

**ANCIENT PUEBLITOS  
OF THE SANDIA FOOTHILLS**

By

Hayward H. Franklin



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This overview would not have been possible without access to the NMCRIS database; thanks to the folks at ARMS, who maintain that database. Thanks also to David Snow for providing the quotations from documents relating to native riverine residents who fled to the mountains in response to Spanish explorers and colonists. Matt Schmader’s Bear Canyon report and the other information he provided about the foothills area proved most useful. Mike Marshall gave me insights into his early cultural resource surveys in the area, and on his current research in the analogous foothills of the Manzano Mountains. Much credit also goes to the Albuquerque Archaeological Society; its early detailed recording of the Jaral site and the nearby historic homestead set a high standard of quality, and sparked my own interest in this fascinating area. Finally, *mil gracias* to Dave Phillips for editing the manuscript and including it in the Maxwell Museum Technical Series.



## INTRODUCTION

Since 1980, when I moved to Albuquerque, I have hiked the western foothills of the Sandia Mountains. During these ramblings I found vestiges of early habitation and resource use. There is a surprising number of archaeological sites in the foothills zone, and they span many centuries. This report summarizes the archaeological resources of the western Sandia foothills, combining my field observations with data from site records.

The foothills sites are concentrated along the margins of large washes or near permanent springs, places which attracted people for a variety of reasons. The many types of archaeological sites represent surprisingly intense human use of the foothills area over many centuries. Puebloan use of the foothills is especially visible, with a peak of activity between A.D. 1100 to 1500. All dates herein are A.D. (CE) unless otherwise noted.

Site conditions vary; most are eroded and none has been stabilized. Even larger sites are not visually impressive. It does not help that site surfaces are heavily picked over, with artifacts difficult to find. (Sites where I found abundant surface artifacts in 1980 have very few today.) A close examination is required to trace out the physical remnants of structures and activity areas. Scars from pot-hunting are sometimes evident, but site damage is due mostly to natural erosion. Information on subsurface remains is mostly not available; only the Bear Canyon site (LA 61032) has been excavated using scientific methods. Jaral Pueblo (LA 47875) has also been investigated and mapped by several projects since 1979.

In the past few years I revisited many sites in the area, accompanied by friends who are historians and archaeologists. Many are members of the Albuquerque Archaeological Society and know the area well. At times members of the USDA Forest Service helped record and map sites. Relying in part on the Archaeological Records Management System (ARMS) in Santa Fe (including its online version, the New Mexico Cultural Resource Information System or NMCRIS), and despite inaccuracies in reported locations of sites, we found most of the sites previously documented in the foothills. In addition, we found sites that had not been recorded (such as agricultural fields in lower Juan Tabó Canyon) and a mostly-destroyed site (near the duck pond in Elena Gallegos Open Space).

Figure 1 shows the limits of our efforts. The north end of the study area included the Del Agua drainage and the south end extended to Carnuel in lower Tijeras Canyon. (Only two major sites at the south end of the project area were studied; Tijeras Canyon is a natural setting distinct from the western foothills.) East-west, the study area extends from the suburban neighborhoods next to Tramway Boulevard eastward to the western escarpment of the Sandia Mountains.

This summary report is based on notes and photographs from the site visits. I also compiled an Excel spreadsheet listing 112 sites in the project area. The spreadsheet includes each site's Laboratory of Anthropology (LA) number and a summary of the information at ARMS. The data are arranged by major drainage, from north to south. Copies of my notes, my photographs, and the spreadsheet have been provided to the Sandia Ranger District staff in Tijeras.



**Figure 1.** Limits of the study area. Image source: Google Earth.

### **The Foothills Environment**

The massive granite uplift of the Sandia Mountains dominates the view east from Albuquerque, New Mexico. This uplift is some 15 to 20 miles (24–32 km) from the Rio Grande. The intervening area is mostly a gently sloping bajada, but at the edge of the valley the bajada gives way to increasingly steep foothills. At a series of faults, those hills give way to the towering rock slopes and cliffs that make up the western front of the Sandia Mountains. The deep canyons that gash that side of the Sandias open out onto alluvial fans and usually dry streams once they reach the foothills zone. The elevation of the upper foothills is about 6000 to 7500 feet (1800–2300 m) above sea level. Kelley (1977, 1982) provides excellent geological descriptions of the Sandias and their environs. Figures 2 and 3 provide general views of the foothills zone.





**Figure 2.** Embudo Canyon in the lower Sandia Mountains.



**Figure 3.** Boulder shelters in Embudo Canyon.

Springs and small streams (both mostly ephemeral) provide limited water to foothills plant and animal life. Deer are common and some live among the houses of the local neighborhoods. Rabbits, squirrels, and variety of bird species are also common. Mountain sheep were present in historical times, but the local herd is now extinct; the only common large game species is mule deer. Local predators include coyotes and occasional bobcats. Bears are especially likely to wander out of the mountains in the fall, when they are trying to build fat reserves and residential trash cans are especially tempting.

The local climate varies greatly, with cold winters and hot summers, and can be quite extreme. Spring alternates between warm and cold spells alternating. Fall tends to be a pleasant time, with cool but sunny days. Most of the local precipitation takes the form of rainfall in the summer and early fall, but in the winter periods of calm weather are punctuated by rain and snow storms.

Past Southwestern climatic fluctuations had profound effects on prehistoric life, including in the foothills of the Sandia Mountains. For the period of heaviest prehistoric use (the Coalition and early Classic periods, 1300–1450), climate reconstructions (Benson and Berry 2009; Grissino-Mayer 2020) show that conditions in central New Mexico were mainly good. This may have encouraged increased use of the foothills area. Conversely, unstable conditions and moderate drought in the middle 1500s may have reduced human exploitation of the foothills. Conditions today have become increasingly arid again, and ephemeral streams are mostly dry.

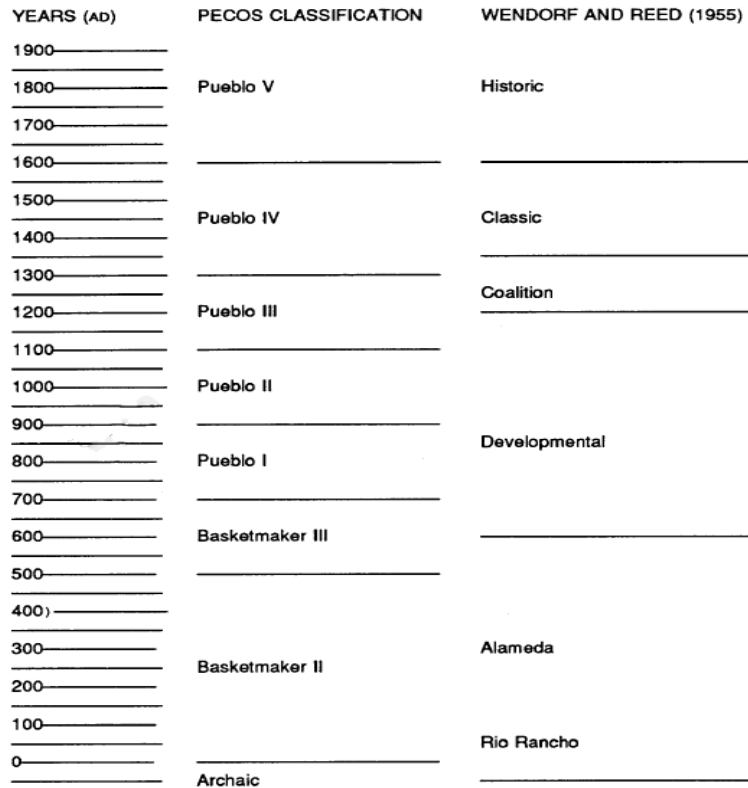
## **Overview of Culture History**

Overviews of the culture history of the Middle Rio Grande district can be found in Cordell (1980a) and Stuart and Gauthier (1988), which I used in the discussion that follows. The local chronology is summarized in Figure 4. I have used the Pecos classification system and a modified version of the Wendorf and Reed (1955) system as the time framework for this report.

The documented prehistoric occupations of the Middle Rio Grande district begins with Paleoindian sites with megafauna, especially Folsom culture sites (Judge 1973). This period was followed by millennia of Archaic period of occupation, which Cynthia Irwin-Williams (1973) systematized as the Oshara tradition. Recent excavations have documented Archaic villages occupied at different times on Albuquerque's West Mesa of Albuquerque (Schmader 2020; Vierra 2018). The seemingly stable local Archaic adaptation eventually added limited maize horticulture.

Ceramics were introduced by 600, and pit house villages along the river were common by about 600 to 900. This era has been designated the Developmental period (Wendorf and Reed 1955) and more recently as Early Ancestral Pueblo (Schmader 2020).

By about 1050 to 1100, an influx of new peoples and wider regional contacts began to speed cultural change in the area. Many new villages were built along the margins of the Rio Grande. Sedentary agricultural villages flourished, and the subsistence triad of maize, beans, and squash was augmented by hunting game animals in the uplands of the Sandia and Manzano Mountains.



**Figure 4.** Local chronology.

During the Coalition (Pueblo III) period (1100–1300) many pit house villages were established between Isleta and Bernalillo, making the Middle Rio Grande a center of activity. Unfortunately, most Coalition period archaeological sites in Albuquerque were destroyed by urban sprawl. Salvage reports from the 1950s and 1960s (e.g., Frisbie 1967) document the former extent of the loose clusters of pit houses that once dotted the river’s edge.

About 1300, major changes in local Pueblo culture marked the start of the Classic period. The clusters of pit houses were replaced by adobe pueblos with several hundred rooms. The local population may have been boosted by waves of immigrants—a process also seen in other parts of the Rio Grande drainage basin. When European explorers arrived in the 1500s, they found some 14 to 16 pueblo towns in the Albuquerque Basin.

Ceramic technology also changed rapidly at the start of the Classic period. The black-on-white pottery types (including Socorro and Santa Fe/Galisteo) of the Coalition period were replaced by the polychrome vessels of the Rio Grande Glaze Ware tradition. These strikingly different ceramics incorporated lead-based (“glaze”) black paint along with red, yellow, and white slips and paints. The changes to pottery were only a small part of the rapid and sweeping change that affected every aspect of Pueblo life, including social organization and religion. Nonetheless, they increased the spatial extent of “catchment areas” for raw materials, fostering reciprocal exchanges between large pueblos.

Utilization of a broader range of environmental resources away from the river valley became common during the Classic period expansion. The pueblos along the Rio Grande, either newly constructed or expanded in the early 1300s, undoubtedly functioned as the home bases for new forays to the Sandias. Some of the better preserved big Classic villages along the river that would have made use of foothills resources include, from south to north: Valencia Pueblo (LA 953), Piedras Marcadas (LA 290), Montañño Bridge (LA 33223), Chamisal (LA 22765), Alameda (LA 421), Santiago (LA 326/728), and Kuaua (LA 187). It is not surprising that the major cultural features in the foothills derive from this period. The small foothills pueblos of the late Coalition and early Classic periods did not exist on their own; they were closely allied to the large communities next to the river.

The western Sandia foothills were also accessible to other Classic period pueblos that were situated in other areas, away from the Rio Grande. These include Tijeras Pueblo (LA 581) in upper Tijeras Canyon (Cordell 1980b; Habicht-Mauche 1995), as well as San Antonio Pueblo (LA 24) on the east side of the Sandia mountains. However, as these settlements lay at higher elevations comparable to the western foothills of the Sandias, their residents may have had local sources for the resources available in the western foothills. To the north, major settlements along the Rio Grande tributaries such as Tonque (LA 240), San Marcos (LA 98), and Paako (LA 162) also had access to northern Sandia foothills, at a distance. In all, the Sandias were almost ringed by major Pueblo towns.

Pueblo occupation and intermittent use of the western foothills ceased about the time of the Pueblo Revolt of 1680. At the north end of the Sandias, some Pueblo activity, even limited occupation, continued to occur in the foothills during the 1700s and 1800s (Kurota et al. 2018).

Euroamerican farming and ranching may have started in the foothills in the mid-1800s, but evidence is scanty. A wetter period in the early 1900s encouraged grazing in the foothills, especially of sheep. This expansion of regional sheep herding led to the construction of corrals, pens, and fences. Considerable evidence of those structures still exists, especially in the rolling country at the mouth Del Agua canyon and to the north. The same area includes strip mines for iron ore. However, most of that area lies north of the current study area. Cabins and corrals are still visible near Tres Aguajes Pueblo, at a shepherd's cabin at the mouth of Domingo Baca Canyon, and at a destroyed historic component next to Honeysuckle Pueblo (in a residential neighborhood). Some locations include broken glass and rusted metal artifacts, yielding clues about the age and function of these sites.

The Jaral Ranger Station (LA 47881) was built in the 1930s and was in active use until the 1960s. During the Great Depression, other local CCC projects included check dams (for erosion control) in some of the local canyons and washes.

Grazing probably ceased with the drought of the early 1950s and with the local expansion of Cibola National Forest. More recently, the City of Albuquerque's Open Space program succeeded in setting aside foothills areas next to Cibola National Forest as public lands. Since that time, the major use of the undeveloped part of the foothills has been for public recreation.

## Previous Studies

In the 1970s, several archaeologists examined the study area. Unfortunately, in many cases the details of these projects are unpublished. The projects had mixed purposes, and they covered only parts of the study area. Nonetheless, a more thorough review of these studies should be undertaken, as I did not attempt to go through all of the unpublished notes from the early reconnaissance and survey work.

John Hayden of the Forest Service conducted an archaeological reconnaissance of the foothills, reconnoitered the area. At roughly the same time, Michael Marshall surveyed the La Cueva-Juan Tabó area prior to its development for visitor use. William Fawcett, a UNM student, recorded major sites in the southern part of the study area in the 1970s, primarily working from Embudo Canyon southward to Tijeras Canyon.

In the 1980s, Marshall conducted a reconnaissance of the Rio en Medio region. Unfortunately, that study is unpublished (Marshall 1989). During that decade, portions of the old Elena Gallegos grant were acquired by the City of Albuquerque as open space and were surveyed (Tainter 1995).

More intensive investigations have occurred at only a few locations. In 1979 and 1980 the Albuquerque Archaeological Society recorded the historic Garcia homestead and nearby Jaral Pueblo near the historic ranger station in Jaral Canyon. A surface sample of ceramics was collected. No comprehensive report was published but Phyllis Davis (1984) prepared reports on the Garcia homestead and six other sites in the Jaral Canyon area, and Joan Wilkes (1978–1979) compiled the field notes. John Hayden and I later revisited and mapped Jaral Pueblo (Figure 5), and I prepared a report on the site and its pottery (Franklin 2010).

John Hayden recorded and named the Tres Aguajes (Three Springs) Site (LA 86716, 86718, and 86720) (Figure 6), a “typical” foothills pueblo of the early Classic period, nestled near permanent water and cottonwood trees.

Honeysuckle Pueblo (LA 49255), in a private subdivision next to Cibola National Forest, was another small site, of 10 to 12 rooms (Figure 7). It was recorded and sampled in 1980; recently it was destroyed by construction of a house. Other modern construction at the edges of the Sandia foothills has probably impacted cultural resources, but adverse effects to sites are not adequately documented.

Of the many sites in this area, only one, the Bear Canyon Site (LA 61032), has been excavated using scientific methods. In the early 1980s, Albuquerque Academy students exposed seven rooms at the site. Gordon Page (1983, 1989) prepared excavation notes for their work, and Matthew Schmader (1989) completed an artifact analysis and prepared a site report (which includes sections by several specialists). To date, the report is the most complete examination of a foothills pueblo.

Despite erosion and other effects of time, substantial cultural resources are still to be found in the west foothills of the Sandia Mountains. Major sections of the National Forest foothills areas have been surveyed, but comprehensive integrative summaries have not been assembled.





**Figure 5.** Jaral Pueblo during mapping.



**Figure 6.** Tres Aguajes during recording.





**Figure 7.** Honeysuckle Pueblo before its destruction.

## **Methods**

The study area shown in Figure 1 measures about 12.5 miles (20 km) north-south and 2.5 to 4 miles (4–6.4 km) east-west. This equates to roughly 45 square miles (115 km<sup>2</sup>). After identifying sites listed by NMCRIS as lying within the study area, we attempted to locate the sites using their stated locations. This met with limited success, which is not surprising because the sites were recorded before civilian GPS technology was available. We therefore searched the vicinity of each dot on the ARMS maps to find what we were looking for. We were able to relocate all of the major sites, at which point we recorded and photographed each one.

If artifacts were visible, some were photographed and immediately returned to the exact spot where they were found (Figure 8). No collections were made. Many photographs were taken of sites and their settings. The resulting photographic record should be helpful in assessing changes in site condition in the future.

For sites with pottery, dating was based on named ceramic types. Harry Mera's original descriptions of many of those ceramic types have been reprinted (Brown et al. 2014). Additional references include Morales (1997), Oppelt (2007), Snow (1982), and Wilson (2008–2017). Dyer (2008) provides excellent illustrations of the local glaze wares. Dates used here are from Wilson (2008–2017).



**Figure 8.** Roger Cook (left) and John Guth (right) documenting artifacts at La Cueva.

Besides providing approximate site locations, the NMCRIS online files provided limited information on the sites themselves. These summary data were entered into an Excel spreadsheet, which forms the basis for the discussion that follows. Readers are cautioned that this count of sites and components (the latter in sites with multiple occupations) is only approximate, because of the limited coverage and variable methods of earlier studies.

The resulting project data were organized into nine areas (mostly drainages), from north to south:

- Del Agua
- Juan Tabó-La Cueva
- Tramway-Domingo Baca
- Pino Wash-Elena Gallegos
- Bear Canyon area
- Embudito Canyon
- Embudo Canyon
- Prospect neighborhood
- Carnuel



## **RESULTS**

### **Site Inventory**

Within the study area, we identified 102 sites with LA numbers, including 112 components. We also visited sites that do not yet have LA numbers, including agricultural sites in lower Juan Tabó Canyon, partly destroyed room blocks at the Elena Gallegos Open Space duck pond, and the Oso Site (in Bear Canyon uphill from the Bear Canyon Site).

The 112 components were grouped as follows.

No Paleoindian remains were found.

Three Archaic period components were defined, based on diagnostic lithic artifacts including projectile points and knives.

Four Developmental period components were defined, based on early ceramic types.

Forty-six Coalition and Classic period components were defined, based primarily on ceramics but also using the presence of above-ground architecture (one or more rooms).

Twenty-three Historical period components were defined, based on the presence of features (for example, corrals and fences) and artifacts (such as cans and bottles).

Twenty-nine components lacked pottery but included non-diagnostic flaked stone artifacts. These components could also include some combination of ground stone, bedrock mortars, and grinding slicks. These sites could not be dated.

Seven components were isolated features such as stone circles and grinding surfaces. These lacked artifacts and could not be dated.

### **Major Periods of Occupation**

The lack of Paleoindian sites is unsurprising; such sites are rare and usually are found in more stable geomorphological settings than the foothills of the Sandia Mountains. Nonetheless, a Folsom point was found near the picnic Elena Gallegos Open Space picnic ground (Matthew Schmader, (personal communication 2020). Otherwise, definite evidence of this period, consisting of diagnostic projectile points, is lacking.

Archaic period sites are present but uncommon. These types of sites are difficult to identify; if they lack diagnostic lithic artifacts, they are instead classified as undated. Even so, Archaic period usage of the west foothills seems to have been limited. Here also, characteristic lithic artifacts are lacking, although collecting of projectile points by hikers cannot be ruled out.

Similarly, evidence of early Puebloan occupation, during the Developmental (Pueblo I–II) period, is limited. Usage of the area undoubtedly occurred, but evidently not on an extensive scale. Early Pueblo pottery is not apparent. Most of the pottery-bearing sites in the western foothills date from 1150 to 1680 (Coalition [Pueblo III] and Classic [Pueblo IV] periods), primarily in the early part of that span. The start of the Classic period saw a dramatic increase in use of the foothills, a pattern that continued well into the Classic period. Thus, most small pueblos date to the late Coalition and early Classic periods. At that time, small pueblos were built at the western base of the Sandia Mountains.

Of the 46 component assignments to the Coalition and early Classic periods (Pueblo III–IV), based on ceramics, 34 were definite and 12 were probable. Permanent or semi-permanent small pueblos were built at a minimum of nine locations in the foothills. These include Jaral (LA 47875), Tres Aguajes (LA 86716, 86718, 86720), Honeysuckle (LA 49255), Water Canyon (LA 50275), La Cueva (LA 50276), Bear Canyon (LA 61032), Oso (no LA number), Duck Pond (no LA number), and Silva Dance Hall site (LA 12924). Many smaller, special-use sites belong to the same time frame.

Puebloan colonization of the western foothills of the Sandia Mountains may be the result of greater population density along the Rio Grande between 1275 and 1325, as the large adobe pueblos were built and occupied. It also may reflect favorable climatic conditions. Starting after the “great drought” of 1276–1299, a period of stable temperatures and above average precipitation began. As a result, the relatively pristine resources of the upland environments now became increasingly utilized by a growing population.

The regional climate remained stable until at least 1425, but the period from 1450 to 1600 period was marked by drastic climate fluctuations and a general decrease in moisture (Benson and Berry (2009; Grissino-Mayer 2020). Probably due to deteriorating environmental conditions, usage of the foothills environment declined in the last half of the Classic period.

No intact Historical period houses exist in the western foothills, but there are 23 well defined foundations, corrals, fences, outbuildings, and discarded trash including cans and bottles. Some of the sites were used as residences but others were not. Along with limited residences, the field corrals, fences and sheds provide evidence of the grazing that once flourished in this zone in the 1800s and early 1900s.

### **Ceramics and Dating**

Assemblages identified in the field revealed a limited number of ceramic types that were well-established at contemporary pueblos along the river. Because ceramic types are well known and reasonably well dated at other major contemporary Classic pueblos, and thus may be used as indicators for dating in the foothills. Harry Mera wrote the first descriptions of many ceramic types, and his original papers have been reprinted (Brown, Wiseman, and Gauthier, 2014). Comprehensive references and dates can be found in Oppelt (2007) and Wilson (2008-2017). A detailed doctoral dissertation on local glaze ware is by Morales (1997), and a good review of the

series is in Snow (1982). Excellent illustrations of glaze wares are available in Dyer (2008). Dates used here are from the OAS Ceramic Typology web site (Wilson 2008–2017).

All ceramic types are closely related to those made and used in contemporary towns along the Rio Grande. No types or wares from the northern Rio Grande (“Biscuit”), or Jemez wares are seen. Pottery types diagnostic of the Salinas or Rio Grande pueblos of the Piro region also have not been identified here.

All of the sites with an adequate surface assemblage of sherds were occupied in late Coalition and early Classic periods (about 1150–1450). The assemblages always include Santa Fe Black-on-white (1150–1425) and Agua Fria (Glaze A) Glaze-on-red (1300–1450). They may also include small amounts of Galisteo Black-on-white (1220–1450) or Socorro Black-on-white (900–1350). Utility ware sherds include gray corrugated jars with semi-obiterated coils or fully obliterated coils (the latter resulting in plain surfaces). Figures 9 and 10 show ceramics from the foothills, from early to late. Diagnostic glazeware ceramics after 1450 are rare, supporting a general decline in utilization of this environment.

The partly excavated Bear Canyon site yielded 2,024 sherds (Schmader 1989:37). The painted wares included the pottery types just noted but also rarer early glazed variants such as Los Padillas Polychrome and San Clemente Glaze Polychrome. The utility complex included the same gray ware just noted, plus small amounts of Corona Brown Ware, made to the south (Schmader 1989:39).



**Figure 9.** Black-on-white and early glazeware sherds from the Honeysuckle site (LA 49255).



**Figure 10.** Late (E–F) glaze sherds from Jaral Pueblo.

The Bear Canyon site also yielded three radiocarbon dates from hearths. The calibrated dates are  $1120 \pm 80$ ,  $1145 \pm 80$ , and  $1270 \pm 60$  (Schmader 1989:91). These dates correlate well with the presence of Santa Fe and Galisteo Black-on-white. The early Glaze A pottery (Agua Fria Glaze-on-red is post-1300. Based on its presence, occupation as late as 1425 is possible, though not indicated by the radiocarbon dates.

The foothills pottery indicates that within a 300 year period (1150–1450), most if not all of the little pueblos were built and occupied (for individual sites, the occupation period may have been shorter). When the sample is large enough, late Santa Fe and Galisteo Black-on-white sherds are always found with Glaze A sherds. If we look only at the period of overlap for those types, major occupation of the foothills dated to about 1300–1425.

A definite decline in (and possible abandonment of) many small pueblos began about 1450. The foothills pueblos mostly lack Glaze B, C, D, and early E sherds, indicating that they were sparsely occupied from about 1450 to 1550. As I discuss below, some of the small pueblos were reoccupied in Late Glaze E to F times, but that was after generations of non-use. The complete glaze sequence has been identified at Jaral Pueblo in particular (Franklin 2010). Despite a downturn, a limited population may have continued in residence during the entire Classic period. In other words, the intensity of occupation of the west foothills fluctuated over several centuries.

## **Site Construction and Population**

The people of the small foothills pueblos undoubtedly derived from the nearby large villages along the Rio Grande. Archaeologists have sometimes assumed that those villages' use of the foothills was temporary, fleeting, and probably seasonal. However, this does not explain the presence of at least eight pueblos with at least 10 rooms (Del Agua, La Cueva, Tres Aguajes, Jaral, Bear Canyon, Oso, Honeysuckle, Silva). The largest, Jaral, Bear Canyon, and Silva include estimated 20 or more rooms). At least 15 rooms were visible for mapping at Jaral Pueblo in 2009; Schmader (1989:19) estimated that Bear Canyon had a minimum of 15 rooms. At the least, valley-dwellers' use of the foothills included seasonal occupations, in sites that housed extended families or multiple families. These *pueblitos* would also have needed to be maintained on a continuous basis.

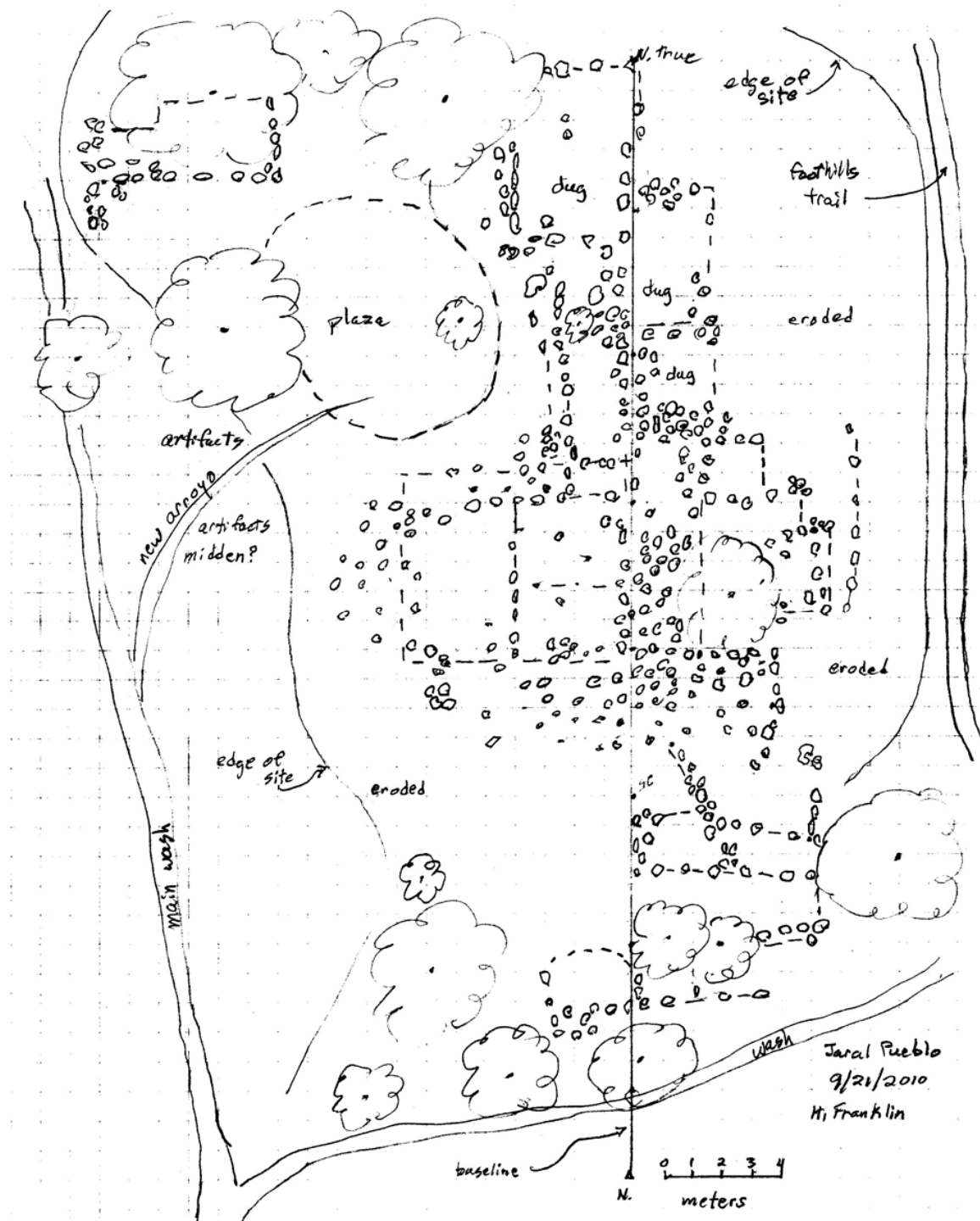
Site plans are available for Jaral Pueblo (based on surface mapping) (Figure 11) and parts of the Bear Canyon site (based on excavation; Schmader 1989) (Figure 12). Walls were puddled adobe reinforced with local cobbles. The rooms were built in lines, often two deep. The resulting room blocks tended to be C-shaped (semicircular) or L-shaped, defining a small plaza. There is no indication that these "mini" plazas ever contained kivas (no kivas were identified anywhere in the foothills). Based on mound height, two stories may have been present at Jaral Pueblo, and potentially some others, although wall erosion leaves little evidence.

## **Puebloan Use of the Foothills**

Sites smaller than, but contemporary with the small pueblos include rock-bordered gardens, check dams, circular blinds, boulder shelters used as hunting blinds, and grinding slicks probably used to sharpen of tools. There are also the usual artifact scatters with no more than waste flakes and perhaps broken flaked stone tools. Such sites show how the occupants of the small pueblos engaged in activities such as hunting, gathering of wild plants, and even a bit of agriculture.

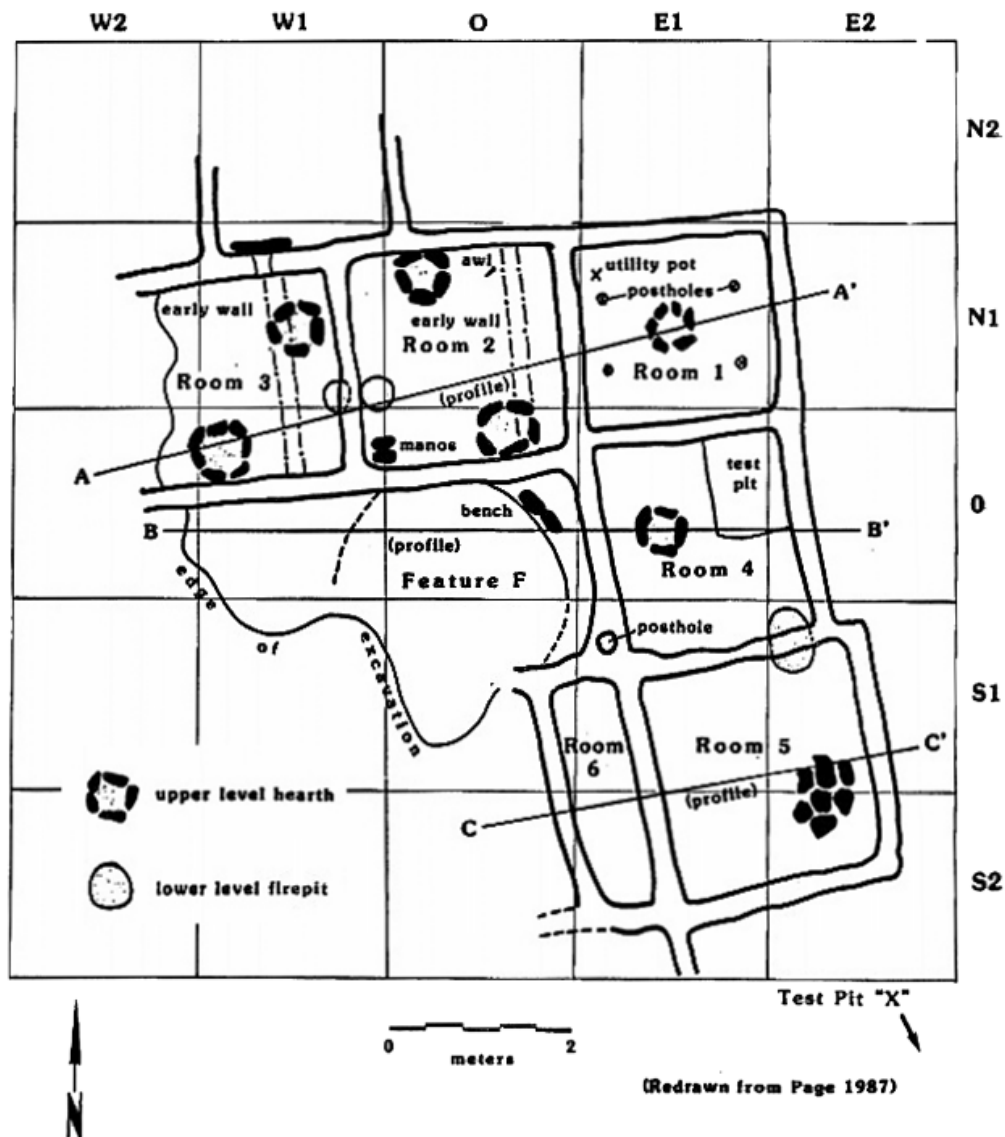
Intensity of foothills resource use (and occupation, for that matter) was limited by the scarcity of water at the western base of the Sandia Mountains. The largest of the small pueblos tend to be near the most reliable water sources. This is true of Del Agua (named after the local canyon), Tres Aguajes ("three livestock watering places"), Duck Pond (a mostly destroyed site near a permanent spring, the latter now used to maintain a wildlife pond), and Honeysuckle (a permanent spring is nearby). The Bear Canyon and Oso sites are next to where a major intermittent stream emerges from the mountains. Sites near Embudito and Embudo Canyons also benefitted from intermittent streams. Lastly, the Silva and Carnuel Cemetery sites are next to Tijeras arroyo, which at this point in its course is never dry.

Hunting was an obvious pursuit in the foothills, and is indicated by numerous boulder shelter sites with sherds and lithic debris. These natural shelters often were enhanced with low stone walls (Figures 13) and would have held two or three persons who were "hiding out" while waiting for game. Eight were documented, but others probably exist, as they are hard to spot.



**Figure 11.** Map of Jaral Pueblo by Franklin and Hayden.





**Figure 12.** Excavated portion of the Bear Canyon site. Slightly modified from Schmader 1989, Figure 6. Reproduced by permission of Matthew Schmader.



**Figure 13.** A boulder shelter in Embudito Canyon.

Other locations likely to be contemporary with the small pueblos include stone circles on ridges, offering views of the surrounding countryside. One was noted at mouth of Del Agua Canyon (Figure 14), and another on a ridge south of the Tres Aguajes site. Direct evidence of the hunting of game animals comes from the Bear Canyon site, where O'Hara (1969:79) identified bones of 12 species of mammals and birds. These included mountain sheep, mule deer, pronghorn antelope, rabbits, and turkeys. In all, 46 percent of the faunal assemblage were from large mammals (O'Hara 1969:81). Although mountain sheep were present in the Sandias historically, the herd is extinct today. Mule deer are the only large game species that is abundant today. Together, the osteological evidence from Bear Canyon site indicates a wide variety of animal life living, and being hunted, in the foothills.





**Figure 14.** Stone circle hunting blind on a ridge above Del Agua Canyon.

Mollie Toll (1989:83) analyzed the plant remains from Bear Canyon. Maize was the most common species, followed by five weedy annuals. The maize cobs plus the site's manos and metates indicate that maize was processed into meal on-site. The extent to which the maize was grown locally, as opposed to being brought in, remains unclear. However, check dams and rock field boundaries near the foothills pueblos indicate that some local cultivation was attempted.

Rock garden borders likely to be related to the Puebloan occupation are present near Jaral Pueblo, near the historical ranger cabin at Jaral Canyon, next to the Honeysuckle site, at the Bear Canyon and Oso sites, and near Water Canyon along the Piedra Lisa Trail (Figure 15). Check dams are present in lower Juan Tabó canyon and are associated with probable field houses. While hunting was the obvious subsistence activity in the foothills, limited farming was also practiced (or at least attempted) in multiple places.



**Figure 15.** Agricultural terraces near Jaral Pueblo.

Besides ceramics, artifact assemblages at the small pueblos include flaked stone tools, debitage, and ground stone tools (Figure 16). Many sites, whether large or small, include evidence that flaked stone tools were being prepared and used. The only detailed study of the local lithic technology comes from the Bear Canyon site (Thompson 1989). Debitage often includes obsidian, chert, jasper, chalcedony, limestone, quartz, and quartzite; of these, only quartz and quartzite are common locally, and the other materials must have been brought (either as raw material or as finished tools). The obsidian probably came from the Jemez mountains, but small nodules of that material can be found in gravel deposited by the Rio Grande. Basalt and gray-white chalcedony are common in those gravels.

Flaked stone debris marks many small locations used for a short while during hunting or wild plant gathering. Those with ceramics can sometimes be dated. Such limited use sites probably were created throughout the local occupation sequence.





**Figure 16.** Stone artifacts from the La Cueva site.

Ground stone tools are good evidence of plant food processing. Manos and metates are scarce, but some may have been picked up by artifact collectors in modern times. Others may have been carried from one residence to another to save the effort of preparing new ones. Also, intensive food processing with manos and metates may have been done in villages along the river, with prepared foodstuffs being transported to the foothills. However, 15 pieces of ground stone were found at the Bear Canyon site (Thompson 1989:68).

Large granite boulders near habitations may have “grinding slicks”, which are the right size and shape for sharpening stone axes (Figure 17). Given their shapes and their steep angles (relative to horizontal), these were not food grinding features.



**Figure 17.** Granite boulder with grinding slicks, near Tres Aguajes. Photo by D. Phillips.

There is no evidence of ceramic production in the foothills; all of the pottery types are typical for the large villages along the river. An analysis of tempering materials (basalt and intermediate igneous rocks) used in painted ceramic vessels at the Jaral site revealed that these pots had been made in the valley (Franklin 2010). Precisely which large villages provided the pottery is not known.

Large grayware utility jars tempered with mica or micaceous schist were popular in the foothills. These might have been made at Tijeras Pueblo, where such pottery is common (Habicht-Mauche and Burgess 2016; Woodhead 2019). However, utility jars tempered with crushed schistose rock is also common found at large Classic period pueblos along the river in (Franklin 2017, Franklin and Schleher 2012; Warren 1981). Tracing exact origins of utility pottery will require closer source-area analysis; micaceous utility ware is widespread. Outcrops of mica schist and phyllite occur in Tijeras Canyon, but also at several other locations in the Sandia and Manzano Mountains.

Good quality clay was available near the La Cueva site, near the road to La Cueva picnic ground. Red, yellow, and possibly white clay is available in a side canyon near the site (Figure 18). Clay collected there may have gone to potters in the villages along the Rio Grande.





**Figure 18.** Red and yellow clay in the La Cueva area.

Schmader (1989) found that 79 percent of the sherds from the Bear Canyon were from site utility wares. This is much higher than the norm for Classic period assemblages along the Rio Grande; there, utility ware makes up about half of the assemblages. At least one third of the Bear Canyon utility sherds were smudged from fires. In other words, pottery use in the foothills may have involved a greater emphasis on practicality and less emphasis on presentation.

Taken together, the foothills sites indicate that local land use spanned hundreds of years and included hunting, gathering of plant foods, limited farming, and the collection of raw materials. The last included clays and slips for painted pottery and mica and micaceous clay for utility pottery. At Chamisal Pueblo near the Rio Grande, Kit Sargeant and Matthew Schmader found evidence of a “healthy traffic, if not outright exchange of goods, between the river and foothills” (Matthew Schmader, 2020 personal communication). Analysis of the Chamisal plant and animal remains revealed many mountain species. The micaceous schist and schistose temper in some Chamisal culinary ceramics are additional evidence of the use of upland resources; (a major report on Chamisal pueblo is in preparation).

Foothills rock art includes a few petroglyphs in Del Agua canyon, and elsewhere in the foothills. Most of it is still in good condition. Such art tends to be in secluded canyons where few people would have seen it. The petroglyphs are in Classic period style and resemble those in Petroglyph National Monument. They include human figures with head dresses, masks, and sometimes feathers.

In sum, a surprisingly large number of uses and site functions can be interpreted from the foothills evidence over several hundred years. These include: permanent and semipermanent habitation, game hunting, limited agriculture, gathering of wild plants, collecting of ceramic raw materials (body and slip clays, micaceous rock tempers), and lithic resources (quartzite, chalcedony, jasper). Territorial boundaries and spiritual expressions are signaled by petroglyphs at several locations.

### **A Refuge from European Exploration and Colonization**

Little to no Glaze B and C and D pottery was seen at the small pueblos that were so active earlier during Glaze A times, suggesting that those sites were not much used after 1450. At Bear Canyon, Schmader (1989:97) saw evidence of remodeled rooms, and two distinct occupations; mid 1100s to early 1200s and then in late 1200s to early 1300s. Both Bear Canyon and Jaral suggest intermittent occupations over a period of time. A few of the smaller pueblos were reoccupied in late Glaze E and Glaze F times (about 1540 to 1680). The longest-lived, Jaral Pueblo, might have its own historical trajectory; ceramics from Glaze A through E and F were identified there. The reasons for of at least some reoccupation of the foothills are unclear, but after 1540 the remote upland areas may have served as a refuge from European exploration and colonization.

Intermittent Spanish military incursions began in 1540, and New Mexico became a Spanish colony in 1598. Thanks to the Spanish presence, the 12 to 16 large pueblos noted by early chroniclers between Isleta and Bernalillo dwindled to three or four by the Pueblo Revolt of 1680 (Barrett 2002). In the foothills, miles away from Spanish activity, small Pueblo groups could escape economic harassment and religious persecution. The foothills were well known to the local people, since they had exploited that environment for centuries and some of their ancestors had established homes there.

Two sites in particular show evidence of renewed use as refuges during this time: Water Canyon and Jaral (the latter may have been used since early Classic period times). In both locations, the local hills mask the sites from being observed from the valley. Additionally, At the north end of the study area, near the La Cueva picnic area, the hidden Arroyo Cueva site includes a small room block dominated by Glaze E sherds. Farther south, the Oso site in Bear Canyon, near the earlier Bear Canyon site, has late glazeware sherds. South of there, the long-lived Silva site definitely has a historical period component and the nearby Carnuel Cemetery site probably does. Together, these six sites demonstrate actual occupation of the foothills during Glaze E and F times (about 1550–1680). Other sites that might possibly have been used at this time include Duck Pond, Tres Aguajes, Honeysuckle, and boulder shelters at the mouths of Embudito and Embudo canyons, but evidence is sparse.

Historic accounts by Spanish authorities mention the “fleeing Indians” (*indios huidos*) who had left for the hills. In some cases, whole villages were abandoned after receiving news of advancing Spanish exploratory parties. Examples (compiled by David Snow) include:

1541, Coronado Expedition: “[The residents] abandoned two very beautiful pueblos which were on opposite sides of the river while the army was establishing camp, and went to the sierra where they had four very strong pueblos which could not be reached by the horses because of the craggy land” (Hammond and Rey 1940:244).

1581, Chamuscado-Rodriguez expedition: “We came to a pueblo of many houses three stories high, but found no inhabitants. They had left the night before because they had noticed our approach” (Hammond and Rey 1966:177).

1582, Antonio de Espejo expedition: “We found thirteen large settlements...We stopped... close to the pueblo of [Puaray]... The inhabitants of all these settlements had fled to the sierra because all had taken part in killing the friars” (Hammond and Rey 1966:177).

Accounts from the 1598 Oñate expedition up the Rio Grande describe fleeing residents at Qualacu, Sevilleta and Socorro (Hammond and Rey 1953).

During the Pueblo Revolt of 1680 to 1692, the central Rio Grande Valley was essentially deserted. Returning Spanish parties recorded that at least some of the populace were living in the mountains, having left their main villages along the river. (Hackett and Shelby 1942).

### **Post-Revolt Use of the Foothills**

During the twelve years of the Pueblo Revolt, almost no one lived in the middle Rio Grande area. Post-revolt resettlement was a slow process. While the Spanish returned to the area after the revolt, many Pueblo people who had fled the area found new homes in distant communities, mostly to the west. Eventually the Tiwa villages of Sandia and Isleta were reconstituted, and Keres villages (Zia, Old Santa Ana, and later Tamaya) were established.

The returned Spanish colonial government gave large parcels of land to Spanish families as rewards for their assistance during the revolt. One of these was the Elena Gallegos Grant. The 55 square mile (142 km<sup>2</sup>) grant was made to Captain Diego Montoya in 1694, passed to his son, and was sold to Elena Gallegos in 1712. For many generations, the main economic activity on the grant was sheep herding.

Due to a surge in attacks by the Apache, Navajo, and Comanche, after the Pueblo Revolt, both the native Pueblo people and the Spanish colonists usually kept close to the Rio Grande villages. It is not surprising that none of the sites found by this research project have post-revolt (matte paint) Pueblo pottery or contemporary Euroamerican pottery. We can assume that they made occasional forays into the foothills (to hunt, at least) but any such activities left no archaeological traces.

The foothills archaeological record picks up again during the U.S. Territorial and Statehood periods, as raids by the Comanche and others were suppressed and as non-grant lands were opened to homesteading. The new activities resulted in remains such as rock house foundations, corrals, outbuildings and fenced pastures. Once such site is next to the Tres Aguajes small

pueblo (Figure 19), undoubtedly due to the continued presence of reliable water. A well-preserved cabin of dry-laid stone, minus the roof, stands at the mouth of Domingo Baca Canyon (Figure 20). It is popularly attributed to Domingo Baca, a historically elusive shepherd. Similarly, the Water Canyon site in the upper Del Agua drainage includes a large 1800s house and outbuildings that partly obscure the small pueblo. The pueblo itself, occupied in Glaze E and F times, may have been a well hidden Puebloan refuge during the period of 1600-1680.

In the 1930s, during the Great Depression, the Civilian Conservation Corps worked on multiple projects in Cibola National Forest. One of several ranger stations (LA 47881) built using CCC labor was in Jaral canyon (Figure 21), since destroyed. Another CCC structure was located near the today's junction of Tramway Blvd and Forest Road 333. Easily seen from the road, the ruins are often visited by hikers and are often attributed to Juan Tabó, probably because they are near the canyon of the same name. Remnants of historical check dams are present in the lower Juan Tabó drainage and some of its tributaries. Figure 22 shows one such check dam; the associated tobacco cans and bottle glass suggest it was built in the 1930s.





**Figure 19.** Historical house remains near Tres Aguajes Pueblo.



**Figure 20.** Stone cabin popularly attributed to Domingo Baca.





**Figure 21.** Remnants of the ranger quarters in Jaral Canyon.



**Figure 22.** CCC-built check dams in the Juan Tabó watershed.

As Albuquerque's economy changed during and after World War II, and after a severe drought in the 1950s, grazing in the west foothills of the Sandia mountains ceased. Since the 1960s, the Forest Service and the City of Albuquerque have consolidated much of the foothills area as public open space. However, part of the foothills was lost to housing developments, from Four Hills and Tijeras Canyon north to the Sandia Heights and Sandia North neighborhoods. Because this development took place before Albuquerque adopted its archaeological ordinance, numerous archaeological sites were lost.

## CONCLUDING THOUGHTS

On a pleasant day in 2020, two friends and I went out to look at a site that should have been easily found. It is listed in the ARMS/NMCRIS records as a Classic period structure with cobble walls and having Glaze A, C, and E pottery. However, we could not find any evidence of the site. Either its location was incorrect or it has been destroyed by modern vandalism or erosion. It is an all-too-common story in the western foothills of the Sandia Mountains.

Nonetheless, the new data accumulated on Sandia foothills sites reveals a long and varied record of prehistoric and historic usage. Despite gaps in our knowledge due to different site recording methods and incomplete areal coverage, we know a fair amount about the cultures that used the western foothills, including sites, and the varied activities that took place during specific periods.

The archaeological sites in the public open space at the base of the Sandia Mountains are legally protected. However, strollers and mountain bikers have removed most of the surface artifacts that once could be seen at sites. Jaral Pueblo, near the main foothills trail, is a good example. When I visited the site in 1980, sherds and stone artifacts were abundant on the surface. Today it is difficult to find a painted sherd anywhere on this site of 15 to 20 rooms. Fortunately, a surface collection was made at the site in the 1970s (and was the basis of my analysis of the ceramics [Franklin 2010]).

The local foothills zone of the Sandia range extends southward along the Manzano mountains; there, the land is managed by the Air Force or the Forest Service or is owned by Isleta Pueblo or private individuals. Although we know less about the Manzano foothills, they appear to be similarly rich in cultural resources. Access to the Air Force and Isleta Pueblo portions of the foothills is highly restricted, so the surface assemblages are probably more intact. The foothills area managed by the Forest Service is more remote than the open space next to Albuquerque, and the privately owned portions of the Manzano foothills are used for grazing rather than suburban development. A study like this one, but for the west foothills of the Manzano Mountains, probably would provide a less fragmented view of prehistoric and historic foothills use.

The cultural resources in the western foothills of the Sandias and Manzanos are a window into the local human story over at least five thousand years. If identified and protected, they should last long into the future.



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