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A Re-Analysis of Prehistoric Settlement System Data on the Cypress Creek Watershed

Roger G. Moore

Acknowledgement:
The study described in this article is a portion of a report (Moore 1985) prepared for Precinct 4, Harris County, Texas. The author is grateful to Mr. John Craig, Precinct 4, Parks Superintendent, for permission to publish the results of the inquiry.

One previously unrecorded prehistoric site producing undiagnostic lithics was identified by shovel testing during a recent archeological survey of proposed improvements within the Mercer Arboretum, a park located on Cypress Creek in northern Harris County. The discovery of this site, temporarily designated Site Mercer #1, prompted the author to re-analyze published settlement system data on the drainage. This data was first presented in a well-designed survey of the Cypress Creek drainage conducted for the Corps of Engineers by Tom Hale in 1978 (Hale & Freeman 1978).

Since the study area, and Site Mercer #1 are located within Sample Unit 216 of Hale's 20% survey area (Ibid 1978), it is appropriate to revise the Hale statistical data to reflect the inclusion of the newly recorded site. I feel strongly that the systematic Hale survey constitutes an important resource to students of area prehistory. It is therefore important to continue to refer to, and refine this data base. While a re-analysis of site distribution along the entire watershed is the most important aspect of this study, it is appropriate to first simply enumerate the revisions to Hale's summary observations produced by the discovery of a new site in his survey area:

1. The total number of sites identified within the 20% survey sample is increased from 38 to 39 sites.

2. The total number of site identified by shovel testing increases from 16 (42%) to 17 (44%).

3. The number of floodplain sites increases from 36 (94.7% of total survey area sites) to 37 (94.9%), while the number of upland sites remains unaltered.

4. The total number of sites within Unit 216, and between stream miles 6 and 8 is increased from two (2)

sites to three (3) sites. The percentage of total sites found within the 6 - 8 stream mile range increases from 5.3% to 7.7%.

5. Another site at Elevation 80 ft. AMSL is added to the sample inventory.

6. Site Mercer #1 occurs within Hale's Landform Category "G", a terrace site on the outside of the bend of an old meander scar. This assignment doubles the site inventory in this category from one to two sites (Hale and Freeman 1978: Table 4).

7. Of the 38 sites originally located within the 20% Hale survey sample, 14 (36.8%) were found within Voss soils, which comprised 34% of the sample area surface. The Mercer site increases the inventory of sites in this soil class to 15, or 38.5% of the revised total.

8. The site density of Sample Unit 216 (with a surveyed floodplain area of 0.315 km^2) is increased from 6.349 sites/km^2 to 9.524 sites/km^2 (Hale and Freeman 1978: Table 1).

9. The site density of the portion of the 20% sample east of State Highway 290 is increased from 3.639 sites/km^2 to 3.749 sites/km^2 (Hale and Freeman 1978: Table 2).

10. The site density recorded for the floodplain over the entire 20% sample is increased from 1.2850 sites/km^2 to 1.320 sites/km^2 (Hale and Freeman 1978: Table 2).

11. The site frequency (the number of square kilometers per site) of the portion of the 20% sample east of State Highway 290 is altered from 0.2748 km^2/site to 0.2667 km^2/site (Hale and Freeman 1978: Table 2).

12. The site frequency recorded for the floodplain over the entire 20% sample is altered from 0.7785 km^2/site to 0.7574 km^2/site (Hale and Freeman 1978: Table 2).

13. The number of sites producing lithic materials only in limited survey investigation increases from 25 to 26.

14. The current site locality falls within one of the regions of low site density identified in the 1978 survey: stream miles 0 - 12, which accounted for 8 sites, or ca. 21.1% of the sites identified within the 20% sample of the 54-mile watershed (Ibid:1978: Figure 10). The discovery of Mercer #1 increases the site count in this segment of the creek to 9, and raises its relative productivity to 23.1% of the sites identified within the 20% sample.

In the interest of advancing the utility of Hale's Cypress Creek sample, I have carried the re-analysis of site distribution studies several steps further (incorporating Site Mercer #1). First, an updated version of Hale's graph of site distribution by stream mile (Ibid.: Figure 10) was produced for floodplain sites from Mile 0 to Mile 31 (the portion of the survey area east of Highway 290). This graph is directly comparable to Hale's original figure, altered by division into 1-mile, rather than 2-mile stream interval segments (Figure 1). In addition, I have elected to ignore the two upland sites and, for the moment, the infinitely less productive portion of the Hale sample upstream from Mile 31 (west of Highway 290).

It was reasoned that another meaningful view of site distribution could be obtained by examining site distribution by Sample Unit, rather than stream mile, across the sample area. This line of analysis would permit the calculation of site densities (sites/sq. km.) for each Sample Unit within the sample region. Since Sample Units are arrayed in sequential numerical order along the drainage, this approach yields results on site distribution along the creek which are comparable to the use of stream mile intervals (with Sample Unit 229 corresponding to Stream Mile 1, ranging to Sample Unit 145 corresponding to Stream Mile 31).

The plot of Number of Floodplain Sites/Sample Unit (Figure 2) illustrates the similarity of graphic results between the two approaches: While the correspondence between the graph of Sites/Sample Unit does not correspond exactly with the distribution by stream mile (since some sites were found at different mile intervals within the same Sample Unit), the fundamental similarity of the two graphs is apparent. Thus, we can employ Sample Unit numbers as an equally effective measure of site distribution upstream from the confluence of Spring and Cypress creeks.

Floodplain site densities/Sample Unit can be calculated from information contained in Hale's Table 1. Site density data is potentially quite informative, since it automatically corrects for variations in the amount of land surveyed at various points along the drainage (Figure 3). The possible significance of this correction is apparent when one looks at Sample Unit 216, that containing Site Mercer #1: While this relatively small floodplain sample area (0.315 sq. km.) produced only three sites, the site density within the unit (9.52 sites/sq. km.) approaches that of the numerically most productive unit, #182. Sample Unit 182 yielded 7 sites in a floodplain survey area of 0.730 sq. km., for a site density of 9.59 sites/sq. km. Viewed from this perspective, Hale's qualified recognition of a "consistent but relatively low frequency of site occurrence" between stream miles 0 - 12 becomes questionable, at least for sites producing lithic materials only (Ibid.: 38).

To fully examine this issue, however, we must evaluate the relationship between the number of sites located and the amount of floodplain surveyed: If floodplain site density is in fact constant across the sample region, then the frequency of sites per Sample Unit located along the drainage would simply be a direct function of the amount of floodplain area surveyed per unit. This analysis has been accomplished by the creation of a scattergram of the floodplain area surveyed per unit (X) versus the number of sites located in that unit (Y), and the calculation of coefficients of correlation (r) and determination (r^2) for the resulting graphed values.

For this graph (Figure 4), I have elected to include those sample units lying between stream miles 32 and 54 (west of Highway 290), coinciding mostly with the very sparsely inhabited grassland prairie portion of Hale's survey area (Ibid.: 40). These survey units are plotted to illustrate that their distribution is clearly divergent from that of the downstream piney hardwoods; Here, it is intuitively evident from the graph that the sites are so scarce that variation in the floodplain area surveyed has almost no effect on the probability of locating sites. Floodplain survey areas per sample unit in this portion of the survey area ranged from 0.001 sq. km. to 1.0 sq. km. (mean = 0.512 sq. km.), but only three floodplain sites (those restricted to the eastern, downstream end of the segment) were located. The correlation coefficient value of r = 0.1817 indicates that with 35 degrees of freedom, we cannot be even 80% confident that the correlation was not the result of chance. The coefficient of determination value of

r^2 = 0.0330 indicates that total survey area per unit can only 'explain' 3.3% of the variance in the number of sites identified.

Turning to the more relevant downstream portion of the survey area (east of Highway 290), the scattergram seems to intuitively indicate some relationship between amount of floodplain surveyed and number of sites identified. Indeed, with 21 degrees of freedom the correlation coefficient value of r = 0.6971 indicates that we can entertain a 99.9% level of confidence that the correlation between the variables was not the result of chance. However, this correlation does not mean that the number of sites per Sample Unit found in the lower reaches of Cypress Creek was merely a function of the size of the survey area per unit; The coefficient of determination value of r^2 = 0.4859 indicates that the size of the survey area 'explains' only 48.6% of the variance in site numbers observed per unit. Thus, we can return to the evaluation of the meaning of the graph of site density per sample unit (Figure 3): This investigator would argue that the balance of the variation in site density noted is the result of either cultural selection factors ('settlement rules') or of differential site preservation.

Slightly more enlightenment can be obtained from an examination of only those sample units east of Highway 290 which directly touch upon or span the current banks of Cypress Creek (Figure 5). Restriction to these units eliminates all but one of the samples which failed to produce any sites; This simple observation is, in itself, a strong indication of the importance of proximity to the creek for at least those prehistoric inhabitants whose sites are accessible to conventional archeological survey methods. This selectiveness is also modestly reflected in the coefficient values calculated from these 14 units. The correlation coefficient is slightly lower (r = 0.6054) than that for all units east of Highway 290, and provides a 95% level of confidence that the correlation between the variables was not the result of chance with 12 degrees of freedom. The coefficient of determination (r^2 = 0.3655) indicates that only 36.6% of the variance can be 'explained' by survey unit size alone, in contrast to the 48.6% figure calculated for units both on and off the creek. While such a difference is probably statistically unreliable, it does offer evidence that proximity to the creek makes survey area size somewhat less of a factor in successfully locating sites.

To reiterate, since it has been demonstrated that survey area size is an important, but not a controlling factor in determining the number of floodplain sites identified east of Highway 290, the utility of calculation

of site densities per Sample Unit has been supported. Most of the variation in site densities along Cypress Creek has thus been attributed to the significance of cultural or environmental factors.

While on this line of investigation, one further series of measures of site distribution invites inquiry. The regression line data for the graphs of number of sites versus survey area per sample unit for the area east of Highway 290 (Figures 4 & 5) can function as a means of predicting the 'expected number of sites located' for a sample unit of any size if size of the survey area was the only factor controlling the number of sites located per unit. Since the regression line represents this ideal 'fit' between survey area size and number of sites expected, the distance above or below the line (variance) can be hypothetically ascribed to the above, currently unspecified cultural or environmental factors.

Regression data for all sample units east of Highway 290 predicts the following range in sites located as the survey area is increased:

Floodplain Area Surveyed:	Number of Sites Predicted:
0 - 0.311 sq. km.	no sites
0.311 - 0.405 sq. km.	1 site
0.405 - 0.499 sq. km.	2 sites
0.499 - 0.593 sq. km.	3 sites
0.593 - 0.687 sq. km.	4 sites
0.687 - 0.781 sq. km.	5 sites
0.781 - 0.876 sq. km.	6 sites
0.876 - ca. 0.97 sq. km.	7 sites

On the basis of these predictions, we can now compare the expected values with the actual field results for each sample unit. Figure 6 plots the actual and expected numbers of sites side by side for each sample unit, clearly pinpointing the variation between real and predicted results. On the basis of this graph, we can note (tentatively, of course) that Sample Units 225, 220, 216, 186, 182, 175, and 149 produced more sites than expected on the basis of survey area size alone (Figure 7). Conversely, Units 228, 217, 206, 203, 177, 163, 152, and145 appeared to contain less sites than expected when surveyed. Survey results from the remaining seven sample units (229, 192, 183, 170, 165, 162, 160, and 150) matched precisely the regression-predicted values- values which predicted that no sites would be located in each of these units except #192 and #160.

We must pause to consider the implications of the accuracy of the prediction of no sites for Units 229, 183, 170, 165, 162, and 150. These units happen to include all but three (145, 203, and 217) of the group of sample units which has previously been identified geographically as not lying on or spanning Cypress Creek. The absence of located sites in these units was previously attributed to a cultural preference for settlement near the creek. However, the result of the survey area regression line predictions suggests the alternate explanation that the survey area in each of the six units above may have simply been too small to expect the identification of any sites. It is not possible to currently choose decisively between either of these explanations for the absence of sites, and in all probability both the cultural and survey area size factors were at work. It is, however, important to point out that sites were found in four of on-creek sample units which the regression predictions had indicated were too small to expect sites to be located. The presence of these sites argues for the strength of the cultural explanation.

The same operation can be performed for only those sample units east of Highway 290 which are on or spanning Cypress Creek, the sub-group notable for the fact that only one such unit failed to contain any sites. Regression data for all sample units on the creek predicts the following range in sites located as the survey area is increased:

Floodplain Area Surveyed:	Number of Sites Predicted:
0 - 0.380 sq. km.	no sites
0.380 - 0.451 sq. km.	1 site
0.451 - 0.522 sq. km.	2 sites
0.522 - 0.593 sq. km.	3 sites
0.593 - ca. 0.670 sq. km.	4 sites
ca. 0.670 - 0.736 sq. km.	5 sites
0.736 - 0.806 sq. km.	6 sites
0.806 - ca. 0.85+ sq. km.	7 sites

We can again compare the expected values with the actual field results for each sample unit: Figure 8 plots the actual and expected numbers of sites side by side for each sample unit, once more pinpointing the variation between real and predicted results. The deletion of units not directly on Cypress Creek has altered somewhat the slope of the regression line, with the result that the division among units exceeding, matching, and falling short of expected values is rather different (Figure 9). Within this sub-group, Sample Units 225, 220, 216, 186, 182, 175, 160, and 149

exceed the expected number of sites, while Units 228, 206, 192, 177, 163, and 152 yielded less sites than expected. No units in this sub-group precisely matched the expected results.

We have, with the above analyses, updated and expanded upon Hale's original, systematic survey of the Cypress Creek drainage. We have demonstrated that site density per Sample Unit provides an effective and useful approach to the analysis of prehistoric settlement on the creek. Evidence has been introduced which points towards meaningful variations in this index of site density along and across the drainage, variations which are not simply a function of the diverse sizes of the floodplain survey areas within the units. These variations have been ascribed tentatively to unspecified cultural and environmental factors in the process of settlement along Cypress Creek. [We can point out that the new information on site density along the drainage and the importance of proximity to the creek underlines the fact that the areas near the current, and relic, creek margins everywhere east of Highway 290 must be regarded as archeologically sensitive.]

The next logical step in this analysis would be to attempt to identify these cultural and environmental factors, the operating causes which directed the selection of settlement sites along the creek. This task, however, is far beyond the scope of the current paper. The present analysis has served to identify future avenues of investigation, and has hopefully demonstrated that a small survey such as the Mercer Arboretum project needs not remain another isolated, somewhat meaningless fragment of archeological information. Where a systematic framework for analysis (such as the Hale survey) is available, every effort should be made to integrate the results of minor projects into that framework. This process of constant revision and refinement can serve as approximation of a formal regional research design, even in areas where no such design has been formulated- surely a preferable outcome.

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1985 An Archeological Survey of Proposed Improvements within the Mercer Arboretum, Northern Harris County, Texas. Texas Antiquities Permit No. 497. Prepared by Roger G. Moore Archeological Consulting for Harris County Precinct 4, Houston, Texas. R. G. Moore Archeological Consulting, Report of Investigations, No. 4.

Brief Description of Site Mercer #1

Site Mercer #1 is located in the heavily wooded floodplain of Cypress Creek, ca. 30 meters south of the current, straightened and channelized course of the creek. The site, and the study area, are located within intact forest in the "Pine-Hardwoods" biological zone, as defined in Hale and Freeman 1978 (Figures 2, 4). About 30 meters west northwest of the site is an abandoned oxbow of the creek, undoubtedly a natural channel. The site is located on a low, level terrace, and occupies the outside of the bend of the former meander scar, and is apparently developed within the Voss Soils series. The elevation of the site is ca. 80 ft. AMSL. We can conclude that the site is at least as large as the triangle ca. 15 meters on each side defined by the three productive shovel tests.

No cultural material was observed on the surface in the area of Site Mercer #1. This is not surprising in view of: 1) the very poor ground visibility in the site area; and, 2) the fact that no cultural debris was recovered above 30 cm. below surface. The depth of recovered cultural material was fairly consistent among the three productive shovel tests. All material was recovered between 30 to 55 cm. below surface. Again, the three tests are consistent in that all material was recovered from the upper 25 cm. of the 'Light tan, silty sand' stratigraphic unit. The nature and distribution of materials from the tests were as follows:

Shovel Test #:	Artifact Description:	Depth Recovered:	Raw Material: Chert:	Raw Material: Petrified Wood:	Total:
ST #43	Interior flakes	33 - 40 Cm. BS	1	1	2 flakes
ST #48	Interior flakes	(30 - 40 Cm. BS)		1	(1 flake)
		(40 - 55 Cm. BS)		1	(1 flake)
		Total, ST #48:		2	2 flakes
ST #50	Interior flake	@ ca. 45 Cm. BS		1	1 flake
		Raw Materials Totals:	1	6	

The absence of temporally diagnostic artifacts and specific tool types currently precludes any meaningful speculation on the age or function of Site Mercer #1. However, it is important to note that the site appears to be in an excellent state of preservation. Harris County, Precinct 4 is to be complimented for the decision to move a proposed park improvement so that it would not impact the site.

Figure 1.

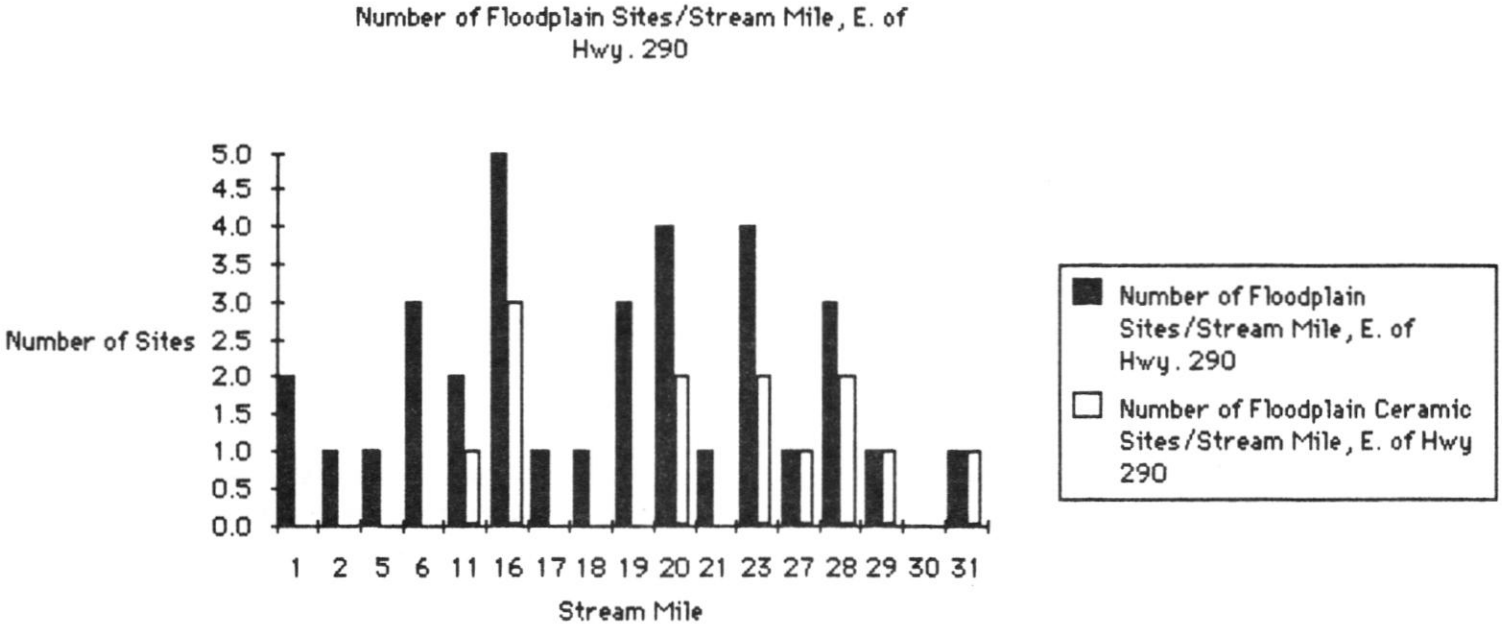


Figure 2.

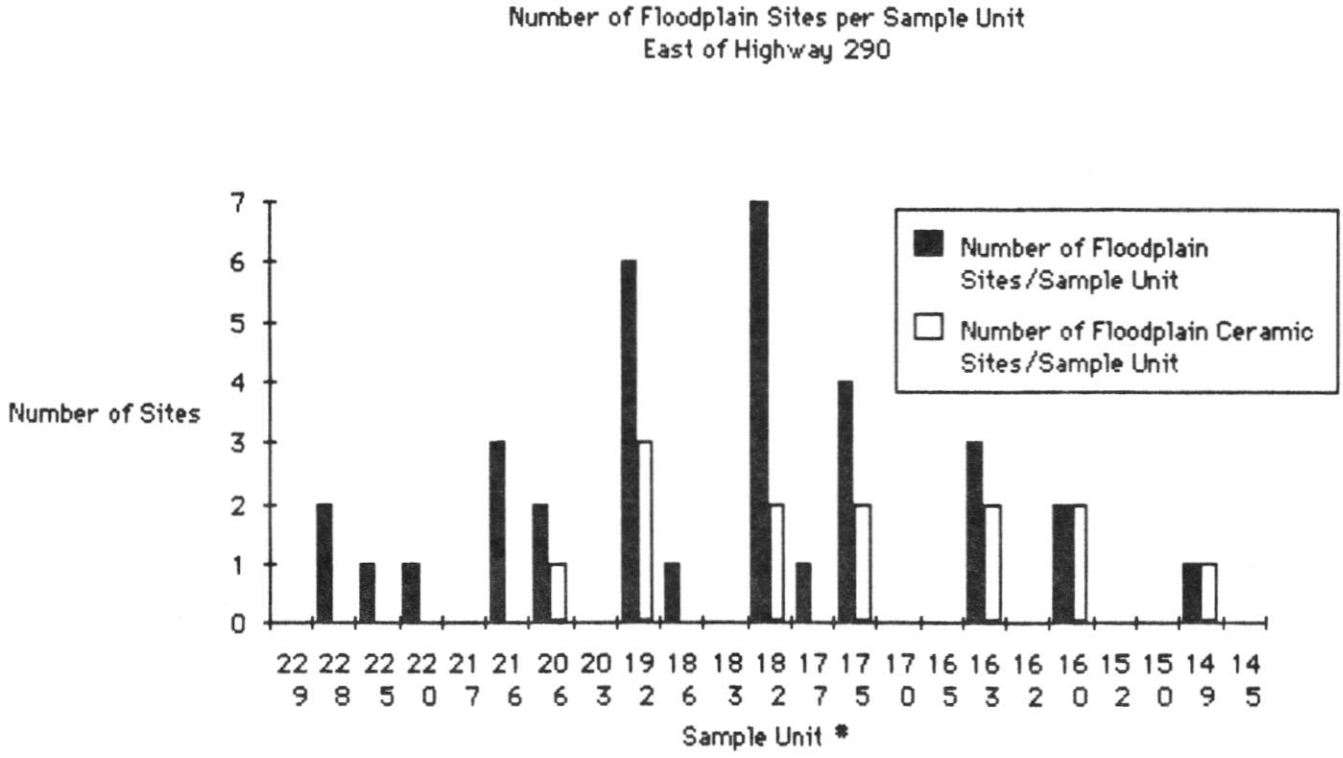


Figure 3.

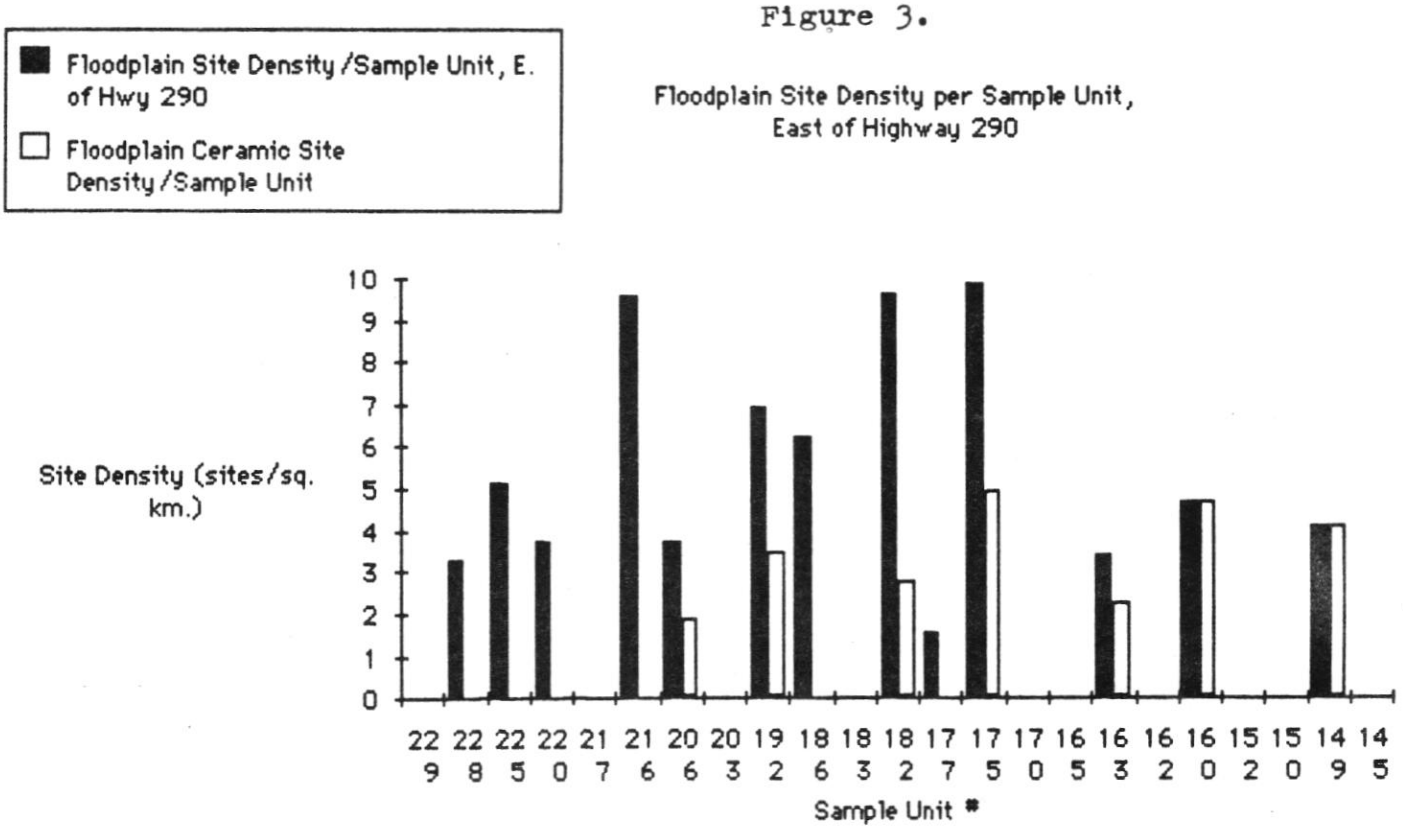


Figure 4.

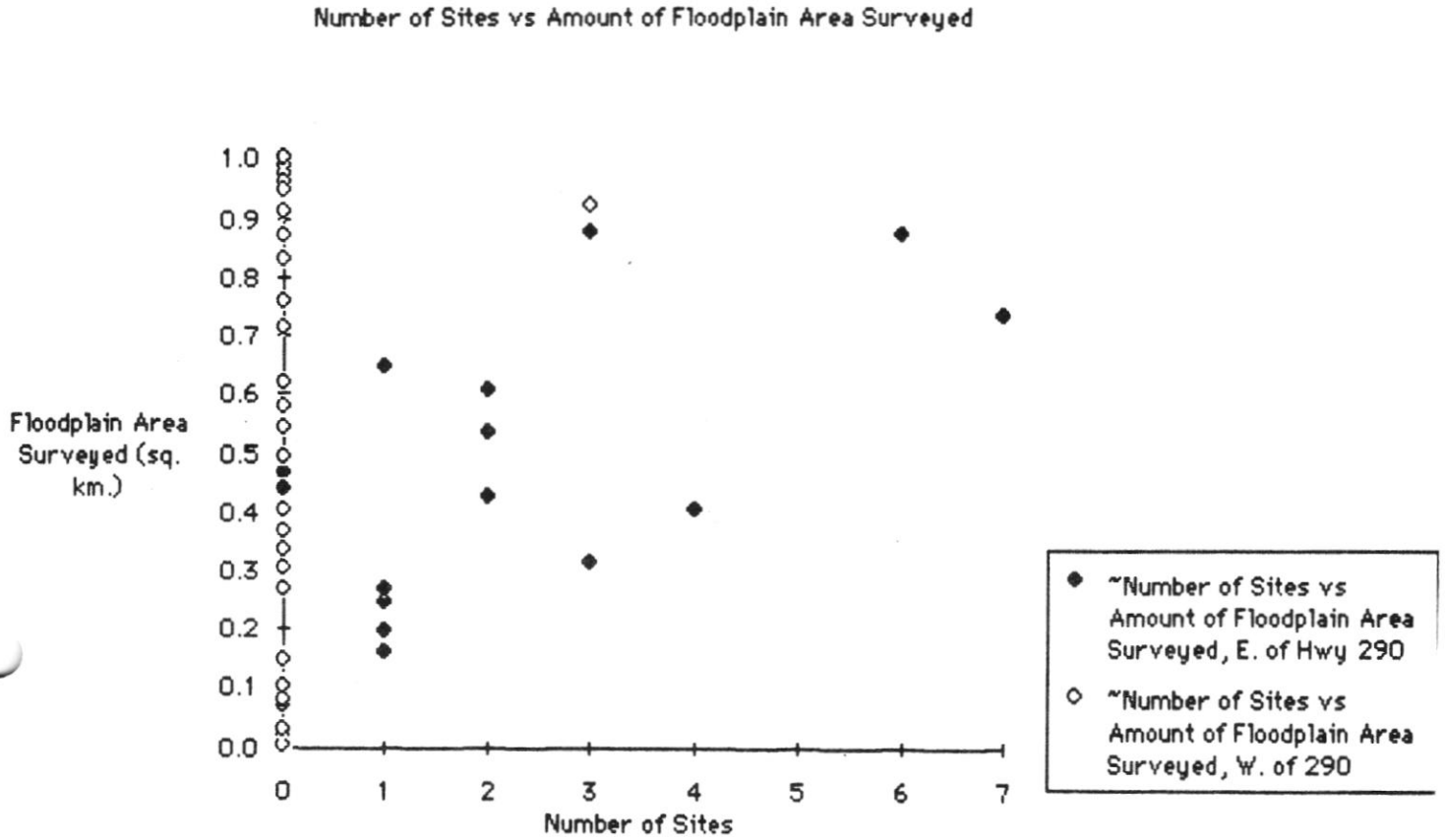


Figure 5.

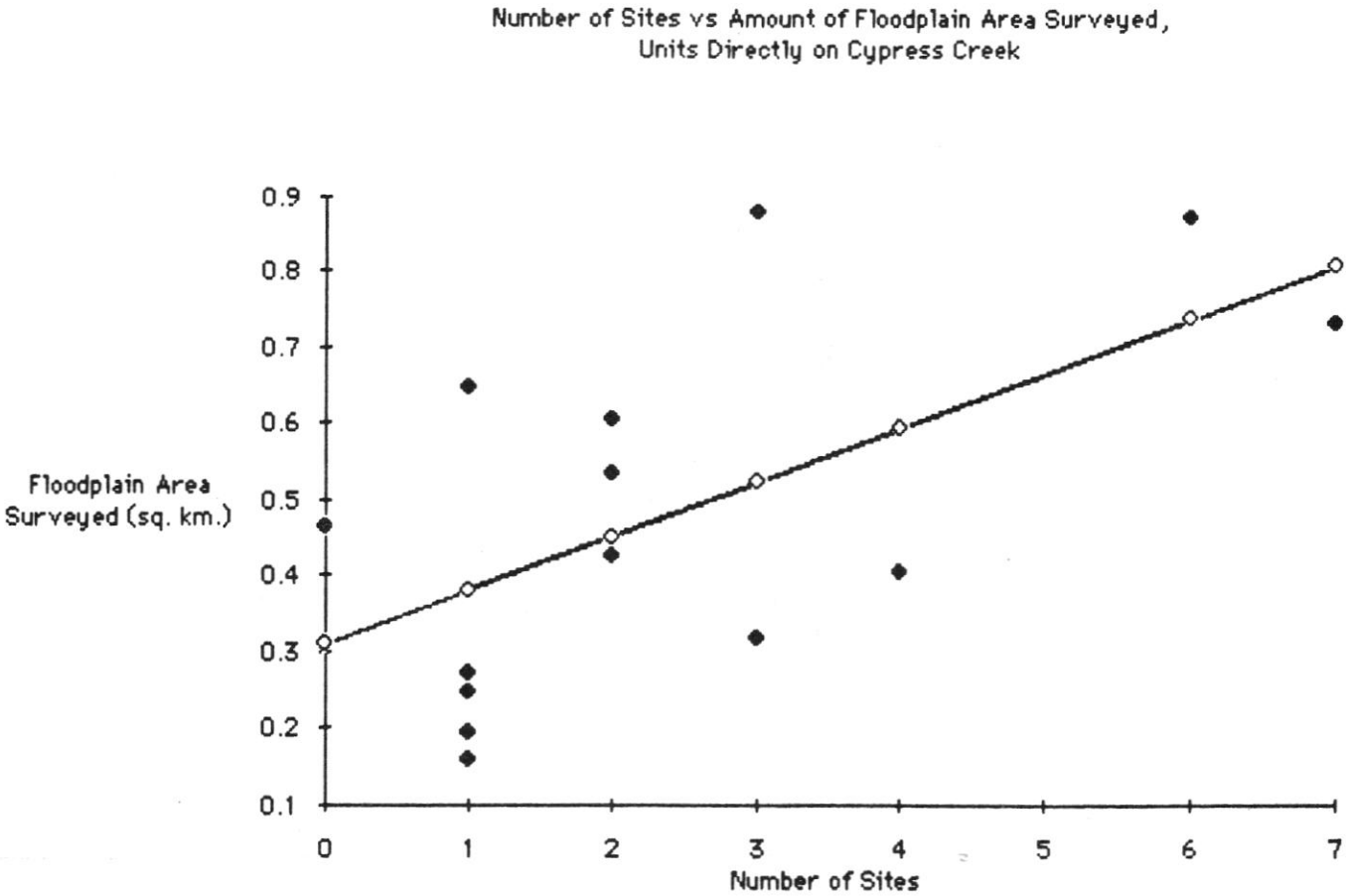


Figure 6.

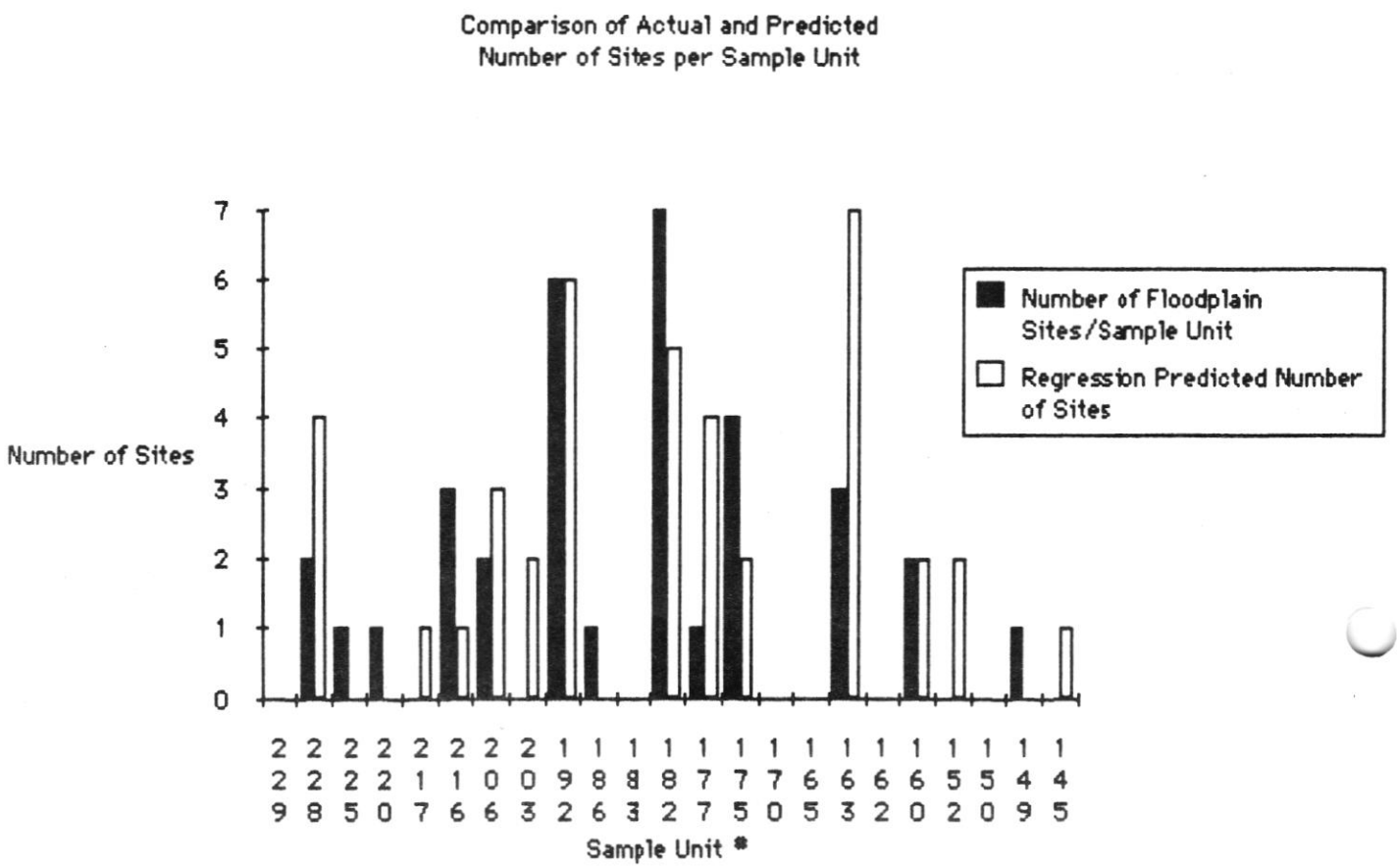


Figure 7.

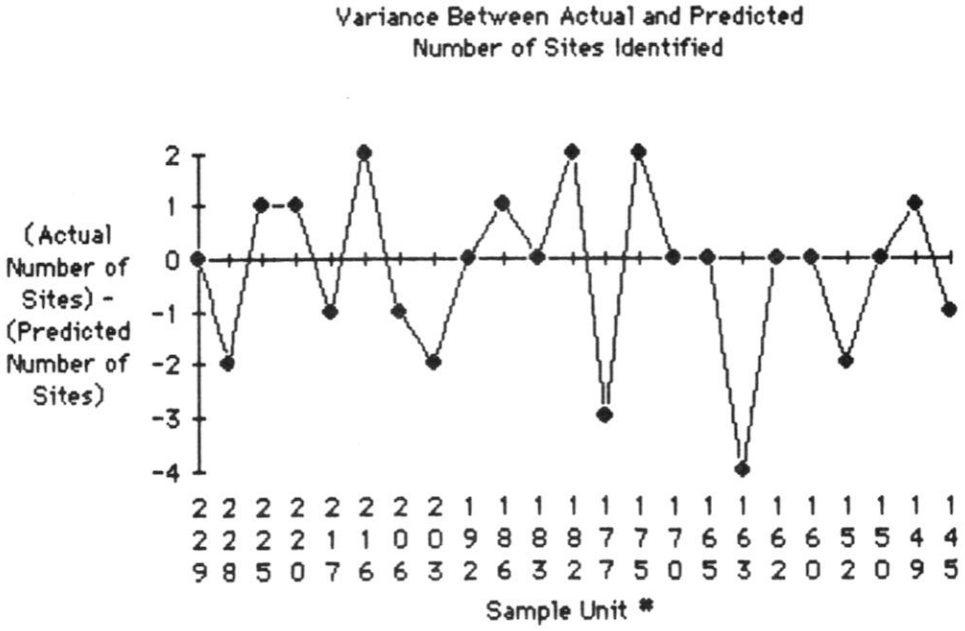


Figure 8.

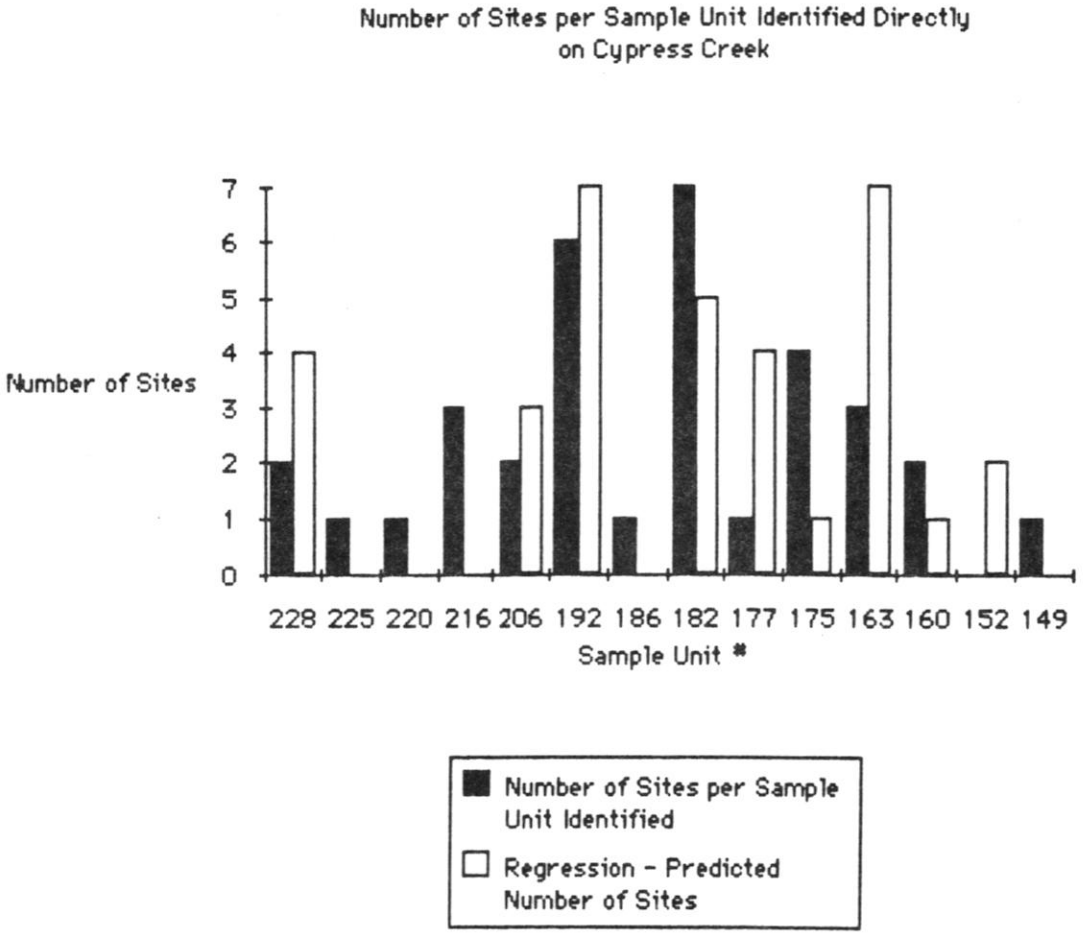
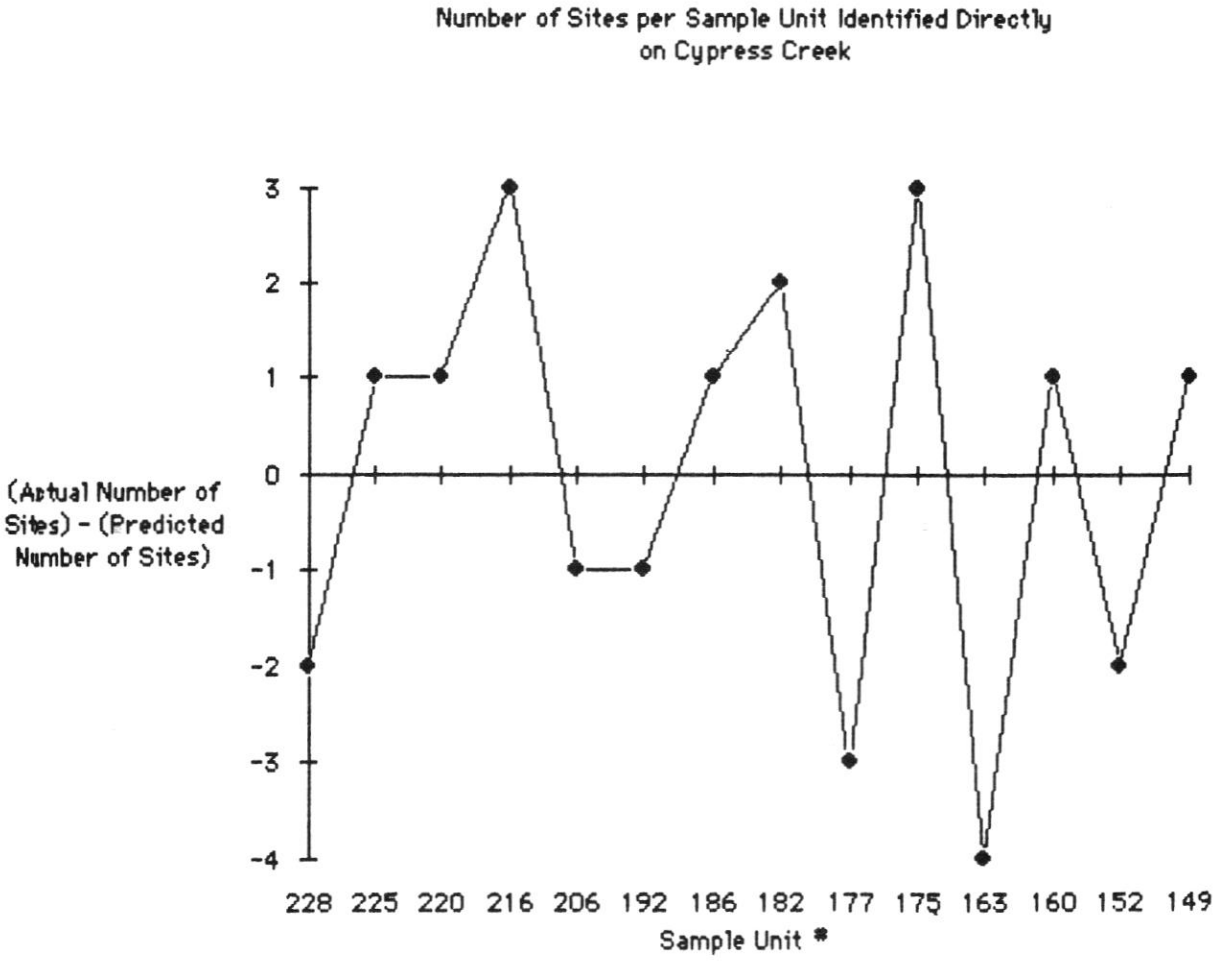


Figure 9.


Number of Sites per Sample Unit Identified Directly
on Cypress Creek
(Actual Number of
Sites) - (Predicted
Number of Sites)
3
2
1
0
-1
-2
-3
-4
228 225 220 216 206 192 186 182 177 175 163 160 152 149
Sample Unit #

ADDITIONAL TEST EXCAVATIONS AT SITE 41WH10, WHARTON COUNTY, TEXAS

L. W. Patterson and J. D. Hudgins

INTRODUCTION

Site 41WH10 is a large prehistoric site in Wharton County, Texas with a very long occupation sequence. The original surface collection from this site (Patterson and Hudgins 1980) yielded artifacts that represent occupations from the Late Paleoindian time period through the Late Prehistoric period. Because of the potential importance of this site for obtaining data on early Indians in southeast Texas, some test excavations were conducted by the Houston Archeological Society (Patterson and Hudgins 1984). This was found to be a well-stratified site, with flint flakes present at many levels. However, nothing of a really diagnostic nature was found at lower levels, such as projectile points or unifacial tools. It was then decided to do more test excavations in an attempt to locate early artifacts of a more diagnostic nature.

Additional test excavations at site 41WH10 were done in November 1984 and March 1985, which will be described in this report. Persons who participated in this work include: D. Atherton, C. Boyle, C. Ebersole, R. Gregg, B. Hudgins, J. Hudgins, S. Kindall, D. Leffler, R. McCausland, L. Moorrees, L. Patterson, D. Peltus, B. Schurmann, G. Ryman, and B. Slaight. Further work at this site has been made possible by the continuing cooperation of the landowner, Marcial Sorrel.

ADDITIONAL SURFACE FINDS

Continued surface collecting on this site has yielded many chert flakes and cores. Chert cobbles appear to be the original source of lithic raw materials. Potsherds collected include Goose Creek Plain and a few specimens of bone tempered sherds. Additional projectile points found on the surface include: Early Stemmed (Fig. 1A), Gary (Fig. 1B, D), Kent (Fig. 1C, F), and an unclassified lanceolate point (Fig. 1I) that does not have ground basal edges. The Early Stemmed point is of the type illustrated by Turner and Hester (1985:87). This type of point appears to have a wide geographic distribution in the Late Paleoindian period in central and south Texas (Shafer 1977:Fig. 5A, Sorrow 1968: Fig. 3, Sorrow, Shafer and Ross 1967:Fig. 15F). The Gary and Kent point types are common in southeast Texas, starting in the Middle Archaic and continuing through the Late Prehistoric.

EXCAVATION RESULTS

Five additional one-meter square test pits were made to further define this site. Results continue to confirm that this is a large site covering several acres, and that there is plow zone disturbance to a level of approximately 20 cm. Difficulties in finding diagnostic artifacts in-sites in the lower excavation levels may be related to the large area of this site, with a lack of occupation concentrations.

The test pits were labeled E to I. Pits G, H and I were all in the immediate area of the previous test Pit 1 (Patterson and Hudgins 1984). Pit F

was located about 300 feet west, at the top of an old gravel pit. Pit E was located 150 feet west of Pit F, on a high knoll. Soil from the first 80 cm of Pit E was much darker than from any other test pit.

It may be seen in Table 1 that flint flakes were recovered from many levels in all of the test pits. However, few diagnostic artifacts were found in-site in these five pits. A Scallorn arrow point (Fig. 1H) was found in the 0 to 10 cm level of Pit H. A side-notched Ensor dart point (Fig. 1E) was found at 10 cm in Pit F. A triangular dart point preform (Fig. 1G) was found at 22 cm in Pit G. No potsherds were found in these five test pits. One small concave scraper was found in the 0 to 10 cm level of Pit H.

SUMMARY

A total of 8 test pits have now been done by the HAS on site 41WH10. These excavations have confirmed previous impressions from surface collecting that this is a large site. A major objective of finding diagnostic materials at the lower levels was not accomplished. It appears that much more excavation work would be required to do this.

Results from excavations and surface collections continue to support the initial conclusion that site 41WH10 has a very long occupation sequence from the Late Paleoindian period through the Late Prehistoric.

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1985 A Field Guide to Stone Artifacts of Texas Indians. Texas Monthly Press

TABLE 1
SUMMARY OF LITHIC FLAKES

Level, CM	Pit E	Pit F	Pit G	Pit H	Pit I
0-10	2	19	18	38	67
10-20	19	29	42	82	108
20-30	28	30	27	38	56
30-40	14	6	35	67	37
40-50	10	7	12	55	28
50-60	35	0	15	59	40
60-70	8	5	8	28	15
70-80	10	2	9	23	5
80-90	12	3	0	28	NA
90-100	6	0	5	15	NA
100-110	5	0	6	22	NA

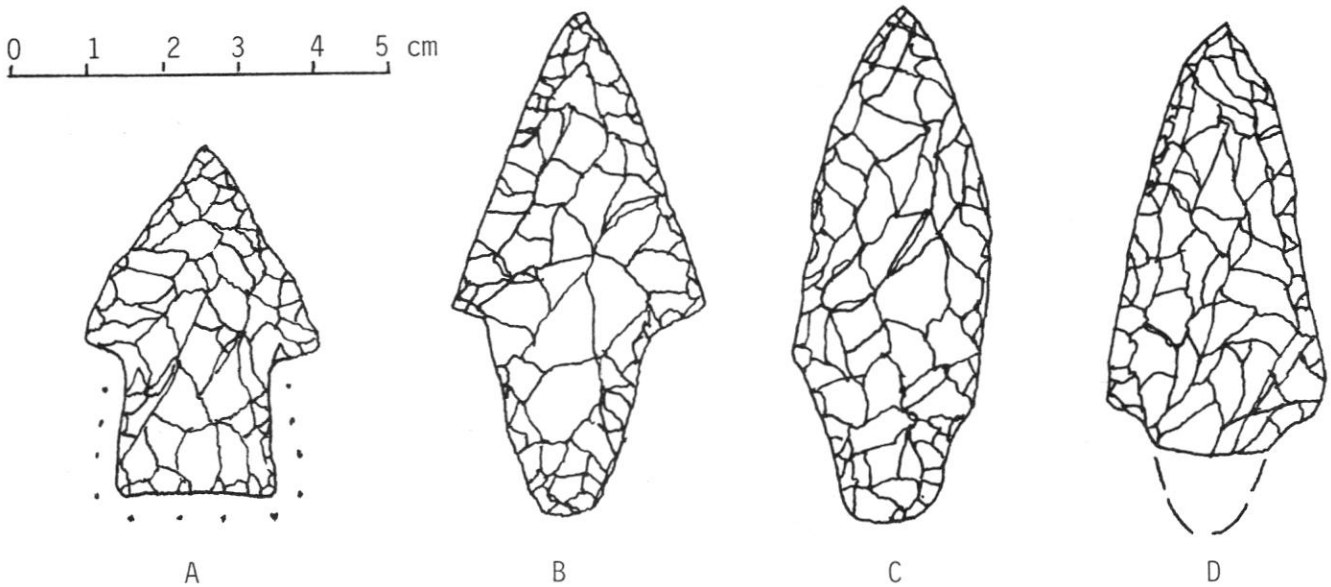
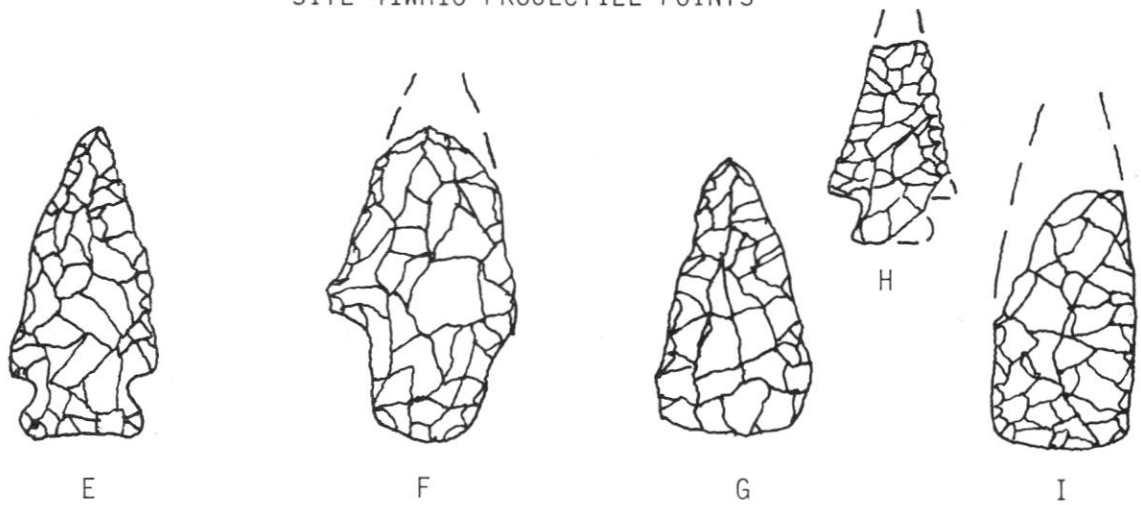


FIGURE 1
SITE 41WH10 PROJECTILE POINTS



A-EARLY STEMMED; B,D-GARY; C,F-KENT; E-ENSOR;
G-PREFORM; H-SCALLORN; I-UNCLASSIFIED; dots show ground edges

ADDITIONAL FIELD WORK AT SITE 41FB102

IN FORT BEND COUNTY, TEXAS

Bruce R. Duke

INTRODUCTION

A report describing prehistoric site 41FB102 on Buffalo Bayou in Fort Bend County, Texas was published earlier (Duke 1985). All the artifacts reported, including a Plainview point, were surface finds. The continued severe erosion of the site has resulted in additional surface artifacts. These new artifacts allow a better interpretation of the site to be made. Site 41FB102 now shows a long occupation sequence from the Paleo-Indian period through the Late Prehistoric despite its relatively small size. A molar and several vertebrae of a small mammoth were found at the site.

ARTIFACTS

An Angostura point is one of the new finds at Site 41FB102 and is depicted in Figure I. It is an unusual Angostura point in that flutes or flaked depressions were manufactured on both sides of the body. Also, the edges of the body were excessively flaked, causing the depressions to be diamond-shaped.

In addition to the Angostura point, several other flaked artifacts were found. These also can be seen in Figure I. Several additional Goose Creek potsherds were present.

FAUNAL REMAINS

The mammoth remains were located about 40 yards upstream from where the Plainview point was found and about 25 yards upstream from where the Angostura point was found. The vertebrae had already slumped from the bluff while the molar was protruding from a mottled gray and yellow clay matrix at a depth of about 230 centimeters, or approximately 90 inches. The matrix contains both calcium carbonate and iron oxide concretions. The vertebrae are fossilized, and a small quartzite hammerstone was found about 15 centimeters from one of them. When this mammoth was living, the location of Site 41FB102 may have been near the head of Buffalo Bayou. If so, the area was probably very marshy.

Based on the size of the molar and the vertebrae, the mammoth was small, probably not much larger than a modern day bison. If the mammoth was killed by Paleo-Indian hunters, the small size of the animal would have made it easy prey and much to their liking.

SUMMARY

Surface collecting at Site 41FB102 has yielded only a limited number of artifacts because the site is small. However, this number includes a wide variety of projectile points reflecting a long occupation sequence.

It has been established that mammoths existed in this area until about 8,000 years ago. The Paleo-Indian projectile points found at the site may be that old or older. A mammoth association is possible.

The area in the vicinity of the site is being heavily impacted by

human encroachment. Numerous developments and "improvements" are closing in on the site, thus making the site increasingly vulnerable to damage by machines and pot hunters. It is important that as much information as possible be obtained from Site 41FB102 before it disappears.

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ADDITIONAL PLANTS IN VICINITY OF SITE 41FB102

Catalpa bignonioides - Southern catalpa
Ligustrum sinense - Chinese privet
Lonicera sempervirens - Trumpet honeysuckle
Morus rubra - Red mulberry
Passiflora incarnata - Wild passion - flower
Rubus trivialis - Southern dewberry

ADDITIONAL WILDLIFE IN VICINITY OF SITE 41FB102

Agkistrodon piscivorus leucostoma - Western cottonmouth
Anas discors - Blue-winged teal
Anolis carolinensis - Green anole
Archilochus colubris - Ruby-throated hummingbird
Bubulcus ibis - Cattle egret
Bufo valliceps - Gulf coast toad
Buteo lineatus - Red-shouldered hawk
Butorides virescens - Green heron
Casmerodius albus - Common egret
Charadrius vociferus - Killdeer
Chordeiles minor - Common nighthawk
Dendrocygna bicolor - Black-bellied tree duck
Dryocopus pileatus - Pileated woodpecker
Florida caerulea - Little blue heron
Mimus polyglottos - Mockingbird
Natrix rhombifera rhombifera - Diamond-backed water snake
Natrix sipedon confluens - Broad-banded water snake
Phalacrocorax sp. - Cormorant
Sciurus carolinensis - Eastern gray squirrel
Strix varia - Barred owl
Trionyx spinifer emoryi - Texas softshell turtle

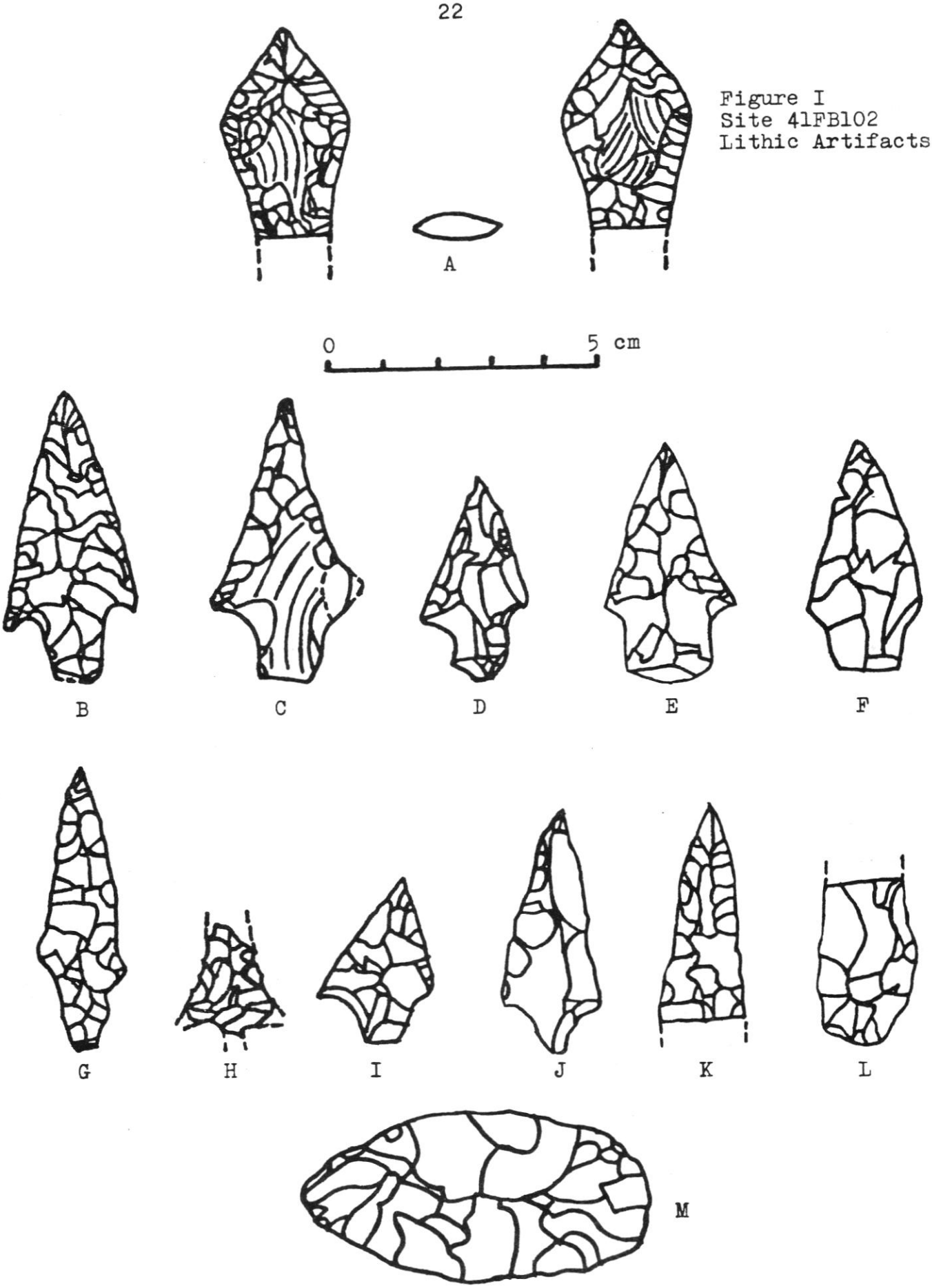

Figure I
Site 41FB102
Lithic Artifacts

A - Angostura point (both faces and X-section of stem); B, C - Gary points; D - Dawson point; E, F - Kent points; G, H - Unidentified arrowpoints; I, J - Unclassified points; K, L - Unclassified; M - Bifacial tool.

POST WEST BERNARD 1837-1839 - Part IV

Joe D. Hudgins

In the previous reports on Post West Bernard in the Journal of the Houston Archeological Society (Hudgins 1984, #80, 1985, #81, #82) most of the attention was directed toward the history of the post and the identification and analysis of gun parts, with only a brief mention of historic ceramic sherds, glass fragments and buttons that were found on the site. The types of ceramics can be found in the Hudgins 1985 #82 report (Journal of the Houston Archeological Society).

This report will be concerned with the identification of the glass fragments and buttons.

Glass Fragments

A preliminary analysis of forty-four glass fragments found on the south end of the site, was conducted by Shirley Wetzel. Her analysis was based on the necks and bases of the bottles. Most of the glass fragments were from wine, ale or spirit bottles. The bases or partial bases of six bottles all have smoothed pontils. One was light olive green and the others were dark green to dark greenish brown in color. One bottle neck had a crude hand-applied lip (champagne finish). Two other bottle necks were finished with lipping tools. There was one partial base of clear glass, 4 sided, with a pressed design on one side. Wetzel stated that all the bottles were mold made but there wasn't enough of the necks remaining to tell whether they were two or three piece molds and there are no manufacturer's marks or other identifiable features.

Buttons

Six buttons were found on the north section of the site. Five of the buttons were identified by Mrs. M. W. Speights, Vice-President of the National Button Society. All five buttons were made for civilian men's clothing and are one piece brass buttons, with a plain face, and were manufactured between 1820 and 1850. (Table I) Three of the buttons have inscriptions on the underside. The smaller buttons (top left and bottom right) are the same size (1.7 cm diameter) and are from the sleeves or cuffs of a man's jacket. The button on the bottom right has an inscription known as a quality mark (rich orange color) on the underside and was made in England. The other cuff button has no marks. The two larger buttons (2 cm diameter) are from a civilian vest or light coat. The button on the bottom left has a quality mark (treble gilt) and was also made in England. The button in the center of the bottom row of Table I was made in Philadelphia, Pennsylvania and has both a quality mark and a manufacturers mark on the underside (treble gilt - Worley & Welch Philada). The button pictured on the top right of the photograph is from men's trousers and is used to hook suspenders.

A button (1.93 cm diameter or 3/4" diameter) from the uniform of a United States Dragoon was the only military button found on the site thus far. (Table II). It is a brass two piece button with a convex face. On the face is the national eagle with spread wings and the letter "D" insid a shield. This button is clearly identified as being made from 1840-1860. The main differences in this button and the earlier 1833-1840 dragoon button is that in the later button the two piece design replaced the earlier one piece hollow back button and the letter "D" is superimposed

on the shield. The earlier type shields are flat with no raised rim, while the later design incorporates a shield with the rim in low relief. (Steffen, Vol. I). Further information states that officer's buttons were 7/8" diameter for large buttons and 1/2" diameter for small buttons. The enlisted men's buttons were 3/4" diameter for the large buttons and .55" for small buttons. (Steffen, pg. 99 fig. 45). This information enables this button to be positively identified as a U.S. Dragoon button from an enlisted man's uniform, dated 1840-1860.

The arsenal at Post West Bernard was moved to the armory in Houston in late April, 1839 (Williams pg. 6 & 7) and the last known document naming the post is dated Feb. 20, 1839 (Pierce pg. 69 & 180). Although this may have been the end of the arsenal, there are no official records showing the closing of the post. In fact, there is a map dated 1841 (Table IV) in the book After San Jacinto by Joseph M. Nance that shows the general location of Post West Bernard. This suggests that the post was still in existence, and used from time to time throughout most of the period of the Texas Republic. U. S. Dragoon presence at the post is further confirmed by the discovery of a broken spur, (Table III). This spur is made of brass, known at that time as "yellow metal" and typical of dragoon spurs for that time period. (Steffen pg. 91 & fig. 4 pg. 98). The Second Regiment of the U.S. were stationed at Austin, Texas in 1845, (Pierce pg. 13 & 14).

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TABLE I

REVERSE

OBVERSE

TABLE II

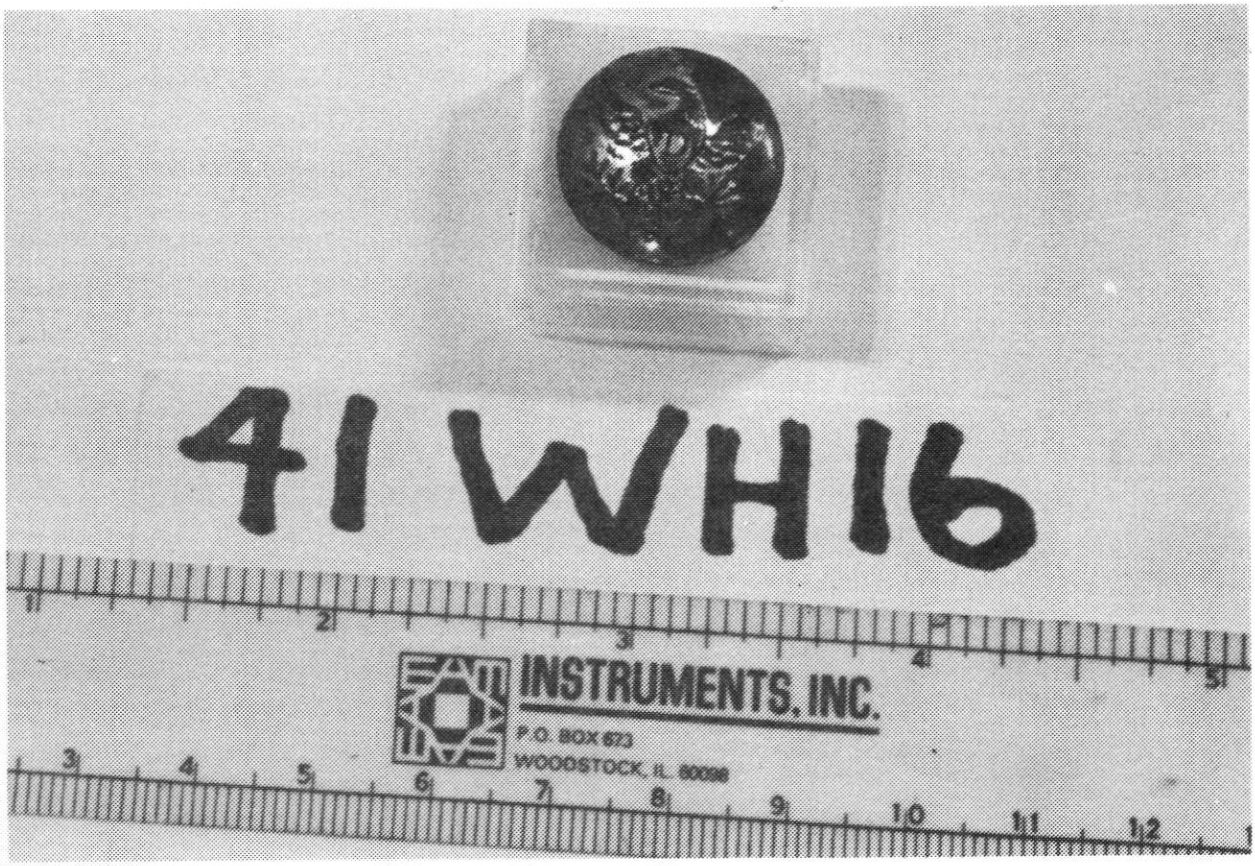
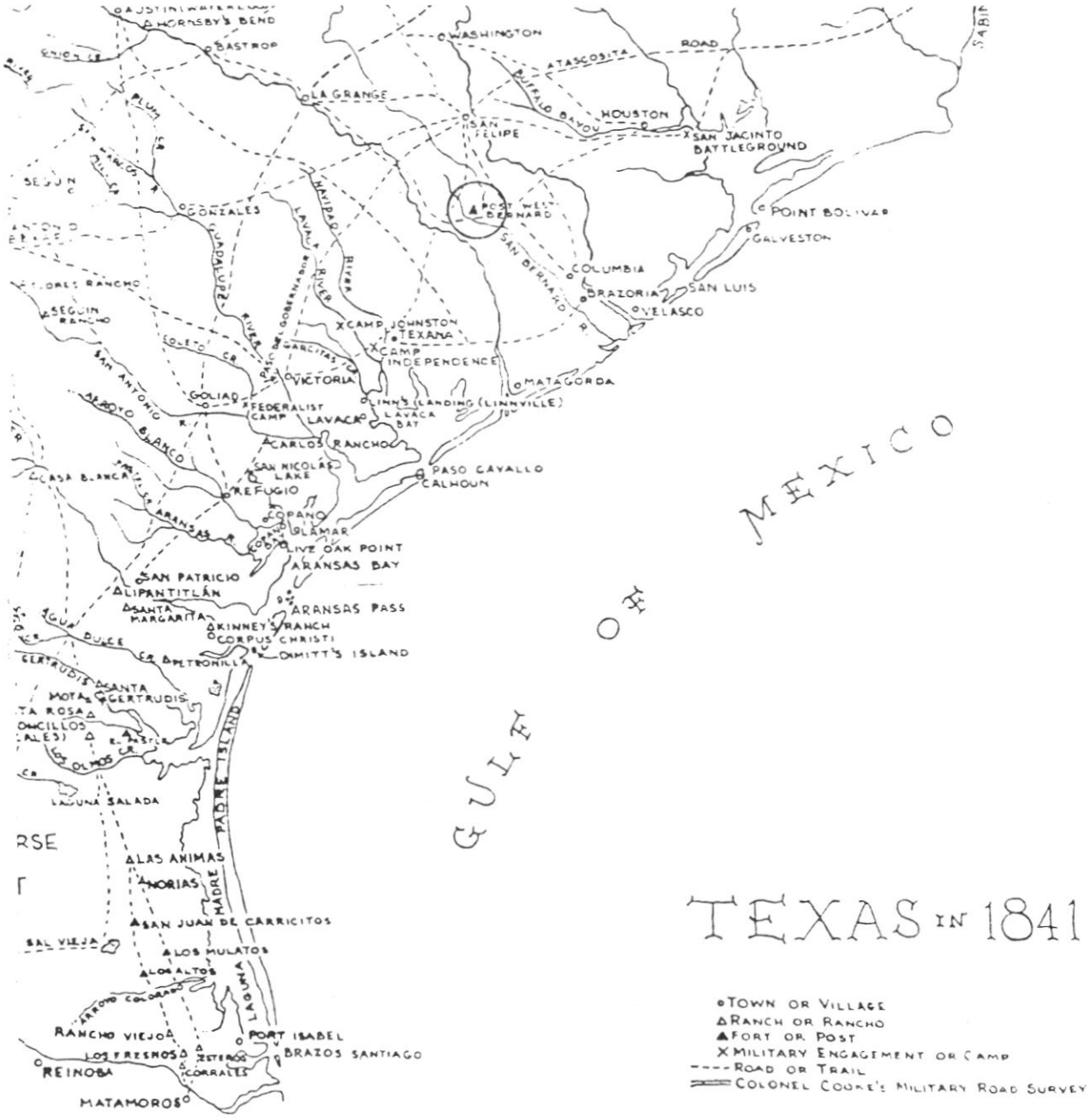


TABLE III

TABLE IV


TEXAS IN 1841
GULF OF MEXICO
WASHINGTON
ATASCOSITA ROAD
BUFFALO BAYOU
HOUSTON
SAN JACINTO BATTLEGROUND
LA GRANGE
SAN FELIPE
POST WEST BERNARD
POINT BOLIVAR
GALVESTON
COLUMBIA
BRAZORIA
SAN LUIS
VELASCO
MATAGORDA
GONZALES
CAMP JOHNSTON
TEXANA
CAMP INDEPENDENCE
VICTORIA
GOLIAD
FEDERALIST CAMP
LINNS LANDING (LINNVILLE)
LAVACA BAY
CARLOS RANCHO
SAN NICOLAS LAKE
REFUGIO
PASO CAVALLO
CALHOUN
COPANO
LIVE OAK POINT
ARANSAS BAY
SAN PATRICIO
LIPANTITLÁN
SANTA MARGARITA
ARANSAS PASS
KINNEY'S RANCH
CORPUS CHRISTI
DIMITT'S ISLAND
PETRONILLA
SANTA GERTRUDIS
LAGUNA SALADA
LAS ANIMAS
MORIAS
SAN JUAN DE CARRICITOS
LOS MULATOS
LOS ALTOS
RANCHO VIEJO
PORT ISABEL
BRAZOS SANTIAGO
LOS FRESNOS
REINOSA
CORRALES
MATAMOROS
PADRE ISLAND
SEGUIN RANCHO
SAN ANTONIO
ARROYO BLANCO
CASA BLANCA
ARANSAS
NUECES
SAN BERNARDO R.
LAVACA RIVER
GUADALUPE
COLETO CR.
GARCITAS
ARROYO COLORADO
LAGUNA
Town or Village
Ranch or Rancho
Fort or Post
Military Engagement or Camp
Road or Trail
Colonel Cooke's Military Road Survey

Indian Component of Site 41WH16

Joe D. Hudgins

The site of Post West Bernard, 41WH16, also proved to be ideal for earlier inhabitants of the area. Indian artifacts from initial surface collections and from several 1x1 meter test pits suggest occupation ranging from the late archaic, thru the historic period.

Artifacts

Lithics

Most of the lithic material found was from the plow zone or surface area. Several hundred flint flakes, fine cores, one unifacial stub-nosed end scraper, and several side scrapers were collected. Three arrowpoints, (Table I A-C) one beveled blade (D) and one dart point (E) were also recovered. One dart point (F) was found in a test pit below the plowing zone along with several flint flakes and an abundance of burned clay balls. Of the three arrowpoints found on the surface, one can be identified as a cuney type (Table II A) and another as a guerrero type (Table II B). These types are very similar to those found on site 41WH8 about 2 miles south of this site (Hudgins 1982:74). The presence of these two points suggest historic Indian occupation. The two dart points have not been identified as to type but represent the archaic component. Some of the archaic component, below the plow zone, seems to be undisturbed.

Ceramics

Twenty five sherds were collected from the surface. Most of the sherds can be classified as Goose Creek plain and are typical of the ceramics found on other prehistoric sites in the county. Asphalt coating is present on some of the sherds. one small rim sherd resembles the Rockport ware found on site 41WH8. It has an asphalt coated rim with a vertical, wavy black line.

Other Indian Artifacts

Fifteen sandstone abraders were found varying in size from 5-20 cm. in diameter and 1-3 cm. in thickness. These pieces of sandstone vary in shape but are mostly triangular. The sides and surface are smooth. Sandstone artifacts of this type are found in abundance on sites 41WH32, 41WH80, 41WH83 and 41MG52 (TARL) located in the south east part of Wharton County and north west Matagorda County.

Summary

The area occupied by site 41WH16 is typical of aboriginal sites in the county. It is above the flood plane and has an amply supply of water. Indian groups ranging from the archaic through the historic periods took advantage of the situation.

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Historic Indian Site in Wharton Co., Texas.
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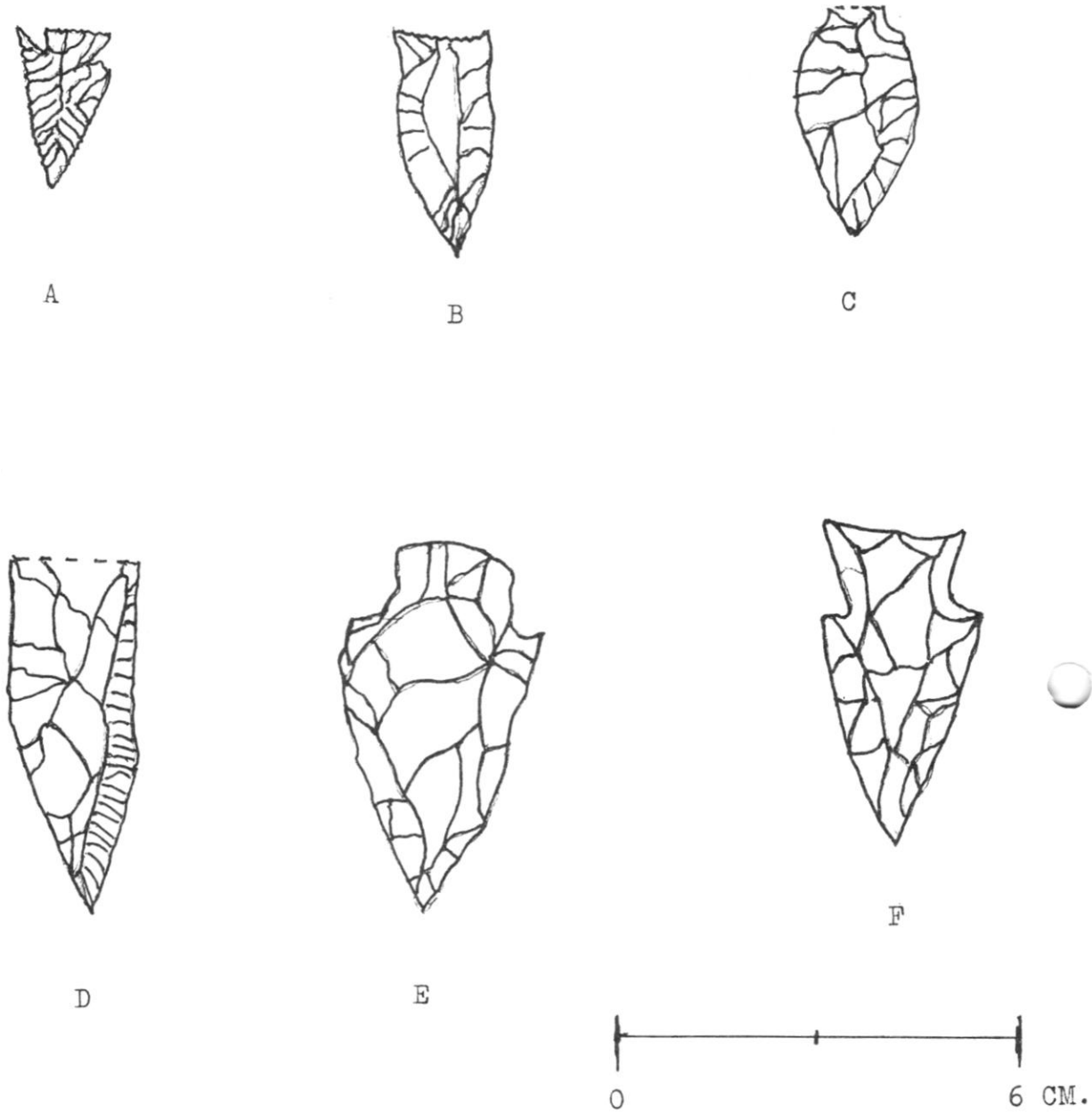
Table I



A. Cuney arrowpoint B. Guerrero arrowpoint C. Misc. arrowpoint
D. Beveled blade E, F. Misc. dartpoints

Dimensions and weights of points shown in Table I (41WH16)

Point	Weight (Grams)	Length (cm)	Thickness (cm)	Width (cm)
A	0.60	2.30	0.27	1.20
B	2.70	3.20	0.45	1.30
C	14.30	5.50	0.90	2.90
D	7.60	4.60	0.80	2.10
E	8.20	5.00	0.62	1.80
F	3.750	3.30	0.52	1.80

# # # # # #

Book Review: An Introduction to Louisiana Archaeology
by Robert W. Neuman, Louisiana State University Press,
pp. 366, cloth, 1984

L. W. Patterson

Because of geographical proximity, the archeology of Louisiana is of great interest to archeologists in eastern Texas. Until now, however, an extensive summary of Louisiana archeology has not been available. This situation has changed for the better with the recent publication of Neuman's book on this subject.

Neuman's book starts with a chapter on the history of archeological research in Louisiana. This serves as a suitable introduction for the more substantive material that follows. Such outstanding names as Clarence Moore, James Ford, Gordon Willey, Clarence Webb, William Haag, and Philip Phillips are recalled. Louisiana has had some significant research projects in archeology, particularly concerning post-ceramic cultures.

The earliest time period to be covered is the Paleo-Indian period. The time period used of 10,000 to 6,000 B.C. is the same as usually used in Texas. The Paleo-Indian in Louisiana is known mainly from surface finds of projectile points, mainly of the same types that are found in eastern Texas. The only excavated site of this time period in this state is the John Pierce site (Webb, Shiner and Roberts 1971), which yielded undated Late Paleo-Indian remains, such as San Patrice points.

The next time period covered is named the "Meso-Indian Era". This is equivalent to the Early and Middle Archaic periods of Texas, from 6,000 to 2,000 B.C. Based on the fact that progress has been made only recently on research for these periods in southeastern Texas, one is not too surprised to learn that little is known about these time periods in Louisiana. It is interesting to note that an Indian mound from this period at Avery Island may pre-date other mound building in Louisiana by 1,000 years.

Most of this book is devoted to cultural developments between 2,000 B.C. and A.D. 1,600. The main cultural phases covered include Poverty Point, Tchefuncte, Marksville, Troyville-Coles Creek, Caddo, Plaquemine and Mississippian. In Louisiana, it is possible to speak of the increasing complexity of formative cultures, unlike in neighboring Texas where prehistoric culture remained on the simpler hunting and gathering band level, except for the Caddo.

The Poverty Point Culture is the earliest culture in North America with monumental earthworks that demonstrate a high degree of social organization. Gibson (1974) has referred to Poverty Point as the first North American chiefdom. This culture seems to have developed on the Gulf Coast and spread inland through the Mississippi River Basin. Dates for this culture range from 2040 B.C. to 750 B.C. While the Poverty Point Culture is more complex, it shares a number of traits with the simpler cultures of the general Gulf Coast Archaic (Patterson 1975).

Following the Poverty Point Culture, the Tchefuncte Culture of 500 B.C. to A.D. 300 is of a simpler cultural nature. "The published record indicates widely scattered camps of seminomadic hunters and gatherers, while the seeds of the squash and bottle gourd found at one site suggest horticultural beginnings" (Neuman 1984:135). Some Tchefuncte potsherds have been found as far west as Harris County, Texas (Aten 1983:238).

Parallel in time to the Tchefuncte Culture, there existed a much more sophisticated culture that is named Marksville after its type site. Neuman gives a fairly detailed description of this type site, including the monumental earthworks found there. This culture seems to have participated in the widespread Hopewell Interaction Sphere, which extended as far north as Ohio. Because most archeological excavations have been carried out at complex mortuary sites, a balanced picture of the overall Marksville lifestyle is still not available.

The Marksville Culture was followed by the Troyville-Coles Creek (A.D. 400 to 1250), Caddo (A.D. 800 to historic), Plaquemine (A.D. 1000 to historic), and Mississipian (A.D. 800 to historic) cultures which overlap in time. Neuman devotes a chapter to each of these cultures, although little is known about the Mississippian Culture in Louisiana. None of these cultures seems to have gone beyond the chiefdom level of organization. The Caddo Culture is of special interest to Texas archeologists because of its existence in the wide area of Oklahoma, Arkansas, Texas, and Louisiana. Neuman (1984:218) notes that there was considerable Meso-American influence in the formation of the Caddo Culture.

This book is mainly about the archeology of Louisiana. As the author notes in the introduction, no attempt has been made to reconstruct the cultures of prehistoric and historic Louisiana Indians. Information on pottery types is especially well developed in the Louisiana archeological record.

The lifeways of Late Prehistoric Indians of the Gulf coastal margin appear to be very similar for Louisiana and the upper Texas coast. Rangia shell middens are common in these areas. Aten and Bollich (1969) have noted the influence of Louisiana pottery types on ceramics of the upper Texas coastal margin.

This book ends with a chapter on the archeology of historic Indians in Louisiana and a summary chapter. Many references are given throughout this publication, so that the interested reader can find additional information. This book should be of interest to a wide audience.

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# # # # # #

The Central Texas Archeologist, Number 10, Spring 1985, co-published by the Central Texas Archeological Society and the Baylor University Press, Waco, Texas, is dedicated to Frank H. Watt who was one of the founders of the Central Texas Archeological Society and who, as an avocational archeologist contributed a wealth of knowledge to the understanding of Central Texas archeology.

The tributes and dedications to Frank Watt, contained in this issue of the CTA, should be an inspiration to amateur archeologists everywhere. The publication can be obtained from:

Baylor University Press
c/o Baylor Book Store
P. O. Box 6325
Waco, Texas 76706

Cost - $13.53 including tax and postage.

A.R.D.

Corrigendum

Dimensions and weights of points C thru F shown in Table I, page 30 should be corrected as follows:

	Weight (Grams)	Length (cm)	Thickness (cm)	Width (cm)
C	3.750	3.30	0.52	1.80
D	8.20	5.0	0.62	1.80
E	14.30	5.50	0.90	2.90
F	7.60	4.60	0.80	2.10

HAS HISTORIC NOTE NUMBER SIX

Alan R. Duke and Suzanne Patrick

1963-1964

Officers for 1963-64 were as follows:
Chairman - Donald R. Lewis
Sec.-Treas. - Mrs. Louise Caskey
Directors - Damon Dunn, Alan Duke, William Caskey
Editorial Committee - H. Mewhinney, Lawrence Aten

Work on the Livingston Reservoir Area began in 1964. The survey was conducted by the HAS to assist the Texas Archeological Salvage Project. In 1964 the field Coordinator for the survey was Damon Dunn who supervised six team captains who in turn, were responsible for: (1) submitting written reports to the coordinator on all sites located. (2) properly identifying all artifacts using the standard trinomial systems. (3) forwarding site reports to T.A.S.P. (4) maintaining master records including maps for the overall survey. (5) assigning members to teams and (6) establishing good relationships with landowners. Team captains for 1964 were Frank Ray, L. D. Stewart, A. R. Duke, C. F. Deane, W. P. Caskey and N. J. Wilson. Approximately 50 members of the Society, working largely on week-ends, participated in the survey. By June 1965 when the survey ended, 33 new sites had been located with limited testing done on some sites to establish the extent and depth of cultural materials. All information was reported to Dr. Dee Ann Story who was responsible for coordinating the HAS activities with the program of the TASP.

As of June 1964, the HAS had 119 members including 3 honorary memberships.

1964-1965

Officers for 1964-65 were as follows:
Chairman - Alan R. Duke
Sec.-Treas. - Elaine Burleigh
Directors - Mrs. William Caskey, Don Lewis, Charles Deane
Editorial Committee - Hubert Mewhinney, Lawrence Aten

Survey work continued in the Livingston Reservoir area after a brief interlude during deer hunting season. Lou Fullen was the new coordinator for the 1965 season. In addition to the archeological site reports sent to TASP, reports on paleontological features were forwarded to Bob Slaughter at Southern Methodist University. Artifacts, maps, site reports and a history of the HAS participation in the Livingston survey were in the hands of the TASP by July 1965.

Meanwhile, other members of the HAS were surveying the lower reaches of the Trinity River for archeological sites. The work on the Wallisville Reservoir was about to begin and the HAS was preparing to assist the TASP in making a survey of the very controversial area of the reservoir.

The influence and concern of the members of the HAS paid off on Oct. 1, 1965 when Curtis D. Tunnell, formerly Executive Director of the TASP, was appointed to the recently created position of State Archeologist.

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