

## **West of the Pecos: Prehistoric Adaptations in the Transition to the Eastern Trans-Pecos Region**

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*Recent archeological survey in the cultural transition zone between the Lower Pecos, Trans-Pecos, and poorly defined north Mexican cultures has resulted in the identification of a distinctive settlement pattern that was keyed to the water retention capacity of plunging canyon headers. The distribution of sites suggests that both lowland and upland zones along Independence and Dry creeks in Terrell County, Texas, offered a suite of resources exploited by small groups of foragers and collectors who were probably based near more permanent water supplies, such as the Pecos River and lower Independence Creek. Temporally diagnostic artifacts reflect use of the area from Early Archaic to historic times. The most westerly examples of the distinctive Pecos River style pictographs, as well as geometric paintings of broader attribution, suggest close affinities with the Lower Pecos cultural zone, especially during Middle Archaic times, about 4000 years ago.*

### **Introduction**

The definition of cultural areas is one of the means by which archeologists attempt to classify information into analytical units. However, this process is often beset by biases introduced in the early stages of regional research by an emphasis on distinctive environmental zones, such as the Big Bend or Trans-Pecos region, or areas of more concentrated field work, an example being Central Texas. Lesser studied territories and the more lackluster environmental settings have been labeled transitional zones and either ignored or treated as subsidiaries to neighboring defined cultural areas. Yet, it is at the periphery where cultural and ecological change is most clearly seen, as spheres of influence wax and wane and territorial ranges expand and contract. Recent field work in one of these lesser studied transitional zones — the northern section of the arid Stockton Plateau between the well-known Lower Pecos River region on the east and the Big Bend or Trans-Pecos on the west — has produced a first approximation of human settlement patterns and begun to assess the effect of proximity to more distinctive cultural areas.

Reconnaissance survey was undertaken on publicly owned lands in Terrell County, along Independence Creek and its intermittent tributaries (Fig.1), at the request of University Lands (University of Texas) and under the authority of Texas Antiquities Permit 1414. The objective of the survey was to record as many archeological sites as possible so that the patterned distribution of prehistoric land use could

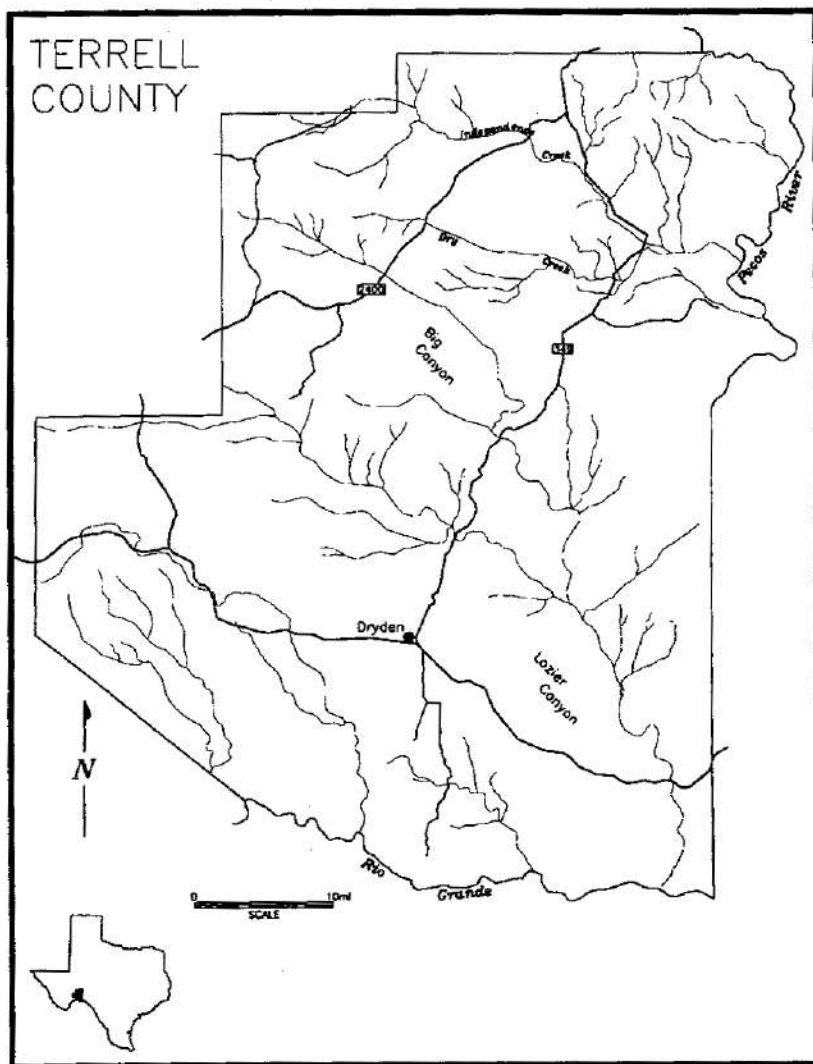


Figure 1. Map of general study area.

be reconstructed as an aid to protecting cultural resources on university property. After three field seasons, 116 sites had been recorded or reevaluated, granting some predictability in settlement patterns and roughly identifying several traits indicative of relationships with neighboring areas. A full report was made previously to University Lands (Turpin 1995) but the salient findings are summarized here.

### Environmental Setting

One approach to the study of prehistoric human populations is human ecology, the interactive relationship between people and their environment. The project area is west of the Pecos River in the Stockton Plateau, which is an extension of the Edwards Plateau. The study area is a high dissected plateau, entrenched by deep canyons that expose sheer walls of limestone bedrock. Rockshelters formed along bedding planes provided natural housing of varying size and shape. Chert eroding from the bedrock afforded an abundant source of raw material for stone tool manufacture.

As is typical of arid lands, the patterned distribution of sites on the landscape is hydrologically driven. The northern part of the study area is drained by tributaries to Independence Creek, a broad valley that flows east to the Pecos River. The creek is intermittent for most of its course, gaining permanent flow from springs that erupt about 4.34 km. (7 mi.) above its confluence with the river. However, ground water can be tapped at only a few feet below the surface in the mobile gravel beds that line the bottom of the creek, suggesting that water was more plentiful than it is today at some times in prehistory. The southern section of the study area is part of the Rio Grande drainage system — its major canyon aptly named Dry Creek. Despite the overall aridity, the potential for flash flooding is high and erosion finds little resistance in the shallow rocky soils that mantle the uplands. The retention of runoff in tinajas, or potholes in the bedrock, was the most influential factor affecting site locational preferences.

Terrell County has been divided into two distinct vegetation zones (Turner and Fox 1974). The survey area is in the grassland zone which receives 25-38 cm. (10-15 in.) of rain per year. A desert scrub vegetation to the south survives on 15-25 cm. (6-10 in.) annually. The prehistoric peoples who depended on desert succulents for the bulk of their diets, as well as for their fiber industries, were well supplied by prickly pear, sotol, various yuccas, and agaves. Riparian zones along lower Independence Creek and the Pecos River provided yet another suite of resources.

Desert-adapted people rely generally on the procurement of small animals through netting and trapping while hunting bigger but less reliable game, such as deer. Ethnohistoric accounts place bison in the grasslands sector of Terrell County up until the late 1800s (Pirtle 1936). Thus, a general paleoenvironmental sequence for the area might consist of a trend to aridity, begun at the end of the Pleistocene (ca. 12,000 B.P.), but broken by mesic interludes about 3000 years ago and again at the time of European contact, and reaching a xeric maximum around 5000 years ago (Bryant 1969; Turpin 1987).

## Cultural Context

Mallouf (1985) considers Terrell County to be the eastern periphery of the Eastern Trans-Pecos. His comparison of the various chronological schemes formulated for the Trans-Pecos, Lower Pecos, northern Mexico, and southeastern New Mexico (Mallouf 1985: Fig. 14) led him to propose a cultural sequence based in the traditional quadripartite division used throughout Texas: Paleoindian (ca. 12,000 to 8500 B.P.); Archaic (8500 to 1000 B.P.); Late Prehistoric (1000 to 400 B.P.); and Historic (post-400 B.P.; Mallouf 1990).

Work south and west of the current study area prompted Prewitt (1983) to set forth a slightly different chronology: Paleoindian (pre-10,000 B.P.); Archaic (10,000-800 B.P.), Neoarchaic (often called Late Prehistoric 800-250 B.P.); and Historic (post-250 B.P.). The Archaic was further divided into Early (10,000-7000 B.P.); Middle (7000-3000 B.P.); and Late (3000-800 B.P.) subperiods.

The Lower Pecos chronology consists of 10 prehistoric periods (Table 1) derived from over 275 radiocarbon dates (Turpin 1991). The primary advantage offered by this more specific sequence is the ability to pinpoint the movement of technological shifts or the popularity of stylistic innovations, an asset of particular importance in cultural transition zones.

Although 550 sites have been recorded in Terrell County, few systematic surveys and even fewer excavations have been conducted

Period	Subperiod	Radiocarbon Dates
Paleoindian		<12,000-9800
	Aurora	14,500-11,900
	Bonfire	10,700-9800
Late Paleoindian		9400-9000
	Oriente	9400-8800
Early Archaic		9000-6000
	Viejo	8900-5500
Middle Archaic		6000-3000
	Eagle Nest	5500-4100
	San Felipe	4100-3200
Late Archaic		3000-1000
	Cibola	3150-2300
	Flanders	2300-?
	Blue Hills	2300-1300
Late Prehistoric		1000-350
	Flecha	1320-450
	Infierno	450-250
Historic		350-0

Table 1. Periods in the Chronology of the Lower Pecos Region.

anywhere near the current study area. John Clark, C.K. Chandler, and Elton Prewitt have been responsible for documenting relatively large blocks of sites, the latter two in areas south and west of the current project. The canyonlands along the Rio Grande were subjected to archeological reconnaissance during the 1970s (Mallouf and Tunnell 1977). In 1972, the Iraan Archeological Society documented six sites (41TE89-41TE94) in or adjacent to the relevant University Lands, including one elaborate geometric pictograph panel. Two open camps near state highway 349 were apparently noted by Prewitt in 1976 (notes on file, Texas Archeological Research Laboratory) and assigned the trinomials 41TE121 and 41TE122. Twenty-two sites were recorded in the current reconnaissance in 1986 and field seasons in 1994 and 1995 produced the remainder of the inventory.

## The Site Inventory

Setting aside two historic dams that were recorded, the prehistoric sites can be classified as rockshelters, with and without rock art; burned rock mounds with lithic scatters and occasional stone alignments; and lithic procurement localities or quarries. The latter are outcrops of chert nodules that vary in color from white-yellow to tan-grey and are of consistently high quality. Associated quarry assemblages consist of tested cobbles, cores, and flakes having little temporal significance. Their primary interpretive contribution is in demonstrating the ease with which lithic raw material was obtained, thus obviating the need for curation or conservation of tools. Raw material acquisition was undoubtedly of secondary importance, or as Binford (1979) describes it, an embedded activity, opportunistically carried out when convenient as part of a larger scheduled or seasonal round. Unfortunately, this ready availability also reduces the chances of defining extra-regional cultural interaction through the attribution of exotic or imported raw material.

## Burned Rock Mounds

The initial survey quickly demonstrated that burned rock mounds and their accompanying lithic scatters are the most predictable feature of the cultural landscape (Fig. 2). Presumably, these loose aggregations of thermally altered limestone are the remains of earth ovens used to bake foodstuffs — most likely desert succulents and meat. Unlike the middens of Central Texas, the mounds consist almost entirely of burned rock, occasionally intermingled with a few chert items, but lacking dense quantities of bone, shell, and organically stained soil.

By far the majority of these sites occupy a very specific niche in the landscape, either along the exposed bedrock of canyon rims, or on benches at the head of plunging tributaries where tinajas poten-



Figure 2. Typical burned rock mound on rimrock at the head of a plunging tributary.

tially held water for several days after localized rainfall. The key to settlement is apparently the steepness of the header walls and the depth of the plunge cavity at their base. Too gentle a slope allows water to flow down canyon, while overly steep walls prevent easy access to the pools in the canyon bottoms.

A few burned rock mounds are found in canyon bottoms, near the headers and adjacent to or at the confluences of arroyos cut by intermittent runoff. The canyon floors support a diverse flora and provide level campsites that would be protected from the icy winds of winter. The largest of these lowland camps is in the Independence Creek valley and consists of middens, hearths, lithic debris, and formal artifacts surrounding an old historic house site where ground water flows only a few feet below the surface.

### Rockshelters

Rockshelters are the other major component of the settlement pattern and proximity to plunging tributary heads was also an obvious factor in the intensity of their occupation (Fig. 3). Often several small overhangs are formed along the same bedding plane, but typically one shelter in the series was preferred for occupation, and only minor amounts of cultural material occur in neighboring shelters. Many of the shelters in the upper canyons are capped by burned rock mounds or lithic scatters that line the canyon rims above them. The depths of cultural deposits are inversely correlated to distance from Dry Creek, with the more intensively occupied sites clustering along this large valley. This is perhaps indicative of differences between the past and



Figure 3. Long low rockshelter in canyon header overlooking a tinaja.

modern environments, as the name of the canyon implies. Excellent fiber preservation in some sites suggests that controlled excavation would produce information on both subsistence practices and habitat.

### Rock Art

The discernable rock art found in seven of the ten rockshelters is quite relevant to the question of cultural interaction or spheres of influence. One defining characteristic of the Lower Pecos cultural area is the distinctive polychrome pictograph style called the Pecos River style, a manifestation of shamanistic religious principles dated to the Middle Archaic period around 4000 B.P. (Turpin 1990). Four of the sites exhibit one or two figures that are clearly variations on the central theme of Pecos River style art—the shaman himself, in these cases, an oval-bodied human enclosed by or attached to multi-colored streamers. This particular body morphology has been nicknamed the “doughboy” (Robinson 1989) and appears with considerable consistency on the Devils River, 96 km. (60 mi.) west of this site. One has radiant hair, a key to the entranced state of the shaman induced by rituals or hallucinogenic drugs. These sites are the most westerly examples of this style yet recorded and expand the boundaries of the Lower Pecos cultural area during at least one period of prehistory.

Site 41TE309, the most elaborate of the Pecos River style panels, contains a most unusual composition: a horizontal (flying) shaman figure encircled by an arc of running mountain lions, called panthers

in the local vernacular (Fig. 4). Nearby, a very similar but more deteriorated circle of running animals encloses a standing anthropomorphic figure. Although this is the only example of the specific juxtaposition of running felines and shamans, conceptually, the composition is consistent with the shamanistic belief in trance as an out-of-body experience that is undertaken in the company of a troop of spirit guardians or animal familiars (Turpin 1994). In the heart of the Lower Pecos, ascending or soaring shaman figures are shown surrounded by smaller replicas of themselves, racks of antlers, birds, atlatls and spears, and feathers — all symbolic of spirit guides or protection against the perils of the out-of-body experience. The largest and most powerful predator, the mountain lion, dominates the Pecos River bestiary where it symbolizes the power of the shaman, possibly the most influential figure in an egalitarian hunting and gathering society. A modern residual of this ancient relationship between trance states, practitioners of magic, and felines is the Halloween flight of the witch with her black cat riding behind her on her broomstick. The scenes in 41TE309 reflect the source of this myth in prehistoric ideology.

The second pictograph style represented in the rockshelters on University Lands is abstract and geometric (Fig. 5). Zigzag and parallel lines, circles, spirals, and variations thereto are intermixed with Pecos River style figures at the circling panther site (41TE309) described above and are the only art form at another large site



Figure 4. Pecos River style flying shaman encircled by a chain of running felines.



Figure 5. Geometric pictographs.

(41TE91) in the Dry Creek valley. Geometric pictographs and petroglyphs are found in the Lower Pecos, northern Mexico, New Mexico, and the Big Bend. In fact, they are the most common art form found worldwide and the most difficult to interpret. Current thought recognizes the similarities between these ubiquitous design categories and visions experienced during the trance state when geometric signs, called phosphenes or form constants (Hedges 1982), virtually dance across the eye. The phenomenon has been described as entoptic (inner eye), because the signs are neurologically experienced rather than seen in the visual sense (Lewis-Williams and Dowson 1988). Thus, like the Pecos River style, geometric pictographs and petroglyphs are also a manifestation of the trance state but one that is more difficult to understand. The age of these paintings is difficult to determine. In the Lower Pecos, geometrics are considered to be relatively recent, dating to the Late Prehistoric period (Turpin 1986), but in Mexico and the Greater Southwest they are part of the Desert Cultures trait list.

One unique pictograph panel consists solely of a grid of broad dark red lines painted on the entrance to a long-occupied rockshelter (41TE550). Although the design is geometric and it is abstract, it is much larger than the more discrete signs described above, covering an area approximately one-half meter (1.5 ft.<sup>2</sup>) square. This site is unlike the others recorded to date in this area, but it is very similar to 41JD10, a multi-colored series of crossed lines described by Jackson

(1938:98) as the "tallest known pictograph in Texas" at 5.5 meters (18 ft.). Another example of monumental painted lines is found in Mexico, south of Laredo, at a site called Piedra Pinta, suggesting that the similarities are rooted in factors other than geographic proximity.

### Artifact Types

The projectile point assemblage provides another perspective on the transitional nature of the study area. No Paleoindian artifacts were recovered, an absence also noted by Prewitt (1983) in his work near Sanderson. Early Archaic projectile types include six Martindale dart points, a style common in and east of the Lower Pecos and noted as being present in the Eastern Trans-Pecos by Mallouf (1985). Prewitt (1995:Fig. 31) indicates that a few specimens have been found in Brewster County, but none in Terrell County. The only other Early Archaic artifact is a Devils Triangular dart point, a very distinctive type found in well-dated contexts, ca. 5900 to 6000 B.P., at Skyline Shelter on the Devils River (Turpin and Bement 1992) but not yet recognized by Texas typologists. This minor type is attributable to the transition between the Early and Middle Archaic periods and its presence in the Lower Pecos is considered a possible indicator of relationships with Mexico and South Texas where triangular points have a long tradition.

The Middle Archaic period is dominated by Lower Pecos types: Langtry, Val Verde, and Pandale but three Pedernales specimens are much more characteristic of Central Texas, although Mallouf (1990) includes Pedernales and Langtry in his list of Eastern Trans-Pecos point types. One specimen is a variant of the Langtry style, called Jora in a north Mexican typology put forth by Taylor (1966) and called Arenosa in the Lower Pecos (Bement 1991). This point style dominates the few rockshelter assemblages known from Coahuila and is a common artifact on open sites west of the study area, but its value as a Middle Archaic index artifact has yet to be demonstrated outside the Lower Pecos. The Pecos River style pictographs are considered a Middle Archaic phenomenon, thus strengthening the case for strong Lower Pecos connections during that time period.

The majority of the temporally diagnostic projectile points are Late Archaic Ensor, Frio, and Fairland specimens, attributable to the Lower Pecos Blue Hills subperiod during the transition from Archaic to Late Prehistoric lifeways. These styles are found throughout Texas. Five Marcos and Shumla dart points characteristic of the Late Archaic Flanders subperiod in the Lower Pecos chronology are more informative because the Shumla type, popular in northern Mexico over a much longer period of time, is restricted to the Lower Pecos and Trans-Pecos regions. Only two specimens, one Montell and one

Marshall, belong in the earlier Cibolo subperiod, when bison herds and their attendant hunters apparently expanded into the Lower Pecos region from Central Texas during a short break in the trend to aridity.

The Late Prehistoric period is represented by nine arrow points and fragments, many of which fail to conform to defined types. The typable points are Perdiz, Bonham, and Sabinal. The Perdiz type is broadly distributed across Texas. Arrow points similar to Bonham, a typically East Texas point type, are included in the Big Bend typology (Mallouf 1990) while Sabinals, a relatively recent type, are more common in and around Val Verde County (Prewitt 1995).

### Interpretation

The survey succeeded in establishing a framework for a site locational model that can be used to predict prehistoric occupational preferences in this specific environmental zone. The distribution of campsites and occupied rockshelters demonstrates that the settlement pattern was hydrologically driven, in the absence of springs and rivers, by the water retention capacity of tinajas in the plunging canyon headers. However, water is a necessity, not an extractive resource that would have drawn people from the riparian zones so near at hand.

The three site types that dominate the inventory — quarries or lithic procurement sites, burned rock mounds, and rockshelters, with and without rock art — help identify the economic strategies that operated in this settlement pattern. Huge outcrops of chert provided a ready supply of raw material for stone tool manufacture, so their exploitation was probably casual and opportunistic rather than the focus of a procurement round.

Almost half of the recorded sites are burned rock mounds, purportedly earth ovens used to bake desert succulents or other plants. Their strong representation suggests that the procurement of vegetative staples was an important part of the local economy but the specifics must await more intensive examination. The distribution of burned rock mounds does, however, provide significant insight into the logistical system that permitted forays into these poorly watered canyons in search of targeted resources. Long term scheduling would depend on predicting the rainy season when there was a reasonable expectation that water would be available in the tinajas. More opportunistic foraging would entail a relatively rapid reaction to sporadic rainfall at any time of the year. A systematic sampling of a number of middens might help identify the resources that were processed, and thus, seasonality in site occupation, but the poor preservational environment afforded by these loose piles of rock drastically lowers the possibility for recovering plant parts, pollen, or organics suitable

for radiocarbon assay.

Some of the rockshelters that comprise the other half of the sample provide excellent preservation, including macro-plant parts, wooden artifacts, basketry, and faunal remains. None of the rockshelters identified to date are as large or deep as those found only a few miles east on the Pecos River, suggesting they were only sporadically occupied, probably on a seasonal or scheduled basis that required the same type of logistical planning noted for burned rock mounds.

The study area can then be summarized generally as an exploitation zone where resources were harvested by small groups of people who used their thorough knowledge of the environment to counteract the scarcity of water. Based on style as a measure of shared ethnicity, the study area is more closely related to the Lower Pecos than Eastern Trans-Pecos cultural region, especially during the Middle Archaic period when unique traits, such as the Pecos River style rock art, developed. This is not surprising given the proximity of the Pecos River and the natural avenue afforded by the Independence Creek valley. Certainly, the presence of the most westerly examples of this very distinctive rock art style confirm the classification of this area as a transition zone where information on ecological and cultural change awaits excavation and analysis.

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