chaco era in the Cibola region has changed. New data from great house communities in the region—such as Cox Ranch and Cerro Pomo (Duff 2005; Nauman 2007; Wichlacz 2009)—have demonstrated that a diverse array of relationships existed in the Chaco world. Zuni great house communities are no exception. In this thesis, I incorporated data from the Zuni Chacoan Communities Project, an endeavor dedicated to understanding the community dynamics of outlying great house communities on the Zuni Reservation. Comparisons between Zuni great house communities and Chacoan communities elsewhere in the Chaco regional system suggest that local histories and traditions influenced great house community development.
in the region. The emergence of persistent communities during the late Basketmaker and early Pueblo I periods illustrate how local and regional (Chacoan) ideologies intersected at outlying communities.

Central to this discussion is the notion that we need to individualize and localize the concept of community for outlying Chacoan communities. Although archaeologists know little about the nature outlying great house communities (Gilpin 2003; Kintigh 2003; Mahoney and Kantner 2000), a complex and diverse picture is slowly emerging from outlying great house community studies (Gilpin and Preucel 2000; Kantner 1996, 2003; Warburton and Graves 1992). To conclude, let us return to some of the larger contributions this thesis presents on Chacoan community development in the Zuni region.

The Development of Village of the Great Kivas and its Community

Ceramic dates provide an excellent picture of the century of growth, development, and abandonment in the Village of the Great Kivas community. The Village of the Great Kivas community survey documented a relatively aggregated community of small sites along the upper Nutria River and some of its major drainages and tributaries. These sites were constructed some time after the construction of the Village of the Great Kivas great house. Mean ceramic dates from the community suggest that construction began in the mid-A.D. 1000s and continued until the mid-A.D. 1100s, as construction at Chaco Canyon came to a halt.

The Village of the Great Kivas community survey did not document evidence of human occupation prior to the Pueblo II period. Breternitz et al. (1982), argue that scion
communities were established as colonies during the height of the Chaco era. In the Zuni region, Village of the Great Kivas represents one of the earliest and most representative examples of Chacoan-style construction, suggesting that its builders came somewhere beyond the Zuni region, perhaps Chaco Canyon.

Ceramics illustrate that the construction of the Village of the Great Kivas great house began in the late tenth and early eleventh centuries (Eckert et al. 2000). By at least A.D. 1070, small sites appear around the Village of the Great Kivas great house. Over the next century, small houses were constructed along the Nutria River and its drainages. The development of the Village of the Great Kivas community occurred over four different phases of growth.

The first phase of community development (A.D. 1071-1091) observed the construction of small sites in the northern portion of the community. Located near the Village of the Great Kivas great house, these sites were relatively small, often composed of a single roomblock containing eight to fifteen rooms. During this period four small sites were constructed. During the second phase of community construction (A.D. 1091-1111) six new sites were added to the Village of the Great Kivas community. Much like Phase I, many of these sites were constructed in the northern portion of the community, near the great house. Small sites, however, do begin to occur beyond this portion of the community during Phase II, and are constructed in the eastern and southern ends of the community, where they begin to form distinct community clusters.

The third phase of community construction (A.D. 1111-1131) introduced a new form of community organization. During this period, sites are constructed away from the great house, and small site clusters begin to form in the eastern and southern ends of the
community. Generally, these sites are large residential sites with associated roomblocks. Relating to the height of construction at Chaco Canyon, Phase III construction was the largest seen at the Village of the Great Kivas community, totaling at over 150 rooms and four kivas. Two small sites were constructed during this period. Site 454 was comprised of six roomblocks, 110 rooms, and four kivas. Containing almost double the amount of rooms excavated by Roberts at the great house, Site 454 may represent a transition in the focus of the community in the early A.D. 1100s. Site 452 was found to contain a single roomblock with approximately thirty to forty rooms. The final phase of community construction dates from about A.D. 1131 to A.D. 1152. During this period small sites continue to be constructed away from the great house, focusing in the southern and eastern portions of the Village of the Great Kivas community. Four sites were constructed during this period, adding sixty-one rooms and one kiva to the community.

The organization and layout of Chacoan communities has much to tell us about the role of Chaco Canyon in the Zuni region. Initially, the construction of small sites in the Village of the Great Kivas community appears to have been directed by the location of the great house and areas of prime farmland. Early sites constructed in the Village of the Great Kivas community (Phase I and early Phase II sites) were clustered around the great house. These sites were generally small, multiple residence sites comprised of small middens and no kivas. During late Phase II times, small sites are found about one to two kilometers away from the Village of the Great Kivas great house. These sites are usually large, multiple residence with associated roomblocks sites. Often incorporating larger middens and numerous kivas, Phase III and IV sites while still belonging to the Village of the Great Kivas community, seem to have had some form of social control. This is
evident not only in the distance between these sites and the great house, but also the scale of these sites. Site 454, for example, contained over 110 rooms, almost double the number of rooms present in the Village of the Great Kivas great house.

Overall, the presence of early, smaller sites near the great house and later, larger sites away from the great house suggests that a transition in the community focus at Village of the Great Kivas was underway by the early A.D. 1100s. During the A.D. 1130s and 1150s only larger, multiple residence with associated community sites were constructed. These sites shifted the residential and presumably social focus of the Village of the Great Kivas community away from the great house and towards small site clusters in the eastern and southern portions of the community.

**Great House Community Development in the Zuni region: Barth Well and Badger Springs**

Recognizing how Zuni great house communities were different or similar to one another is crucial for understanding the relationship between Chaco Canyon and outlying great house communities. Although archaeologists have begun to investigate the relationships between the Chacoan world and Chaco Canyon, we know little about the role the Zuni and greater southern San Juan region played during the Pueblo II period in the Chacoan regional system. In the northern San Juan region, archaeologists have developed a more detailed picture of Chacoan communities. How Zuni great houses communities are similar or differ from these sites is key to understanding the Chaco world and the variety of relationships these regions enjoyed with Chaco Canyon.
In order to better understand these relationships, I incorporated data from the Badger Springs and Barth Well areas of the Zuni Reservation. Both areas, during the eleventh century, saw the construction of Chacoan great houses at the center of preexisting communities. In the Barth Well area, archaeological survey revealed a long history of occupation in the area. By late Basketmaker and early Pueblo I times, a persistent community emerged in the Barth Well area. From this time until the abandonment of the area during the Pueblo III period, community layout and organization remained static. In the eleventh century, two great houses were constructed in the Barth Well area. Unlike the Village of the Great Kivas great house, these great houses were constructed along prominent bluffs and mesas near the center of the community.

Archaeological survey in the Badger Springs area documented a similar pattern. Occupation of the area began during Basketmaker times, and by the Pueblo I period skyrocketed to an unprecedented number of sites. During the Pueblo II period, nine new small sites were constructed in the area. These sites were clustered around the valley bottoms and along Bosson Wash. The Pueblo II period also observed the construction of three Chacoan great houses. These great houses were constructed along prominent mesas in the area and near the center of the preexisting community at Badger Springs.

The Zuni Chacoan Landscape

Throughout this study, I contended that there were four factors that were central to Chacoan community formation in the Zuni region: community origins, timing,
historical events, and proximity to arable land. Together, these factors were found to account for much of the diversity seen between Zuni great house communities and Chacoan communities beyond the Zuni region.

Understanding the beginnings of Zuni great house communities is central for explaining the relationship between Chaco Canyon and the southern San Juan region. Exploring the origins of these great house communities also has implications for determining who built Chacoan great houses. The community study presented for Village of the Great Kivas illustrates that the site was one of the few scion communities in the region and throughout much of the Chaco world. The five great houses documented in the Barth Well and Badger Springs areas, in contrast, were all constructed in existing communities.

The timing of great house and small house construction in Chacoan communities played a significant role in community development. In the Zuni region differences in timing resulted in differences in community layout and the location of small sites relative to the great house. The Village of the Great Kivas community survey revealed that the great house was constructed prior to community sites. Throughout the first half of occupation at the Village of the Great Kivas community, small sites were constructed in the northern portion of the community, near the great house. This pattern of development formed a relatively aggregated community, centered on the Village of the Great Kivas great house. Although the second half of occupation at the Village of the Great Kivas community saw the construction of community sites away from the great house; these small site clusters were located about one to two kilometers from the great house.
Archaeological survey in the Barth Well area discovered a dispersed community situated along the Zuni River floodplain and its major drainages. By the Pueblo I period, the layout and organization of the Barth Well community was in place. During the Pueblo II period, two Chacoan great houses were constructed within this prearranged community. In the Badger Springs area, the eleventh century saw the construction of three great houses in the area. These great houses, like those in the Barth Well area, were constructed in a preexisting community largely dispersed along Bosson Wash and its floodplain. Although the Pueblo II period observed the construction of eleven sites in the Badger Springs area, these sites had a minimal impact on the layout and organization of the community.

Ancestral communities, such as those in the Barth Well and Badger Springs areas, illustrate the importance of constructing Chacoan great houses in areas with long histories of occupation. In the Badger Springs area, the Badger Springs, Bosson Wash, and FN 60 great houses all highlight the importance of constructing great houses in areas with long histories of occupation. Archaeological survey of the Badger Springs area documented a relatively large population living in the area since Basketmaker and Pueblo I times. In the Barth Well area, the Joe 1 and Joe 2 great houses were constructed within a smaller community dispersed along the floodplain of the Zuni River. During the Zuni Chacoan Period Communities Project, archaeologists recorded several pithouse sites in the Barth Well area dating to the Basketmaker III period. Occupation of the area continued into Pueblo I and II times, however the location of these sites remained the same.

Great house communities such as those found in the Badger Springs and Barth Well areas, as well as others in the southern San Juan region, illustrate how preexisting
communities were incorporated into the Chacoan regional system. Repeatedly constructed at the heart of early Pueblo II communities upon natural topographic elements enhancing visibility, these great houses created new community focal points that could not be overlooked by local populations. Despite of this, scion communities such as Village of the Great Kivas and Cox Ranch, often saw the construction of Chacoan great houses along the periphery of the developing community and were not exaggerated by natural landforms.

The location of arable soils also influenced Chacoan community layout (Durand and Durand 2000; Kantner 1996, 2003; Kendrick and Judge 2000). Throughout prehistory, the Zuni River and its tributaries served as one of the major sources for irrigation farming in the region (Damp 2007). At the Village of the Great Kivas community and in the Barth Well and Badger Springs areas, community sites were located along the Zuni or Nutria Rivers and their many drainages. In each of these areas, the presence of prime farmland appears to have been a major factor in great house construction.

Comparisons between Zuni great house communities and other Chacoan communities in the Chaco world suggest that many of the differences between these communities can be attributed to these four themes. When comparing Zuni great house communities to those in the northern San Juan region, for example, evidence suggests that historical events played a large role in the development of Chacoan communities. Abandonments during the ninth and tenth centuries in the northern San Juan resulted in massive depopulations of the area, particularly around the Mesa Verde region (Varien et al. 2007; Wilshusen and Ortman 1999; Wilshusen and Van Dyke 2006). Although many
of the same areas and sites that were occupied before this abandonment saw the
construction of great houses in the mid- to late Pueblo II period (Chenault and Motsinger
2000; Toll and Wilson 2000), depopulation of the area during the late Pueblo I and early
Pueblo II period hindered the development of early persistent communities.

At the same time the northern San Juan region was experiencing a population
decline, the Zuni region observed an increase in population density along with
environmental changes that made the region quite favorable for dry farming (Cameron
and Duff 2008; Dean 1992). These differences, in part, resulted in the continued
occupation of the region and allowed for the emergence of persistent communities that
inhabited the same location over a long period of time (Fowler et al. 1987; Schachner
2008). The development of persistent communities in the Zuni region allowed Chacoan
communities to follow a stricter form of community organization.

Stein and Fowler (1996:116) note that Chacoan community construction in the
Zuni region was directed by “a rigid social and political structure that defined and
maintained the boundaries of the old communities from at least Basketmaker times on.”
Among Zuni great house communities, the development of this pattern and the continued
occupation of the region throughout many of the depopulation episodes of the northern
San Juan allowed great house communities to adopt a very specific and outlined form of
community organization. In the Barth Well and Badger Springs areas, the formation of
long-term organization structures directed the development of Chacoan communities. The
organization and layout of these communities were in place by the end of the Pueblo I
period and changed little until the abandonment of great houses in the early thirteenth
century, when a dramatic reorganization of the region occurred (Kintigh et al. 1996; Schachner 2008).

After about A.D. 1200, most Chaco-era great house communities were abandoned and Zuni residents replanted these ideas at post-Chacoan sites in the region (Duff and Lekson 2006). The construction of these new post-Chacoan great houses—away from previously occupied Chaco-era great house communities—ended a long-standing history of persistent communities in the Zuni region. Although post-Chacoan sites continued the tradition of Chacoan-style architecture, as evident in the construction of Chacoan great houses, great kivas, and berms, they reorganized and refocused community organization in the region (Kintigh et al. 1996).

The abandonment of persistent communities with deep historical roots in the Zuni region may have accompanied the development of large, well-defined post-Chacoan communities. Duff and Lekson (2006) argue that many of the Chaco-era great houses we recognize in the Zuni region actually date to the post-Chacoan period. This notion suggests that Chacoan ideas and symbols assumed a greater importance during the post-Chacoan period and resulted in the tight-knit communities we see developing during the fourteenth and fifteenth centuries (Huntley and Kintigh 2001, 2004).

The construction of post-Chacoan communities in areas without preexisting populations marked a dramatic shift from how local residents perceived of place and social organization. Kintigh (1994) argues that after the collapse of Chaco Canyon, competition among rival coalitions of villages dominated the Zuni landscape. Kintigh suggests that these new, emerging communities appropriated symbols originating in Chaco Canyon into a process of peer polity interaction that resulted in an increase in
complexity and population aggregation throughout the region. Emergent social groups, perhaps, attempted to distance themselves from previous Chaco-era great houses and communities by establishing new communities elsewhere in the region.

**Future Research**

Arriving at the end of this thesis it is fit to discuss future directions of research. Like anything, this thesis and our understanding of the Pueblo II period in the Zuni region in general, would benefit from additional archaeological investigation. Like this study and many others like it (e.g., Fowler et al. 1987; Graves 1990; Mills 1988; Powers et al. 1983; Van Dyke 1999b; Warburton and Graves 1992), I have chosen to rely on surface ceramics as the basis for temporal assignment and comparison. Unlike the improbability of outlying great house community excavations, surface surveys are feasible, productive, and more likely to occur. As this study and others have shown (Goetze et al. 1993; Christenson 1994; Van Dyke 1997), the use of mean ceramic dating in studying the development of outlying great house community can be very effective, given the well-established production spans of ceramic types in the Southwest.

In order to develop a better understanding of Chacoan outliers in the Zuni region archaeologists also need to shift their focus to the Pueblo I and II periods. Zuni archaeology has long emphasized the Protohistoric period, a span of time very different from anything seen before in the Zuni region. Archaeological research in Zuni has also highlighted the eastern half of the Zuni Reservation—an area with seemingly little Pueblo II occupation. Archaeological research needs to spread to earlier time periods and travel
west where during the Pueblo II period, communities developed from small Basketmaker III and Pueblo I villages to large communities surrounding great houses and kivas.

In addition, refocusing our view of structural-functionalism communities to one that investigates the complex and changing dynamics of community identity can serve to redefine our understanding of great house communities and the change they impacted in the Zuni region throughout the Pueblo II period. As described in Chapter 2, one of the aims of this thesis was to provide an understanding of the geographic nature of Chacoan communities in the Zuni region. Future research investigating the changes in great house community organization and development in the Zuni region should expand beyond simple types of community traits such as architecture and spatial patterns, which minimize the range of variation observed in these communities, and incorporate notions of cosmology, agency, and identity.

Another avenue of exploration, and one important for understanding the archaeological problems encountered in this thesis, is the study of how changes in Zuni region great house communities influenced the succeeding post-Chacoan period. Unlike developments in the northern San Juan following the collapse of Chaco Canyon, post-Chacoan sites in the Zuni region were large and represented a significant departure from previous developments. How persistent communities and the introduction of Chacoan-style architecture in the eleventh and twelfth centuries directed later post-Chacoan developments is important for understanding the Chaco era in the Zuni region.

An investigation of post-Chacoan sites in the Zuni region and beyond would also help in determining the role of the Zuni region in the Chaco regional system. Although
this task was beyond the scope of this thesis, there are sites, such as the Hinkson site (Kintigh et al. 1996), that can serve as useful post-Chacoan comparisons.

The research presented in this thesis has broader applications for Southwestern archaeology. First and foremost, it contributes to our general knowledge of ancient communities. Until very recently, archaeologists knew very little about the Chaco world and how the distribution of great house communities outside the canyon affected Chaco Canyon in general. This thesis also illustrates the value of great house community comparisons in understanding the Chaco regional system. While Chacoan archaeology has been dominated by research conducted within the confines of Chaco Canyon, this thesis contends that there is promise in investigating outlying great house communities. Studies that continue to explore the Chaco world and the range of relationships that define it hold potential for resolving the disparity of opinions that currently characterize Chacoan archaeology.
REFERENCES CITED

Adams, E. Charles  

Adler, Michael A.  

Akins, Nancy J.  

Altschul, Jeffrey H.  

Anyon, Roger, and T. J. Ferguson  
1984 *Settlement Patterns and Changing Adaptations in the Zuni Area After A. D. 1000.* Ms. on file, Zuni Archaeology Program, Pueblo of Zuni, New Mexico.

Anyon, Roger, Andrew P. Fowler, Barbara E. Holmes, Robert D. Leonard, Mark D. Varien, and Regan Verycrusse  
1992 *Prehistoric and Historic Land Use in Oak Wash, Zuni Indian Reservation, McKinley County, New Mexico.* Zuni Archaeology Program Report No. 244b, Pueblo of Zuni, New Mexico.

Basso, Keith H.  

Becker, Howard  

Begay, Richard  

Benedict, Ruth
1935  

Bernardini, Wesley  
1998  

Bradley, Ronna J.  
1994  

Breternitz, Cory D., and David E. Doyel  
1987  

Breternitz, Cory D., David E. Doyel, and Michael P. Marshall  
1982  

Brown, David E., and Charles H. Lowe  
1980  

Cameron, Catherine M.  
2001  

2009  
*Chaco and After in the Northern San Juan: Excavations at the Bluff Great House*. University of Arizona Press, Tucson.

Cameron, Catherine M. and Andrew I. Duff  
2008  

Chenault, Mark L., and Thomas N. Motsinger  
2000  
Christenson, Andrew L.  

Clark, Lindsey R.  

Cleveland, David A., Fred Bowannie, Jr., Donald F. Eriacho, Andrew Laahty, and Eric Perramond  

Cohen, Anthony P.  

Cordell, Linda S.  

Cordell, Linda S. and Nicholas E. Damp  

Cordell, Linda S., and W. James Judge  

Crown, Patricia L.  

Crown, Patricia L. and W. James Judge  
1991  *Chaco and Hohokam: Prehistoric Regional Systems in the American Southwest*. School of American Research, Santa Fe.

Cushing, Frank H.  

Damp, Jonathan E.  
1999  *Chuska Chronologies, Houses and Hogans: Archaeological and Ethnographic Inquiry Along N30-N31 Between Mexican Springs and Navajo, McKinley County,*


Damp, Jonathan E., and James W. Kendrick


Damp, Jonathan E., and Jeffery Waseta

Danson, Edward G.

Dean, Jeffrey S.
Dean, Jeffrey S., Robert C. Euler, George J. Gumerman, Fred Plog, Richard H. Hevly, and Thor N. V. Karlstrom

Douglas, Amy A.

Doyel, David E.

Doyel, David E., Cory D. Breternitz, and Michael P. Marshall

Di Peso, Charles C.


Duff, Andrew I.


Duff, Andrew I., and Gregson Schachner

Duff, Andrew I., and Stephen H. Lekson
Durand, Stephen R., and Kathy R. Durand

Dutton, Bertha P.

Eckert, Suzanne L., Janet Hagopian, and James W. Kendrick

Eddy, Frank W.

Eggan, Fred R.

Fast, Natalie

Ferguson, T.J. and E. Richard Hart

Fowler, Andrew
1980 *Archaeological Clearance Investigation: Acque Chaining and Reseeding Project, Zuni Indian Reservation, McKinley County, New Mexico*. Zuni Archaeology Program Report No. 66. Pueblo of Zuni, New Mexico.

1989 Ceramic Types of the Zuni Area. Draft presented at the NMAC Ceramic Workshop, Silver City, New Mexico, October 1989.

Fowler, Andrew P., and John R. Stein
Fowler, Andrew P., John R. Stein, and Roger Anyon
1987 *An Archaeological Reconnaissance of West-Central New Mexico: The Anasazi Monument Project*. Draft report submitted to the Historic Preservation Division, Office of Cultural Affairs, State of New Mexico, Santa Fe.

Gerritsen, Fokke

Gilpin, Dennis
2003 Chaco-Era Site Clustering and the Concept of Communities. *Kiva* 69(2):171-205.

Gilpin, Dennis, and David E. Purcell

Gladwin, Harold S.

Goetze, Christine E., and Barbara J. Mills

Gratz, Kathleen E.


Graves, Donna K.
Gregory, David A., and Fred L. Nails

Gumerman, George J.

Gumerman, George J. (editor)

Gumerman, George J., and Jeffrey S. Dean

Hagstrum, Melissa

Hall, Stephen A.

Hawley, Florence M.

Hays, Alden C., David M. Brugge, and W. James Judge

Hegmon, Michelle

Holmes, Barbara E., and Andrew P. Fowler
1985 Mitigation of Adverse Effects to Cultural Resources to be Impacted by the Construction of the Oak Wash Dam on the Zuni Pueblo Watershed Project. Zuni Archaeology Program Report No. 224a. Pueblo of Zuni, New Mexico.
Hunter-Anderson, Rosalind L.
1978 *An Archaeological Survey of the Yellowhouse Dam Area, Zuni Indian Reservation, New Mexico.* Office of Contract Archeology, University of New Mexico, Albuquerque.

Huntley, Deborah L., and Keith W. Kintigh


Huntley, Deborah L., Nancy Mahoney, and Keith W. Kintigh

Hurst, Winston B.

Hurst, Winston B., and Jonathan D. Till

Irwin-Williams, Cynthia
1972 *The Structure of Chacoan Society in the northern Southwest: Investigations at the Salmon Site 1972.* Eastern New Mexico University Contributions in Anthropology Vol. 4, No. 3. Eastern New Mexico University, Portales.

Isbell, William H.

Jalbert, Joseph P.
Jalbert, Joseph P., and Catherine M. Cameron

Judd, Neil M.


Judge, W. James


Kantner, John


Kantner, John, Nathan Bower, Jeffery Ladwig, Jacob Perlitz, Steve Hata, and Darren Greve
2000 Interaction Among Great House Communities: An Elemental Analysis of Cibolan Ceramics. In *Great House Communities Across the Chacoan Landscape*, edited
by J. Kantner and N. Mahoney, pp. 130-146. Anthropological Papers of the University of Arizona No. 64. University of Arizona Press, Tucson.

Kantner, John W., and Keith W. Kintigh

Kane, Allen E., and G. Timothy Gross

Kidder, Alfred V.

Kilburn, Nicole L.
2001  Integration of Late Bonito Phase Communities in the Chaco Regional System. Unpublished Ph.D. dissertation, Department of Anthropology, University of Colorado. Boulder.

Kintigh, Keith W.
1982  Settlement Patterns in Late Zuni Prehistory. Unpublished Ph.D. dissertation, Department of Anthropology, University of Michigan, Ann Arbor.

1985  Settlement, Subsistence, and Society in Late Zuni Prehistory. Anthropological Papers of the University of Arizona 44, Tucson.


Kintigh, Keith W., Todd L. Howell, and Andrew I. Duff
Kendrick, James W., and Janet Hagopian

Kendrick, James W., and W. James Judge

Kolb, Michael J., and James E. Snead

LeBlanc, Steven A.


Lekson, Stephen H.


Lekson, Stephen H. (editor)
1999  The Chaco Meridian: Centers of Political Power in the Ancient Southwest. AltaMira Press, Walnut Creek.

2006  The Archaeology of Chaco Canyon: An Eleventh-Century Pueblo Regional Center. School of American Research, Santa Fe.
2007  *The Architecture of Chaco Canyon, New Mexico.* The University of Utah Press, Salt Lake City.

Lekson, Stephen H., and Catherine M. Cameron  

Lekson, Stephen H., and Karin Burd  

Lightfoot, Kent G., Antoinette Martinez, and Ann M. Schiff  

Lipe, William D.  


Lipe, William D., R. G. Matson, and Jesse Morin  

Lister, Robert H., and Florence C. Lister  

Mahoney, Nancy M.  

Mahoney, Nancy M., and John Kantner  
Maker, H. J., Edward H. Bullock, and J. U. Anderson
1974 *Soil Associations and Land Classification for Irrigation, McKinley County*. New Mexico State University Agricultural Experiment Station Research Report 262, Las Cruces.

Malville, J. McKim

Marshall, Michael P.

Marshall, Michael P., David E. Doyel, and Cory D. Breternitz

Marshall, Michael P., John R. Stein, Richard W. Loose, and Judith E. Novotny
1979 *Anasazi Communities in the San Juan Basin*. Public Service Company of New Mexico and New Mexico State Planning Division, Albuquerque and Santa Fe.

Martin, Paul S.

McGimsey, Charles R.

Mills, Barbara J.


Mindeleff, Victor

Morgan, Lewis H.

Morris, Earl H.


Murdock, George P.

Murdock, George P. and Suzanne R. Wilson

Nails, Fred L., John Stein, and John Roney

Neitzel, Jill E.

Noble, David G. (editor)
2004 In Search of Chaco: New Approaches to an Archaeological Enigma. School of Advanced Research Press, Santa Fe.

Pauketat, Timothy R.

Pepper, George H.
Peterson, Christian E., and Robert D. Drennan

Pippin, Lonnie C.
1987  *Prehistory and Paleoecology of Guadalupe Ruin, New Mexico*. University of Utah Anthropological Papers 107, Salt Lake City.

Plog, Fred


Reed, Paul F.

Reiser, Christine N.

Renfrew, Colin, and John F. Cherry (editors)

Roberts, Frank H. H.


Rohn, Arthur H.

Roler, Kathy L.
Roney, John R.

Saitta, Dean J.

Schachner, Gregson


Schelberg, John D.

Sebastian, Lynne


Snygg, John, and Tom Windes

Sofaer, Anna

South, Stanley

Spier, Leslie  

Stein, John R.  

Stein, John R., and Andrew P. Fowler  

Stein, John R., and Stephen H. Lekson  

Sweeney, Naoise M.  

Swentzell, Rina  

Todd, Brenda K.  

Toll, H. Wolcott  


Toll, H. Wolcott, and C. Dean Wilson

Toll, H. Wolcott, Stephen C. Lent, and Charles A. Hannaford

Turner, Christy G., II, and Jacqueline A. Turner
1999 *Man Corn: Cannibalism and Violence in the Prehistoric American Southwest*. University of Utah Press, Salt Lake City.

Van Dyke, Ruth M.


2007 The Chaco Experience: Landscape and Ideology at the Center Place. School of Advanced Research Press, Santa Fe.

Varien, Mark D.
1987 Survey, Testing, and Excavation along New Mexico State Highway 53, between the Black Rock Cutoff Road and the Nutria Road, Zuni Indian Reservation, McKinley County, New Mexico. Zuni Archaeology Program Report No. 232. Pueblo of Zuni, New Mexico.


2000 Communities and the Chacoan Regional System. In Great House Communities Across the Chacoan Landscape, edited by J. Kantner and N. Mahoney, pp. 149-156. Anthropological Papers of the University of Arizona No. 64. University of Arizona Press, Tucson.

Varien, Mark D., and James M. Potter

Varien, Mark D., Scott G. Ortman, Timothy A. Kohler, Donna M. Glowacki

Vivian, R. Gordon, and Tom W. Mathews

Vivian, R. Gordon, and Paul Reiter

Vivian, R. Gwinn

1974 Conservation and Diversion: Water-Control Systems in the Anasazi Southwest. In Irrigation’s Impact on Society, edited by W. A. Longacre, pp. 59-83. School of
American Research, Advanced Seminar Series. University of New Mexico, Albuquerque.


Warburton, Miranda and Donna K. Graves

Ware, John A.

Watson, Patty Jo, Steven A. LeBlanc, and Charles L. Redman

Wichlacz, Caitlin A.

Wilcox, David R.


Wills, W. H.

Wills, W. H., and Wetherbee B. Dorshow

Wilshusen, Richard H., and Ruth M. Van Dyke

Windes, Thomas C.


Windes, Thomas C., Rachel M. Anderson, Brian K. Johnson, and Cheryl A. Ford

Windes, Thomas C., and Dabney Ford

Wobst, H. Martin

Woodbury, Richard, and Natalie F. S. Woodbury
Yaeger, Jason and Marcello A. Canuto, editors

Yoffee, Norman

Young, Lisa C., and Sarah A. Herr
# APPENDIX A

BADGER SPRINGS SITES (SURVEY DATA)

<table>
<thead>
<tr>
<th>FN</th>
<th>Phase</th>
<th>Site Type</th>
<th>Site Tag / LA #</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>BM III</td>
<td>Sandstone scatter w/artifacts</td>
<td>None</td>
</tr>
<tr>
<td>63</td>
<td>BMIII</td>
<td>Lithic artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>86</td>
<td>BMIII</td>
<td>Rubblemound with midden Upright resembling</td>
<td>None</td>
</tr>
<tr>
<td>89</td>
<td>BMIII</td>
<td>Lithic artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>125</td>
<td>BMIII</td>
<td>Sandstone rubble with Charcoal soil staining with artifacts</td>
<td>None</td>
</tr>
<tr>
<td>57</td>
<td>BMIII-PI</td>
<td>Artfact scatter</td>
<td>None</td>
</tr>
<tr>
<td>29</td>
<td>BMIII-PI</td>
<td>Large Pueblo</td>
<td>None</td>
</tr>
<tr>
<td>30</td>
<td>BMIII-PI</td>
<td>Roomblock with kiva</td>
<td>None</td>
</tr>
<tr>
<td>48</td>
<td>BMIII-PI</td>
<td>Pueblo</td>
<td>None</td>
</tr>
<tr>
<td>60</td>
<td>BMIII-PI</td>
<td>Great House site</td>
<td>None</td>
</tr>
<tr>
<td>67</td>
<td>BMIII-PI</td>
<td>Large Pueblo</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rubblemound with dense midden</td>
<td>U # 9-89</td>
</tr>
<tr>
<td>68</td>
<td>BMIII-PI</td>
<td>Rubblemound with dense midden</td>
<td>U # 10-89</td>
</tr>
<tr>
<td>69</td>
<td>BMIII-PI</td>
<td>Rubblemound with dense midden</td>
<td>U # 12-89</td>
</tr>
<tr>
<td>70</td>
<td>BMIII-PI</td>
<td>Rubblemound with dense midden</td>
<td>U # 44-89</td>
</tr>
<tr>
<td>71</td>
<td>BMIII-PI</td>
<td>Rubblemound with dense midden</td>
<td>U # 43-89</td>
</tr>
<tr>
<td>72</td>
<td>BMIII-PI</td>
<td>Rubblemound with dense midden</td>
<td>U # 41-89</td>
</tr>
<tr>
<td>73</td>
<td>BMIII-PI</td>
<td>Rubblemound with dense midden</td>
<td>U # 15-89</td>
</tr>
<tr>
<td>74</td>
<td>BMIII-PI</td>
<td>Rubblemound with dense midden</td>
<td>U # 13--89</td>
</tr>
<tr>
<td>76</td>
<td>BMIII-PI</td>
<td>Rubblemound with dense midden</td>
<td>U # 40-89</td>
</tr>
<tr>
<td>7</td>
<td>PI-II</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>8</td>
<td>PI-II</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>11</td>
<td>PI</td>
<td>Sandstone upright structures</td>
<td>None</td>
</tr>
<tr>
<td>15</td>
<td>PI</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>16</td>
<td>PI</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>18</td>
<td>PI</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>19</td>
<td>PI</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>Site Number</td>
<td>Unit Code</td>
<td>Feature Description</td>
<td>Context Code</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------</td>
<td>--------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>34</td>
<td>PI</td>
<td>Rubblemound with artifacts</td>
<td>None</td>
</tr>
<tr>
<td>39</td>
<td>PI</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>41</td>
<td>PI</td>
<td>Isolated room (lookout)</td>
<td>None</td>
</tr>
<tr>
<td>47</td>
<td>PI</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>51</td>
<td>PI</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>106</td>
<td>PI</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>107</td>
<td>PI</td>
<td>Sandstone scatter w/artifacts</td>
<td>None</td>
</tr>
<tr>
<td>1</td>
<td>PI-II</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>6</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>10</td>
<td>PI-II</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>12</td>
<td>PI-II</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>17</td>
<td>PI-II</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>23</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>24</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>25</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>27</td>
<td>PI-II</td>
<td>Rubblemound with artifacts</td>
<td>None</td>
</tr>
<tr>
<td>31</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>32</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>33</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>36</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>37</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>38</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>46</td>
<td>PI-II</td>
<td>Rubblemound with artifacts</td>
<td>None</td>
</tr>
<tr>
<td>49</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>50</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>52</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>53</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>54</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>55</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>56</td>
<td>PI-II</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>58</td>
<td>PI-II</td>
<td>Rubblemound with artifacts</td>
<td>None</td>
</tr>
<tr>
<td>64</td>
<td>PI-II</td>
<td>Ceramic and lithic scatter</td>
<td>None</td>
</tr>
<tr>
<td>94</td>
<td>PI-II</td>
<td>Rubblemound with artifacts</td>
<td>LA 49197</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scattered sandstone with artifacts</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>PI-II</td>
<td>Artifacts</td>
<td>LA 109945</td>
</tr>
<tr>
<td>97</td>
<td>PI-II</td>
<td>Great House site</td>
<td>U#5-92,LA61165</td>
</tr>
<tr>
<td>98</td>
<td>PI-II</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>99</td>
<td>PI-II</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>100</td>
<td>PI-II</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>101</td>
<td>PI-II</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>102</td>
<td>PI-II</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>105</td>
<td>PI-II</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>111</td>
<td>PI-II</td>
<td>Sandstone scatter w/ artifacts</td>
<td>LA 109757</td>
</tr>
<tr>
<td>Site Number</td>
<td>Period</td>
<td>Feature Description</td>
<td>Location</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>---------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>113</td>
<td>PI-II</td>
<td>Rubblemounds with midden</td>
<td>None</td>
</tr>
<tr>
<td>114</td>
<td>PI-II</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>115</td>
<td>PI-II</td>
<td>Sandstone scatter w/artifacts</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scattered sandstone with artifacts</td>
<td></td>
</tr>
<tr>
<td>126</td>
<td>PI-II</td>
<td>Roomblock w/ kiva and plaza</td>
<td>U#8-89</td>
</tr>
<tr>
<td>132</td>
<td>PI-II</td>
<td>Roomblocks w/ kivas and plaza</td>
<td>None</td>
</tr>
<tr>
<td>133</td>
<td>PI-II</td>
<td>Roomblock</td>
<td>U#21-89</td>
</tr>
<tr>
<td>133</td>
<td>PI-II</td>
<td>Roomblock</td>
<td>U#22-89</td>
</tr>
<tr>
<td>133</td>
<td>PI-II</td>
<td>Roomblock</td>
<td>U#28-89</td>
</tr>
<tr>
<td>133</td>
<td>PI-II</td>
<td>Roomblock</td>
<td>U#30-89</td>
</tr>
<tr>
<td>134</td>
<td>PI-II</td>
<td>Roomblock</td>
<td>U#18-89</td>
</tr>
<tr>
<td>135</td>
<td>PI-II</td>
<td>Roomblock</td>
<td>U#23-89</td>
</tr>
<tr>
<td>137</td>
<td>PI-II</td>
<td>Roomblock</td>
<td>U?</td>
</tr>
<tr>
<td>138</td>
<td>PI-II</td>
<td>Rubblemound</td>
<td>U#6-89</td>
</tr>
<tr>
<td>140</td>
<td>PI-II</td>
<td>Rubblemound</td>
<td>U#3-89</td>
</tr>
<tr>
<td>2</td>
<td>PI-III</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>14</td>
<td>PI-III</td>
<td>Large Pueblo</td>
<td>None</td>
</tr>
<tr>
<td>21</td>
<td>PI-III</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>35</td>
<td>PI-III</td>
<td>Rubblemound with kiva</td>
<td>None</td>
</tr>
<tr>
<td>40</td>
<td>PI-III</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>104</td>
<td>PI-III</td>
<td>Rubblemound with artifacts</td>
<td>None</td>
</tr>
<tr>
<td>136</td>
<td>PI-III</td>
<td>Great House site</td>
<td>U#2-89</td>
</tr>
<tr>
<td>3</td>
<td>PII</td>
<td>Roasting pit</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>PII</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>9</td>
<td>PII</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>13</td>
<td>PII</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>22</td>
<td>PII</td>
<td>Artifact scatter</td>
<td>None</td>
</tr>
<tr>
<td>42</td>
<td>PII</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>45</td>
<td>PII</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
<tr>
<td>62</td>
<td>PII</td>
<td>Rubblemound</td>
<td>None</td>
</tr>
<tr>
<td>65</td>
<td>PII</td>
<td>Ceramic and lithic scatter</td>
<td>LA 109946</td>
</tr>
<tr>
<td>77</td>
<td>PII</td>
<td>Petroglyphs</td>
<td>None</td>
</tr>
<tr>
<td>78</td>
<td>PII</td>
<td>Pitstructure in arroyo cut</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Irrigation canals with scattered sandstone</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>PII</td>
<td>Petroglyphs</td>
<td>None</td>
</tr>
<tr>
<td>87</td>
<td>PII</td>
<td>Rubblemound</td>
<td>None</td>
</tr>
<tr>
<td>90</td>
<td>PII</td>
<td>Rubblemound</td>
<td>None</td>
</tr>
<tr>
<td>93</td>
<td>PII</td>
<td>Rubblemound with artifacts</td>
<td>LA 49237</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scattered sandstone with artifacts</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>PII</td>
<td>Artifact scatter with stained soil</td>
<td>LA 109944</td>
</tr>
<tr>
<td>112</td>
<td>PII</td>
<td>Roomblock with midden</td>
<td>LA 109756</td>
</tr>
<tr>
<td>4</td>
<td>PII-III</td>
<td>Roomblock with midden</td>
<td>None</td>
</tr>
</tbody>
</table>

252
<table>
<thead>
<tr>
<th>PII-III</th>
<th>Cliff dwelling</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>PII-III</td>
<td>Petroglyphs</td>
<td>None</td>
</tr>
<tr>
<td>PII-III</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>PII-III</td>
<td>Rubblemound with midden</td>
<td>None</td>
</tr>
<tr>
<td>PII-III</td>
<td>Petroglyphs</td>
<td>None</td>
</tr>
<tr>
<td>PII-IV</td>
<td>Rubblemound/Kiva</td>
<td>U#3-89</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>One room structure</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>Petroglyphs</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>Petroglyphs</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>Scattered sandstone with artifacts</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>Refugee site (out of project area)</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>One room structure</td>
<td>U # 21-89</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>One room structure</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>One room structure</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>One room structure with petroglyphs</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>One room structure with petroglyphs</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>One room structure</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>Pueblo site</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>Surface structures</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>Wall alignment</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>Sandstone scatter w/artifacts</td>
<td>None</td>
</tr>
<tr>
<td>PIII-IV</td>
<td>House foundation</td>
<td>LA 109755</td>
</tr>
<tr>
<td>Period</td>
<td>Historic Zuni/Refuge</td>
<td>Artifact Type</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>119</td>
<td>Historic Zuni/Refuge</td>
<td>One room structure</td>
</tr>
<tr>
<td>121</td>
<td>Historic Zuni/Refuge</td>
<td>Activity Area</td>
</tr>
<tr>
<td>122</td>
<td>Historic Zuni/Refuge</td>
<td>One Room Structure</td>
</tr>
<tr>
<td>123</td>
<td>Historic Zuni/Refuge</td>
<td>Petroglyphs</td>
</tr>
<tr>
<td>124</td>
<td>Historic Zuni/Refuge</td>
<td>One Room Structure</td>
</tr>
<tr>
<td>127</td>
<td>Historic Zuni/Refuge</td>
<td>One room structure</td>
</tr>
<tr>
<td>128</td>
<td>Historic Zuni/Refuge</td>
<td>One room structure</td>
</tr>
<tr>
<td>129</td>
<td>Historic Zuni/Refuge</td>
<td>Surface structures</td>
</tr>
<tr>
<td>130</td>
<td>Historic Zuni/Refuge</td>
<td>One room structure</td>
</tr>
<tr>
<td>131</td>
<td>Historic Zuni/Refuge</td>
<td>One room structure</td>
</tr>
</tbody>
</table>
## APPENDIX B

**BARTH WELL SITES (SURVEY DATA)**

<table>
<thead>
<tr>
<th>FN</th>
<th>Phase</th>
<th>Site Type</th>
<th>Site Tag/LA#</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>BMIII-PI</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>9</td>
<td>BMIII-PI</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pitstructure outlines,midden,rubble scatter</td>
<td>None</td>
</tr>
<tr>
<td>127</td>
<td>BMIII-PII</td>
<td>Artifact Scatter w/Features &amp; Historic camp &amp; Pitstructure</td>
<td>None</td>
</tr>
<tr>
<td>100</td>
<td>BMIII-PII</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>121</td>
<td>BMIII-PIII</td>
<td>Great House Mound w/Historic Component</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>PI</td>
<td>Artifact Scatter &amp; Historic Component</td>
<td>None</td>
</tr>
<tr>
<td>11</td>
<td>PI</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>91</td>
<td>PI</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>48</td>
<td>PI</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LA 109730</td>
<td>None</td>
</tr>
<tr>
<td>7</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>8</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>28</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>93</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>145</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>50</td>
<td>PI-II</td>
<td>Great House Mound</td>
<td>None</td>
</tr>
<tr>
<td>12</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>76</td>
<td>PI-II</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>19</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Artfact Scatter &amp; Charcoal Stain</td>
<td>None</td>
</tr>
<tr>
<td>16</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>49</td>
<td>PI-II</td>
<td>Great House Mound</td>
<td>None</td>
</tr>
<tr>
<td>51</td>
<td>PI-II</td>
<td>Great House Mound</td>
<td>None</td>
</tr>
<tr>
<td>89</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>78</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>90</td>
<td>PI-II</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>126</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>125</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>102</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Type</td>
<td>Features</td>
<td>Notes</td>
</tr>
<tr>
<td>-----</td>
<td>------------------</td>
<td>-------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>10</td>
<td>PI-II</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>94</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>107</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>98</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>111</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>133</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>137</td>
<td>PI-II</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>159</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>44</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>74</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>85</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>97</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>105</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>122</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>123</td>
<td>PI-II</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>124</td>
<td>PI-II</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>135</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>138</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>147</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>129</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>117</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>34</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>45</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>53</td>
<td>PI-II</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>26</td>
<td>PI-II</td>
<td>Rubble Mound w/Midden</td>
<td>None</td>
</tr>
<tr>
<td>144</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>146</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>15</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>65</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>113</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>115</td>
<td>PI-II</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>104</td>
<td>PI-II</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>143</td>
<td>PI-II</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>158</td>
<td>PI-II</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>25</td>
<td>PI-III</td>
<td>Habitation Rubblemound</td>
<td>None</td>
</tr>
<tr>
<td>53</td>
<td>PI-III</td>
<td>Great House Mound</td>
<td>None</td>
</tr>
<tr>
<td>71</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>42</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>52</td>
<td>PI-III</td>
<td>Roomblocks w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>Site</td>
<td>Phase</td>
<td>Feature Type</td>
<td>Comments</td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>--------------</td>
<td>----------</td>
</tr>
<tr>
<td>57</td>
<td>PI-III</td>
<td>Great House Mound</td>
<td>None</td>
</tr>
<tr>
<td>58</td>
<td>PI-III</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>60</td>
<td>PI-III</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>112</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>29</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>72</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>110</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>119</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>140</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>141</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>155</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>139</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>21</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>22</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features Rubble Mounds w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>75</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features Rubble Mounds w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>130</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>132</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>156</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>20</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>32</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>128</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>55</td>
<td>PI-III</td>
<td>Great House Mound Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>59</td>
<td>PI-III</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>61</td>
<td>PI-III</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>62</td>
<td>PI-III</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>63</td>
<td>PI-III</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>84</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>92</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>101</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>106</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>114</td>
<td>PI-III</td>
<td>Artifact Scatter LA 109727 Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>136</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>116</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>31</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>39</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>43</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>64</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>73</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>109</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>142</td>
<td>PI-III</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>23</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>35</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>46</td>
<td>PI-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>47</td>
<td>PI-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>56</td>
<td>PI-III</td>
<td>Great House Mound</td>
<td>None</td>
</tr>
<tr>
<td>151</td>
<td>PI-IV</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>152</td>
<td>PI-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>80</td>
<td>PI-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>118</td>
<td>PI-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>27</td>
<td>PI-IV</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>33</td>
<td>PI-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>69</td>
<td>PI-IV</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>148</td>
<td>PI-IV</td>
<td>Rubble Mound w/Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>153</td>
<td>PI-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>24</td>
<td>PII</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>120</td>
<td>PII</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>157</td>
<td>PII</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>18</td>
<td>PII</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>30</td>
<td>PII</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>87</td>
<td>PII</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>67</td>
<td>PII</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>99</td>
<td>PII</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>13</td>
<td>PII-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>40</td>
<td>PII-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>41</td>
<td>PII-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>54</td>
<td>PII-III</td>
<td>Great House Mound</td>
<td>None</td>
</tr>
<tr>
<td>88</td>
<td>PII-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>68</td>
<td>PII-III</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>37</td>
<td>PII-III</td>
<td>Artifact Scatter w/Features</td>
<td>None</td>
</tr>
<tr>
<td>150</td>
<td>PII-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>81</td>
<td>PII-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>82</td>
<td>PIII</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>70</td>
<td>PIII-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>103</td>
<td>PIII-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>154</td>
<td>PIII-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>No</td>
<td>Period</td>
<td>Type</td>
<td>Description</td>
</tr>
<tr>
<td>----</td>
<td>--------</td>
<td>-------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>83</td>
<td>PIII-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>79</td>
<td>PIII-IV</td>
<td>Artifact Scatter</td>
<td>None</td>
</tr>
<tr>
<td>149</td>
<td>PIV</td>
<td>Habitation (Chalowa)</td>
<td>LA 49225</td>
</tr>
<tr>
<td>77</td>
<td>Historic 1950</td>
<td>Historic Brush Corral</td>
<td>None</td>
</tr>
<tr>
<td>96</td>
<td>Historic 1950</td>
<td>Sheep Camp &amp; Corral</td>
<td>None</td>
</tr>
<tr>
<td>131</td>
<td>Historic 1950</td>
<td>Brush Corral</td>
<td>None</td>
</tr>
<tr>
<td>134</td>
<td>Historic 1959</td>
<td>Sheep camp brush corral</td>
<td>None</td>
</tr>
</tbody>
</table>