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## LATE ARCHAIC PERIOD<sup>1</sup>

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### **Yazoo Basin**

The Yazoo Basin offers a unique environmental setting for possible cultural development. Although adapting to changes in the hydraulic system and thus the valley surface may have been a difficult challenge for pre-Late Archaic cultures (or likely these physiographic changes helped obscure earlier sites), this is not the case for the Late Archaic period. Rather, the river systems appear to have become (relatively) more stable leading to a modern environmental setting. This allowed for increased adaptation to specific areas within the Basin. This “stability” also reduced the amount of site destruction due to scarring and site burial beneath alluvial deposit (Brain 1971:34).

The area itself has been one of the most extensively studied regions in Southeastern archaeology. Unfortunately, many of the earliest studies considered the valley floor to be too young geologically for pre-ceramic period sites to exist (Brain 1971:23). Further, most of the early researchers were primarily ceramic specialists, and thus spent much of their attention on this artifact class (Phillips 1970:862). Also, many of the most spectacular and recognizably important sites did not contain sizable amounts of Pre-Poverty Point materials (Williams and Brain 1983). Therefore, although this region has been extensively studied, little primary data concerning the Pre-Poverty Point Late Archaic culture is available.

The lack of Late Archaic data for the area has once again led to the use of data from other areas in the establishment of chronological and cultural boundaries for this period. Brain (1971:34-35) refers to this period as period III of the Meso-Indian Era, 3000-2000 B.C. The period marks the beginning of modern environmental setting, and allows for a move “beyond primary forest efficiency” and to “maximum riverine efficiency” (Brain 1971:34). The main change during this period is thought to be one of degree rather than direction. Semi-permanent seasonal settlements were focused on a new or more extensive exploitation of river and coastal resources (Brain 1970:35). This is part

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<sup>1</sup>Cautionary Note: Numbers presented in the text and tables should be viewed with appropriate caution. Site counts, component counts, etc., are approximations at best. Numerical values are included only for the purpose of illustrating general trends. In that this project has been ongoing for over 5 years, they are also somewhat out of date. An accurate reporting will be produced from the recently computerized data base which is currently being reviewed and updated. Hopefully, a more workable inventory will be accessible in the near future. To be included within the Comprehensive State Planning document for the State of Mississippi and submitted to the National Park Service. Not for Citation.

of the Eastern Shell Mound Archaic adaptation, and is called the "Old Basin Phase" in the Yazoo Basin. Morrow Mountain Points, Savannah River Points, and Pontchartrain Points, as well as nutting stones are some of the associated artifacts (Brain 1970:36). Brain also mentions the common use of the atlatl, as indicated by the finding of atlatl weights (bannerstones). Although bannerstones were common in the Middle Archaic as well, Brain (1970:37) mentions the pierced variety, with a hole drilled through the center, as being particularly diagnostic of the Old Basin Phase. This conclusion is debated by McGahey however (also ask Brookes) (McGahey personal communication).

One interesting observation that is pointed out by Brain follows observations previously mentioned for the South Mississippi Late Archaic. For the first time, "Amorphous lumps of clay were fired brick-hard and then used for the preparation of food by pit baking or boiling" (Brain 1971:38). Phillips, Ford and Griffin (1951:429) also point out the use of fired lumps of clay for boiling of food as a primary method of food preparation.

The end of the period was given as approximately 4000 B.P. Although marked by the appearance of pottery, agriculture and earth moving projects, the Late Archaic is "defined" by elaboration in the socio-religious aspects of the cultures (Brain 1971:40).

Jackson and Jeter (1991:37) working in nearby Arkansas date the Pre-Poverty Point Late Archaic from between 3000-2000 B.C. Also. Although diagnostics were again found to overlap between this period and the succeeding Poverty Point period, some differences in the biface assemblages were noted between these cultures in Southeast Arkansas (Jackson and Jeter 1991:37).

As probably mentioned a zillion times, McGahey dates the Late Archaic period to 5,000 B.P. This is a period of environmental stability and again is marked by narrow stemmed bifaces such as Kent and Pontchartrain points (McGahey 1992? pp.?). There appears to be in the Yazoo Basin some-what of a continuation of the Middle Archaic lapidary industry discussed by McGahey for the Middle Archaic, note the late date from Denton and the appearance of Late Archaic bifaces at the Irby site (Connaway et al. 1977, Connaway 1987). (Longstreet, etc.) Included in this "industry" is pecking, grinding and drilling of stone for the creation of beads and pendants, as well as the creation of effigy beads.

The appearance of the Poverty Point culture in the area generally marks the end of the period. There is an abundance of Poverty Point sites found here, which is part of the core area of this culture. Important sites include the Jaketown site, the Slate site, and the Teoc Creek site (see Morgan 1992). None of these sites appears to have had a distinguishable/separate Late Archaic component interestingly (Connaway et al. 1973:3, Ford, Phillips and Haag 1955:37, Lauro and

Lehmann 1982:8, Lehmann 1982:5). The number of these sites drops as the distance grows from this primary area (see map).

The initial appearance of the Poverty Point culture in the area may have been as early as 2,000 B.C. and was definitely established by 1200 B.C. (Morgan 1992). The early appearance of Poverty Point and abundance of sites in the basin limits the Late Archaic of the area to a relatively short 1,000 years or so of time. However, many of the traits considered to be Poverty Point, such as blade-core technology, microliths, plummets, steatite bowls, and Pontchartrain Points may be found on Late Archaic sites as well. Thus, the division between these cultures is often indistinguishable. It is likely that these two cultures overlapped at some point in history, with Poverty Point appearing in areas of abundant resource availability near the Poverty Point core area or along a major trade route. The abundant resources allowing for ever increasing time spent on non-utilitarian arts such as the creation of zoomorphic beads and clay figurines. Possibly even full time artisans became possible. In marginal or isolated areas, the Late Archaic culture may have simply carried on, with occasional contact or trade from the Poverty Point groups, but with little change in the material culture or the subsistence and settlement strategies of the groups.

The Poverty Point lapidary industry may have its roots in the Middle Archaic tradition found all over the Southeast, but perhaps centering on the Middle Archaic Mound builders now being studied (Saunders) that are found in and near the Poverty Point core area.

As previously mentioned, no major research or excavation of a Late Archaic site has been done as of yet, in the Yazoo Basin. However, a detailed search through site records and reports has revealed several notable sites.

The Longstreet site was a multi-component site on what appeared to be a mound but was in fact an erosional remnant. The site contained a substantial woodland component overlying a buried late Middle Archaic to early Late Archaic midden. Carbon samples collected from the site by MDAH staff archaeologists revealed dates of  $2925 \pm 145$  and  $3050 \pm 120$  B.C. (Connaway 1975:2). The site had contained a number of Late Archaic and Middle Archaic diagnostic points, as well as several jasper beads. Unfortunately, the site was leveled by the landowner in 1975. Interestingly, Connaway (1975:1) observed several refuse pit features that contained "amorphous lumps of fired clay".

In Coahoma County, two apparently single component Late Archaic sites both containing beads were reported. These sites, the Livingston site 22Co687 and the Battle site 22Co688, have no reported Poverty Point diagnostics.

The Twinkle Town site 22Ds520 in DeSoto county is a Late Archaic through Tchula period site. The site, located by McGahey in 1971, was

found eroding out of the bank of an old river channel. The cultural material was buried under 4-6' of sterile sand.

In Leflore County, there are several sites of note. The Gary #1 site 22Lf549 reported by Connaway and Tramontana in 1972 is a single component Late Archaic site which is listed as National Register eligible. Site 22Lf629 is Another Late Archaic site listed as potentially eligible for the NRHP. Little details as to the nature of these sites are given however. Atkinson and O'Hear (1980) report a buried Late Archaic and Baytown period midden. This site, 22Lf673, has potential for helping answer a number of questions concerning the Late Archaic in the region.

In Panola County there are two notable Late Archaic sites. The first is the Fredrickson #2 site 22Pa821, which was placed on the National Register in 1988. This site is a multi component Early Archaic through Middle Woodland site. The Pea Farm Woods site 22Pa987 is a Middle Archaic through Woodland Midden which is buried. This site contains a Late Archaic component and has a high potential for yielding important information on the Late Archaic.

A number of other sites are listed as eligible for the NRHP which contain Late Archaic components. However, details are lacking for most of these sites.

Of 337 sites listed with Late Archaic components in the Yazoo Basin, 9 are listed on the NRHP, with another 19 being listed as eligible. Many of these sites are multi-component sites which are listed or potentially eligible due to their Post Archaic components, such as mounds. Fifty-eight sites are listed as being ineligible for the NRHP. Two hundred and fifty-one sites have not had their eligibility determined. This again points out the critical need for site testing in the state.

Site location in the Yazoo Basin is much more predictable than in the preceding areas. This is likely due in part to the relatively uniform landscape itself. Whatever the reason, 265 of the 288 sites with listed natural settings were located on a natural levee. Twelve were located on the floodplain, 5 on first terraces, 3 on alluvial fans, and one each on a river bank, bluff, and knoll on terrace (see chart ).

Elevation distribution of sites is also very predictable, with 300 of the 337 sites being found between 140 and 170 foot MSL (see chart).

Naming diagnostics again seems to be a major difficulty for researchers in this region. Of the 185 typeable bifaces, 106 were not classified. Of those classified, 31 of the 79 or 39% were Pontchartrain points. There were also 14 each of Gary and Kent points, and several Delhi and Motley points as well (see chart). There were also a high number of sites reporting nutting stones, celts, bannerstones and other groundstone objects. This was in stark contrast with areas of the South Mississippi (with the notable exception of the Cedarland site).

### **Tombigbee Hills**

The Tombigbee Hills physiographic region is perhaps the most studied region archaeologically in the state. From early attention by researchers such as Chambers and C.B. Moore, to the unprecedented attention afforded the cultural resources by the Tennessee-Tombigbee waterway project, numerous archaeological studies have been carried out in the area along the Tombigbee river and its tributaries.

One of the earliest studies to focus on the Tennessee-Tombigbee Waterway specifically was that of Caldwell and Lewis (1972). This report is of little value here, however, because it offers little more than a list of sites. No discussion of the methodology employed or the purpose of the study is given. Further, no map is provided with site provenience nor is any attempt to establish cultural chronologies for the sites made.

A 1974 study by Rucker was conducted of the Aliceville-Columbus lock and Dam area but offered little more than the previous study concerning questions about the Late Archaic. Although 25 pages were committed to questions of ceramic typology and chronology, no effort was made concerning lithic typology and chronology. Some discussion of lithic raw material usage was made however (Rucker 1974:10). It was stated that the prehistoric populations in the area utilized most often two types of local lithic raw material, red and yellow jasper. In all likelihood the red jasper was in most cases heat treated local yellow Tuscaloosa gravel (chert). Non-local raw materials were said to be utilized in the area only 5% of the time (Rucker 1974:11). Non-local materials exploited included sandstone for grinding tools, Tallahatta Quartzite, and gray Fort Payne chert.

One site found by Rucker (22Cl527) was recommended for mitigation which did contain a possible Late Archaic component, as well as Middle Archaic and Miller period material (Rucker 1974:104).

Another lock and dam of the Tennessee-Tombigbee waterway was investigated the following year by Blakeman (1975). A discussion of cultural chronology for the area focused on the Ceramic period once again (Blakeman 1975:44). Meanwhile, the survey was conducted only in cultivated areas and areas pointed out by private collectors. Thus the nature of the sites, at least the upper portions, were almost invariably disturbed by both agricultural and/or pot hunting activities (Blakeman 1975:11). Still, a number of sites were located, including a number of large multi-component middens (Blakeman 1975:73). A number of these sites contained Late Archaic components, some with and some without ceramic components overlying them. Many of these sites were found to be very disturbed by the previously mentioned activities of farming and looting, however several sites were still thought to contain undisturbed deposits (Blakeman 1975:74). The sites most likely to contain undisturbed deposits were recommended for further study or mitigation.

The Cofferdam site 22Lo599 was discovered during the Columbus Lock and Dam survey and was found to be a rich multi-component

deposit which included a Late Archaic occupation (Blakeman et al. 1976). The site was found to contain at least 35 features, mostly pits, 8 of which were thought to be of Archaic origin (although cultural affiliation was often based on the lack of ceramics) (Blakeman et al. 1976:56). The disturbed upper portion of the site was removed by heavy equipment in order to expose features which were of various shapes and sizes. All of the Late Archaic features contained fired clay lumps, however many of the non-Archaic features contained the fired clay as well. None of the Archaic features were dated, however a very early date of 1705 B.C.  $\pm$  140 corrected to 2150 B.C.  $\pm$  226 was made from charcoal recovered from a Gulf Formational Wheeler period pit. Faunal evidence indicated the Archaic population of the site "was very large" (Blakeman et al. 1976:116). One of the pits was said to perhaps have been a storage pit. Conclusions based on faunal data suggested a mid-late fall temporary camp primarily focusing on "the collection of mast products" (Blakeman et al. 1976:116). The collection of hickory nuts is thought to have been important, but the use of shellfish is not, possibly due to environmental conditions (Blakeman et al. 1976:127).

Several of the watershed surveys conducted by Penman (1980) in the mid 1970's involved areas within the Tombigbee Hills physiographic region. The Town Creek study primarily in Lee county located a number of Late Archaic sites, however none were tested or displayed any particularly outstanding elements (Penman 1980:69-90). A 1975 survey of the Mantachie watershed in Lee and Itawamba Counties complimented the work originally conducted in the area by the National Park Service as part of the Natchez Traceway survey. Prokopetz conducted the original survey during which he discovered 2 small sites. Neither of these sites was found to have intact cultural deposits (Penman 1980:106). Penman found an additional 12 sites in the area, 2 in Itawamba county and 10 in Lee county (Penman 1980:106). The most remarkable of these sites as they relate to Late Archaic is the Birthday site (22Le582). This site was a single component non-ceramic Late Archaic site. Unfortunately the site had been disturbed, primarily by the intrusion of a road, and it was not considered to be of much use to future researchers (Penman 1980:116).

A survey of the Divide-cut section of the Tennessee-Tombigbee waterway in Tishomingo County also located a number of potentially revealing sites with Late Archaic components (Thorne 1976). One site in particular appeared interesting, 22Ts758. Known as the A.C. Nelson II site, it was a 3' deep midden located on a knoll near a tributary of the Yellow Creek (Thorne 1976:95). As is often the case however, the site was found to be extremely disturbed, this time by wholesale indiscriminate digging by looters. This has "rendered the site virtually worthless" (Thorne 1976:95). The other sites mentioned were located but no secondary analysis was performed. All of the sites reported were in

danger of being destroyed by the construction of the waterway at the time of the study (Thorne 1976:146).

One site originally found and documented during a waterway related survey and later tested, was the Kellogg Village site 22Cl527. Originally reported by Rucker in 1974, this site was a multi-component 1 meter deep midden which contained a large amount of cultural material as well as features (Atkinson et al. 1980). The features included a Middle Archaic cremation pit with ground stone and polished stone grave goods as well as storage pits and post molds.

Prior to reporting about the Kellogg Village site, Atkinson gave a summary of background information concerning the prehistory of the area and previous research. Atkinson recognized that early works in the area focused on the post-Archaic period and the associated ceramics (Atkinson et al. 1980:10). The Archaic period is described as dating from ca. 8,000 B.C. to 1,000 B.C. and being marked by less mobile hunting and gathering peoples. Smaller animals as well as plant foods and aquatic resources were increasingly exploited. Camps were of a temporary nature, located near the resource base (Atkinson et al. 1980:11). The period end is marked by the appearance of pottery making, "an innovation which marks the end of the Archaic" by 2,000 B.C. (Atkinson et al. 1980:14). Why there is a discrepancy between this date and that given for the end of the overall Archaic (1,000 B.C.) is not explained. Other than the use of pottery however, the "overall cultural patterns" between the Late Archaic and the following Gulf Formational Phase is not thought to be "significantly different" (Atkinson et al. 1980:14).

Several important sites were noted besides the Kellogg site, including the Vaughn Mound, Barnes Mound, and East Aberdeen site. The Vaughn Mound 22Lo538 was a 2 meter deep multi-component midden mound. All but the upper 30 cm consisted of Middle and Late Archaic material. The site was primarily Middle Archaic, with 8 Middle Archaic burials being found in 4 1x1 meter square test units. Dates from bone samples using radiocarbon analysis were consistent with Middle Archaic chronological placement, being 4660+-95 B.C. and 3880+-85 B.C. (Atkinson et al. 1980:12-13). The Barnes Mound (22Lo564) was an accretional midden mound 2 meters deep originally found by Blakeman 1974. The East Aberdeen site 22Mo819 dated from Early through Late Archaic and was studied by Rafferty et al. 1979.

Investigations at the Kellogg site unfortunately were limited by time and money constraints. Because of these limiting factors and the encountering of so many post Archaic burials, investigations into the buried Archaic components was limited to the last two days of the field work. Even this work was hampered by the discovery of 10 previously undetected Mississippian burials which had to be excavated.

Removal of the upper zones of the site to expose the Archaic occupation revealed “extensive disturbance of the Archaic zone through post-Archaic period aboriginal digging” (Atkinson et al. 1980:105). Still, some 14 features believed to be of Archaic origin were identified. Various types of artifacts were found including Bannerstone fragments, a siltstone gorget, 6 greenstone celts, a drilled mussel shell pendant and a variety of stemmed points made of Tuscaloosa gravel, Fort Payne chert and Tallahatta quartzite. Among the features were several cooking pits, hearths, several post molds and a Middle Archaic cremation with an associated radiocarbon date of  $4,030 \pm 150$  B.C. (Atkinson et al. 1980:173-204). Plant and pollen remains suggested several things about Archaic site use. Faunal remains, although found, were generally in a poor state of preservation in the Archaic zones, and thus offered little usable data (Atkinson et al. 1980:226). Plant foods exploited included hickory nuts, acorns, black walnuts and persimmons (Atkinson et al. 1980:204). These are fall maturing plants which suggests either fall site use or food storage took place. Nut use appears to increase from Middle Archaic through Late Archaic period, which infers an increase in population or an increase in length of stay (Atkinson et al. 1980:211). Pollen data suggests that drier conditions may have been present “during the initial site occupation” (Atkinson et al. 1980:232).

Concluding their study, the authors paint a picture of Archaic peoples as centrally-based wanderers that occupy temporary and or seasonal base camps which allow them to exploit a diverse mosaic of resources and environments (Atkinson et al. 1980:259).

The Yarborough site, 22Cl814, was another site found in the waterways path. This site was a small site located on a natural levee of the Tibbee Creek, in Clay County. It had components from Early Archaic through Mississippian, “with two relatively extensive components yielding information on the Late Gulf Formational and the Late Mississippian Sorrells Phase cultures” (Solis and Walling 1982:iii). Identification of the Late Archaic is based on diagnostics bifaces including Pickwick, Ledbetter, Gary, Elora and Little Bear Creek points. These diagnostics are not exclusive to the Late Archaic however, as the authors recognize. “The Gary and Little Bear Creek types have been documented as persisting into the Gulf Formational Stage (Ensor 1981:92, 96-98)” (Solis and Walling 1982:37) The Gulf Formational stage is marked by the introduction of ceramics at around 3,000 years ago, although few other “changes in lifeways” between Gulf Formational and Late Archaic cultures have been recognized (Solis and Walling 1982:38).

Unfortunately, the Late Archaic component from this site is once again disturbed beyond the point of being useful.

The context of all Archaic materials recovered from the Yarborough site was disturbed through fluvial processes . . .

consequently the investigators were unable to confidently identify secure assemblages of Archaic material culture at the site (Solis and Walling 1982:37).

The Midden Mound project conducted by Bense (1987) was a multi-phase project designed specifically to investigate sites with Archaic and Gulf Formational deposits in the floodplain of the Tombigbee Valley (Bense 1987:1-3). This was done partially in recognition that "little or no information had been retrieved on the Archaic and Gulf Formational Stages in previous compliance work in the waterway" (Bense 1987:3).

The Archaic stage as defined by Bense included three periods, the Early Archaic, Middle Archaic, and Late Archaic (Bense 1987:13). The one that concerns us here, the Late Archaic, is thought to date from 5,000 to 2,500 B.P. (Bense 1987:13).

Bense (1987:15-16) describes the known information concerning the Late Archaic period in the Tombigbee Hills as follows:

Little detailed information is available about the Late Archaic period (5,000-3,000 B.P.) in the Tombigbee Valley. This contrasts greatly with what is known of the Middle Archaic. Few intact Late Archaic components have been identified and investigated in the waterway, primarily because of disturbance. Markers for this period (Ledbetter, Pickwick, and Little Bear Creek projectile point/knives) have been found throughout the valley and divide, indicating continued use of the area. However, the pattern of settlement appears to shift from the midden mound base camps to a more dispersed settlement pattern akin to that which preceded the Middle Archaic phenomenon.

This period is better known in the Tennessee drainage, especially in the Little Bear Creek and Cedar Creek valleys (Futato 1983; Oakley and Futato 1975). Cultural continuity between the Middle and Late Archaic periods is seen in all investigations. However, large base camps, with a plethora of pits, hearths, prepared areas, and burials, appear no more in the Tombigbee valley. The thick midden build-up during the Late Archaic in the midden mounds is evidence of occupancy. Although no undisturbed Late Archaic midden mounds were found, there were no hearths, prepared areas, or burials in the midden mounds during this time.

The Gulf Formational Stage marks the end of the Late Archaic, beginning around 3,000 B.P. The transition is indicated by the introduction/appearance of ceramics, specifically fiber tempered Wheeler wares. Projectile points display little differences between these two periods (Bense 1987:16).

Only one intact Late Archaic component was reported among the 11 sites tested during the Midden Mound project, this being 22It623/624

(Bense 1987:15). This site was originally considered as two separate sites, the Beech site and the Oak site. However Bense feels the sites were one site separated by a small tributary stream after occupation (Bense 1987:96-97).

The site was first found in 1979 by Bense (1983) and excavated from September through November 1981 (Bense 1987:97). The site was a deep multi-component midden with abundant aboriginal cultural material. Because of disturbance and the interest in the Archaic component, the upper 50 cm was stripped using heavy equipment (Bense 1987:97). Unfortunately, the disturbance was not limited to the upper 50 cm as was evidenced by the finding of a modern imitation corn-cob pipe at a depth of 85 cm with tobacco still in it (Bense 1987:101).

Excavations revealed 35 pits, including 4 Late Archaic pits and 1 mixed Middle and Late Archaic pit (Bense 1987:102). Twenty-three pits had no diagnostics in them or they had mixed components. Fourteen post molds (in no discernible pattern) were also found (Bense 1987:102). Analysis of the features did not offer definitive conclusions concerning site usage as was hoped, however.

The Late Middle Archaic Benton occupation signals a more intense use of these sites. The main archaeological deposits from this and the following Late Archaic occupation were pits. Unfortunately, the intensity of pit digging and mixing of both pit and midden material caused problems in interpretation of the activities. The presence of so many pits, however, indicates storage and/or refuse disposal during this and later periods (Bense 1987:106).

Radiocarbon dates obtained from features believed to be of Late Archaic origin included a 4,160±65 B.P. date associated with Gary and Little Bear Creek points, and a 3,850±65 B.P. date from another pit with a Little Bear Creek, McIntire and a Benton point (Bense 1987:105).

Four other pit features with Little Bear Creek components gave three dates with an average date of 3,870±61 B.P. Also recovered from these pits were hickory nutshells, 53 Little Bear Creek points, and 14 postmolds "likely" from the Late Archaic occupation (Bense 1987:107).

The results of the studies focus were found to be "disappointing" and only "partly successful" (Bense 1987:106, 382). This lack of success was due in part to the "mixing of materials" caused by a variety of factors including "post-occupation pit digging and vandalism" (Bense 1987:106, 382). Several other factors also complicated the investigations as presented:

First, the "diagnostics" are not as clearly associated with this period as the preceding ones. There are indications that the Little Bear Creek type is associated both with the Late Archaic and the following Middle Gulf Formational. The dates are suspect because

the material dated was obtained from a large pit complex, which was also used by the preceding Benton occupants. On the other hand a Little Bear Creek projectile point/knife type found with the dated materials tend to confirm them (Bense 1987:382).

Although no definitive conclusions concerning the Late Archaic and its difference from preceding Benton times were made, some final observations were forwarded by Bense (1987:403):

Site use apparently changed. No longer are the large prepared areas constructed nor does the midden contain as much charcoal from fires. Prepared hearths, so frequent in the previous periods (40), were not found, nor were burials encountered from this period. The available limited data suggest that there was an adjustment to the improving conditions and an increased mobility, although the floodplain area continued to be used and occupied.

Alexander's study of the Tuscumbia River Watershed previously discussed in the Pontotoc Ridge section also crosscut part of the Tombigbee Hills. In the historic background section written for the Tombigbee Hills, Alexander indicates that examples of intact Middle Archaic base camps, which focused on the riverine environments along the Tombigbee River, were found in substantial numbers (1983:16). However, although Late Archaic components were present, they were generally found in a disturbed context (Alexander 1983:16).

Two sites were located during this study which were deemed important (both listed as National Register eligible). Site 22A1554 had intact sub-plowzone deposits of primarily Late Archaic and Gulf Formational origin. The site was located in an upland situation overlooking a tributary of the Tuscumbia River (Alexander 1983:58-59). The site was buried, between 30-45 cm deep, from which depth 4 Little Bear Creek points and 1 Ledbetter point were recovered. The state site card listed the site as being 50% disturbed, due to natural and agricultural activities (Alexander 1983). The site is also listed as having components of Middle and Late Archaic as well as of the Middle Woodland time period.

Site 22A1560, also determined eligible for the National Register of Historic Places, was a small midden mound located on a first terrace along an active floodplain of the Tuscumbia River. The site was 30 meters in diameter and 20-30 cm deep. Artifact density was light, and the primary components were Middle-Late Archaic, based on lithic debris (Alexander 1983:66). The site was said to have the "potential to document the prehistoric use of an upland Tributary" of the Tuscumbia River during the Middle through Late Archaic time periods (Alexander 1983:67). The site was located in a forested area, and listed as being

almost entirely free from disturbance (according to data on the state site card).

The Town Creek Watershed survey, also previously discussed in the Black Prairies and Pontotoc Ridge sections, revealed several potentially eligible sites in the Tombigbee Hills region (Mistovich 1987). These sites included 22Le922, 923, and 934 (Mistovich 1987:11). 22Le922 was on a rise in the floodplain 200 meters from an active creek (Mistovich 1987:22-23). It was a multi-component site with Early, Middle, and Late Archaic as well as Woodland material. A high potential for intact sub-plowzone deposits was suspected due to depositional activities from Town Creek, which likely capped separate chronological horizons (Mistovich 1987:23). Numerous points made of local and exotic materials were found at the site including points of Blue-Gray Fort Payne chert, Camden chert, and Novaculite (Mistovich 1987:23). Some of these points were Late Archaic in origin.

22Le923 was also located in a field on a terrace overlooking the creek. The surface of the site consisted of a light scatter of artifacts. A single shovel test revealed a Cataco Creek point of Blue Gray Fort Payne chert (Mistovich 1987:24). The was located in what was thought to be an environment of deposition rather than scarring, so intact deposits were expected. For this reason it was recommended for further work and listed as eligible for the NRHP (Mistovich 1987:25).

22Le934 was also listed as eligible for the NRHP. It was located in a field on a rise in the floodplain of Tulip Creek. It too was a multi-component site, with a medium density of artifacts on the surface. Like 22Le923 the environment was thought to be one of deposition rather than scarring. Several shovel tests found Ledbetter and Cotaco Creek points (Mistovich 1987:42-43).

Two sites in Monroe County were targeted for study as part of the Tombigbee waterway project. This study was intended to look at single component sites, focusing on spatial rather than stratigraphic information (Wynn and Atkinson 1976:2). The sites involved in the study were the Self site (22Mo586) and the Okashua site (22Mo651). Analysis revealed the sites to both be multi-component in nature (Wynn and Atkinson 1976:4).

The Self site was located on an old meander of the Tombigbee and contained Early, Middle, and Late Archaic components, as well as Woodland period materials (Wynn and Atkinson 1976:10). Both Archaic and Woodland materials were found in the plowzone but below this disturbed layer a shallow cultural zone was thought to be relatively intact (Wynn and Atkinson 1976:13). However, at least one episode of chisel plowing was in evidence (Wynn and Atkinson 1976:17).

The intent of the exploration, to open a large area in order to explore spatial aspects of the site, was not carried out. Only 5% of the total area of the site was actually opened. However, some 17-23 features were

located including hardened floors, hearths, post-molds, rodent burrows, and a "burned post and possible wall trench" (Wynn and Atkinson 1976:17). The features were found in the sub-plow zone (25-30 cm) level. Most of the recovered artifacts were lithics, although a few sherds of Wheeler type ceramics were also recovered in this lower zone (Wynn and Atkinson 1976:17).. Several basin shaped features with fired clay lumps and fired rocks thought to be baking pits were also found (Wynn and Atkinson 1976:17).

Unfortunately "It proved difficult to associate the different areas and activities with common time periods, partly due to the disturbances caused by later activities" (Wynn and Atkinson 1976:42). None of the features could be definitively identified as Late Archaic (although several Middle to Late Archaic features were indicated) (Wynn and Atkinson 1976:43).

The Okashua site was located on a slough off the river, and was found to be multi-component site with Early and Late Archaic, Woodland, and Historic debris. Some land leveling had occurred at the site, as well as tree cutting and some chisel plowing. However, the investigators reported intact deposits were found below the 20 cm level. The site was first noted because of its Miller II component, although a single feature associated with a Little Bear Creek point was discovered (Wynn and Atkinson 1976:49;57). The Late Archaic feature (feature #73) was a chert working station which contained 3600 pieces of debris, fired clay lumps, a grooved groundstone object of unknown function as well as the aforementioned Little Bear Creek point (Wynn and Atkinson 1976:57). Two radiocarbon dates were made from hickory nut shells found in the feature. These nuts provided dates of  $4005 \pm 80$  B.P. or 2055 B.C. (UGA-1271, 2135-1975 B.C.) and  $4170 \pm 90$  B.P. or 2220 B.C. (UGA-1272; 2310-2130 B.C.) (Wynn and Atkinson 1976:58).

Both the Self and Okashua sites were to have been destroyed by the construction of the waterway, and it is assumed here that this has been their fate.

The East Aberdeen site (22Md819) was yet another multi-component midden site tested as part of the Tennessee-Tombigbee mitigation. The site contained Early, Middle, and Late Archaic as well as Miller I & II occupations (Rafferty et al. 1980). The site was located on a terrace on the bank of the Tombigbee River, and was from 1-3 meters in depth.

As described by Rafferty et al. 1980, the site was utilized as a base camp during the Middle to Late Archaic period times.

In the Late Middle Archaic and Late Archaic times it became a base camp where large quantities of fired clay lumps, sandstone, debitage, and a variety of tools were deposited, as well as clay-lined hearths, a possible clay floor, and one burial (Rafferty et al. 1980:I).

Benton points from the site were considered Late Archaic in age (Rafferty et al. 1980:128) and were radiocarbon dated to 3575 B.C., corrected to 4398 B.C. (Rafferty et al. 1980:285-286). There was a lack of Flint Creek, Little Bear Creek and other types considered by this author as more indicative of the Late Archaic time period. The lack of these types “indicates that the site was abandoned or little used during the post-Benton part of the Late Archaic” (Rafferty et al. 1980:286). True Late Archaic points were mixed with Gulf Formational ceramics.

Another Tennessee-Tombigbee mitigation project involved a stratified accretional midden of Early Archaic through Middle Woodland times (Otinger et al. 1982). The Brinkley Midden (22Ts729) as the site was known, contained a number of pit features, including ten large basin shaped features of the Late Archaic period “tentatively interpreted as the remains of earth covered subterranean structures” (Otinger et al. 1982:XV). Unfortunately “the site had seen extensive damage due to a combination of large-scale pothunting and agricultural activities” (Otinger et al. 1982:XV).

In a brief background of the Late Archaic period in the area the authors, as with previous researchers mentioned for the area, seem to have different chronological boundaries for the Late Archaic period than those outlined by the present study. Specifically, Benton points were once again considered as being Late Archaic rather than Middle Archaic in age. The discrepancy may be in part to the pushing of the temporal boundary of the Late Archaic back from 3,000 B.C. to 4,000 B.C.

The Late Archaic period is characterized by the development of distinct regional complexes which is evidence of more or less stable adaptations to regional environments. It is during this time that intensive occupations of shell middens along the Tennessee River culminated. Increases in the exchange of both raw materials and manufactures products between contiguous regions and over long distances are evident.

This period dates from 4,000 B.C. to 1,000 B.C. (Griffen 1978) and is characterized by medium to large sized projectile points such as Benton, Ledbetter, and Flint Creek; and polished stone beads, atlatl weights, and sandstone bowls. Ground stone tools are more numerous and diversified than in the preceding cultural periods (Otinger et al. 1982:18).

On the other hand, Little Bear Creek, Gary, and Bakers Creek points are all considered Early and Middle Woodland temporal markers (Otinger et al. 1982:19).

The Brinkley Midden site itself was found to have a maximum depth of 60-65 cm. with the upper 15-20 cm being a disturbed plowzone with a

completely mixed deposit representing all cultural periods (Otinger et al. 1982:31,35). A total of 191 features, including the aforementioned basin shaped features, 110 pits, 67 post holes, 3 hearths and one burial were also found (Otinger et al. 1982:37). However, other than the 10 basin shaped features, only two other possible Late Archaic features were identified (Otinger et al. 1982:46). One was "A linear configuration of post holes". The holes suggested some form of surface structure, although no further evidence confirming this interpretation was discovered (Otinger et al. 1982:46). The layer with the Late Archaic deposit was very thin however, at only 3-5 cm in thickness, which makes the data less than convincing (Otinger et al. 1982:46).

The lone burial may also be Late Archaic in age. Located in a circular pit, the burial was in a badly decomposed state, however it was thought to have been buried in a sitting position. The authors reference Webb and DeJarnette 1942 as associating this type of burial with Late Archaic and Woodland occupations in Pickwick Basin area shell middens. Unfortunately no diagnostics were recovered with the internment (Otinger et al. 1982:56).

The 10 basin shaped features found were large circular pits surrounded by a narrow "ledge" of darker midden fill, with abundant sandstone and other inclusions (Otinger et al. 1982:73). The features were overlaid by a sandy soil layer, thought to be part of the insulating layer of the superstructure (Otinger et al. 1982:99). The features had Late Archaic Little Bear Creek, Ledbetter, Kays and other points found in association with them as well as Benton points (Otinger et al. 1982:60). The association with Benton points confuses the chronological issue, although they also may have been curated objects or been found in the fill. Initial interpretations of the features included tree fall or large root disturbances, the results of large scale pothunting activities, or the "remains of semi-subterranean structures" (Otinger et al. 1982:57). After detailed examination, and consultation with other professionals, the authors rather convincingly concluded "they should be interpreted as semi-subterranean structures of Archaic provenience" (Otinger et al. 1982:57).

In conclusion, the large basin shaped excavations found in the Archaic context at the Brinkley Midden in northeastern Mississippi appear to have been structures. These structures are much too large to have been storage pits and are larger than most other known Archaic features. The midden in the floors of the structures has denser artifactual material than other deposits on the site. This indicates an intense utilization, such as might occur in a late fall camp when the weather is becoming cold. The presence of large quantities of charred nuts supports the hypothesis of late fall and early winter occupation, and is consistent with the dry weather characteristic of these times of the

year. These structures are depositionally distinct from documented tree tip-ups, though these might have been used as house preforms. The large non-alluvial Zone 1 present in most of the LBSFs implies a placement directly above the whole pit which could not have happened by any natural means known to the authors (Otinger et al. 1982:103).

The structures themselves contained no internal hearths, but evidence outside the structures indicated that hickory nut shells were used as fuel, and that lithic manufacture took place at these sites (Otinger et al. 1982:99-102). Large manos and metates suggested increased reliance on seed and plant foods and less emphasis on multifunctional tools. Decreased mobility due to the unwieldy size of these plant processing objects is also implied (although these tools may also have been stored) (Otinger et al. 1982:192).

Rectangular subterranean houses similar to those from the Brinkley site were found at the Spring Creek site in Tennessee (Peterson 1973:18) as mentioned by the authors (Otinger et al. 1982:102). The house features were radiocarbon dated to  $3320 \pm 160$  B.P. or 1370 B.C. (GS3104). In Georgia, almost identical structures to the ones suspected at Brinkley were reported by Mark Williams from a late site dated to 1600 A.D. (Otinger et al. 1982:103).

Several features found at the Denton site (a primarily Middle Archaic site in the Yazoo Basin) might also be worth mentioning. One area contained several pits of "heavy concentrations of fired clay lumps, tiny bits of burned bone and charcoal" (Connaway 1977:4). More interestingly a feature showed up on the western part of the same square as the previously mentioned features. This feature appeared to be extremely similar to the Brinkley features (Connaway 1977:4).

Here a section of tan sand, containing very little cultural debris, enclosed an area of very dark midden with a heavy concentration of debris. The feature is surrounded by a dark midden deposit ranging in depth from the surface down to about 2.6 feet. It was thought possibly to be the remnant of what was a semi-subterranean house, with the tan sand representing the wall area and the very dark, heavy midden representing an extensive accumulation of habitation debris inside the structure (Connaway 1977:4).

Unfortunately the entire feature was never exposed due to time constraints.

As with many of the other physiographic regions in the state, the Tombigbee Hills contains numerous Late Archaic sites with the potential to add untold amounts of data to our understanding of the states prehistory. Unlike many of the other physiographic regions, however, the

Tombigbee Hills has had a number of these sites tested. This increased attention to excavation is a direct result of the Tennessee-Tombigbee Waterway project which resulted in the need for great numbers of salvage mitigations. Unfortunately, the testing done was often done in such haste and with such pressure as to limit the scope of work. Further, the completion of the waterway caused the destruction of many of these sites, leaving no chance for further study.

Knowledge of the Late Archaic was increased through these efforts, though it was not to the degree of many of the other chronological periods. This seems to be partially the result of water action, lack of depth of many of these deposits, and destruction by numerous means including modern and prehistoric land use activities. Thus, although an increase in archaeological attention was the result of the waterways construction, the gains due not appear to out way the losses.

Utilization of the computerized site files revealed again that identification of diagnostic lithic artifacts from the Late Archaic is not often considered important. Of 121 listed components from Late Archaic sites containing identifiable bifaces, only 46 were typologically classified. This leaves 75 or 62.5% of the identifiable components unclassified. Of those identified, the most common is Flint Creek, followed by Ledbetter, Wade, Pontchartrain and Pickwick points (see chart \*%).

The natural setting of those sites listed revealed the vast majority of sites were found on first terraces and upland ridges. Sites were also commonly found on stream bottoms, bluffs, natural levees, rises in bottomlands and knolls (see chart%).

Site elevations varied widely from 160 feet AMS to 680 feet AMS. No discernible pattern in distribution by elevation was found.

### **Pontotoc Ridge**

Like the Flatwoods region previously discussed, the Pontotoc Ridge area is a relatively small physiographic region located in Northeast Mississippi. Also like the Flatwoods, this region has not had a large number of archaeological studies conducted in the area. The region has been incorporated into the Northeast Mississippi macro region as described by McGahey 1992?

As mentioned, very few studies have been conducted in the Pontotoc Ridge. One of the few that has been is that of McGahey 1970. This study, titled "Archaeological Survey in the Tombigbee River Drainage Area: May-June 1970" consisted primarily of the contacting of informants in order to locate and record known sites in the Tombigbee River area and its adjacent tributaries. The study crosscut several physiographic regions including the Tombigbee Hills, Black Prairies and Pontotoc Ridge. Although this study is useful as an initial (and often sole) description of a number of archaeological sites, it is not particularly useful in the study of the Late Archaic for the Pontotoc Ridge.

A 1983 study by Alexander of the Tuscumbia river watershed also involved the Tombigbee Hills, Black Prairies and the Pontotoc Ridge (Alexander 1983:1). The study consisted of a Phase One survey and succeeded in locating a total of 28 sites, 13 of which had "Middle to Late Archaic components" (Alexander 1983:7). Seven of the sites were listed as being potentially eligible for the NRHP, one of which included a Late Archaic component in the Pontotoc Ridge (Alexander 1983:7). The site, 22A1543, is a multi-component site which includes Early, Middle, and Late Archaic artifacts as well as Middle and Late Woodland materials. These materials were found in a well stratified "unmixed component". The depth of the deposit is 1.5 meters and is reported to be only 20% disturbed (Alexander 1983:7). The site was located on the junction of two branches of Hinkle Creek, on the first terrace (Alexander 1983:44). It is said to be an extensive site with a high density of artifacts near the slopes and lower density on the top of the terrace. This indicated to the researchers initially the possibility of a buried component (Alexander 1983:44). This assumption was later confirmed by testing (Alexander 1983:44) which also confirmed the site as stratified and intact. Although no features or midden was discovered, the unmixed nature of the site was considered significant, offering a strong possibility of discovering features with further investigation (Alexander 1983:45). Other notable Late Archaic sites were also located by this study and will be discussed in other subsections of the Plan..\* see notes \*

The identification of Late Archaic in the region is indicated by the appearance of Little Bear Creek and Ledbetter point clusters and dates from ca. 2500 to 1000 B.C. (Alexander 1983:20). Specifically, Ledbetter and Pickwick points are thought to represent the Late Archaic exclusively. While Little Bear Creek points were used both in the Late Archaic and Gulf Formational periods. Cotaco Creek and Wade points are thought to be exclusively Gulf Formational in nature (Alexander 1983:20).

The advent of ceramics including fiber and sand tempered wares is said to indicate the end of the Late Archaic and the beginning of the Gulf Formational period. The appearance of ceramics is thought to represent the adoption of the technology by indigenous populations, rather than the inflow of a new population. Cultural continuity between the two periods rather than "discontinuity seems to be indicated" (Alexander 1983:20).

A survey along the Town Creek included parts of Prentiss, Union, Pontotoc, and Monroe counties (Mistovich 1987:3). This included a small part in the Pontotoc Ridge as well as the Black Prairies and Tombigbee Hills. One Late Archaic site, 22Po662, was found in the Pontotoc Ridge. It is said to have consisted of a light concentration of artifacts on a first terrace and is not considered eligible for the NRHP (Mistovich 1987).

This study will be discussed further in the sections on the Black Prairies and Tombigbee Hills.

Also worth noting is that a study by Potts (1975) was conducted in this region but failed to locate site 22Ti514. Subsequently discovered by Lehmann, the site is listed as eligible for the NRHP.

A review of the state site files revealed 36 Late Archaic sites recorded in the Pontotoc Ridge. Of these sites, 4 were listed as being eligible for the NRHP, while 4 were listed as ineligible, and the remaining 32 listed as unknown. None of the sites was actually on the NRHP.

Site 22Al543 is one of the eligible sites and has previously been discussed as recorded by Alexander (1983). 22Cs526 is also listed as eligible. This site was reported to have been a “large occupation site” of 5-6 acres in size. It is a multi component site with material dating from the Middle Archaic through Gulf Formational periods. There is a reported one and a half foot deep undisturbed midden still at the site.

Another eligible listed site is 22Po617. This site is of unknown depth but is reported to have yielded large numbers of groundstone artifacts, other lithics, and some ceramics. It was reported by Rafferty and is thought to date from Middle through Late Woodland.

The final site listed as being NRHP eligible is 22Ti514. This site was the one previously discussed as being found by Lehmann. Several other sites which may reveal important information concerning the Late Archaic in the area are presented in Table 3.1.

Table 3.1

<b>Sites</b>	<b>Description</b>
22Cl806	Unknown eligibility multi component site dating from Middle and Late Archaic and Middle Mississippian. Numerous groundstone artifacts as well as beads are reported from the site.
22Po512	Listed by McGahey with unknown eligibility the site is a heavy density multi-component site with Early Archaic through Historic material. No indications as to depth or integrity of deposit is given however.
22Po562	Also has no eligibility or depth given, but reportedly has a Late Archaic and an Historic component. Considering the ease at which Late Archaic diagnostics should be distinguishable from the Historic ones, this site may yield some good assemblage data concerning Late Archaic. This site was reported by Rafferty
22Un564	Has no eligibility listed but was reported to have yielded a “greenstone human mask effigy” Rafferty
22Un577	Has unknown eligibility, site contains Early, Middle and Late Archaic as well as Mississippian and Historic material. It is located on a knoll (or mound?) in a stream bottom. Depth is unknown, but considering possibility of capped strata or deposits site may be significant.

Named diagnostics for this regions Late Archaic components included primarily Flint Creek points, followed by Gary, Little Bear Creek, Kays and one each of Pickwick, McIntire?, and Cotaco Creek points (see chart \*\*). Other diagnostics named included numerous groundstone objects such as beads, Celts and Axes (with over 21 reported components with these appearing). Like the Flatwoods than, this area has a very high incident of groundstone objects.

Of the 36 Late Archaic sites from the region, 14 were located on a first terrace, with 9 being on upland ridges, 6 being in stream bottoms, and three being on knolls. Four did not have their setting reported (see chart). Elevation distribution is also given (see chart \*\*) with the majority being found between 340 and 400 feet above sea level.

### **North Central Hills**

Unlike regions such as the Long Leaf Pine Belt and Jackson Prairies, the North Central Hills have received a fair amount of archaeological investigations. These studies include a number of river drainage/watershed surveys, several large scale lake projects and a number of surveys conducted in the National Forests. Unfortunately, few of these studies has yet to reveal significant information concerning early, pre-ceramic sites.

Penman for example, conducted a number of lake and watershed surveys in the region during the 1970's. These surveys included studies along the Long Creek, Chunky river, Kemper County Lake, and five creeks in Leake County. Survey and testing methodology was extremely inadequate to the task and as a result very few Late Archaic sites were identified. Of those sites that were found, no details adding to knowledge of this period were given. One of the primary excuses given by the researcher for failure to properly survey the areas was "Because of timber and/or pasture grass in all five areas, a proper assessment could not be made" (Penman 1980(77):206).

A survey by Marshall (1982) of the Archusa Creek drainage in Clarke County identified 30 sites, of which 24 had Late Archaic components. Unfortunately little usable data was presented by the study concerning these sites because most were found in disturbed contexts. One site (22Ck526) thought to have potential was tested and was found to contain a Late Archaic component. However, the excavation was carried out in such a manner as to all but destroy the context of the site. A series of rather haphazard bulldozer trenches were cut across the site from which artifact horizontal positioning were recorded in relation to "a mark on the front of a field vehicle parked near the edge of the site" (Marshall 1982:35). Vertical positioning was based primarily on "the recorded sequence of blade passes in each trench, each of which passes removed from four inches to one-and-a-half feet of soil" (Marshall 1982:35). The excavation revealed several features resembling hearths, some of which

contained amorphous clay balls similar to those found at other Late Archaic sites (Marshall 1982). Some of these features contained burned ceramics however, and due to this and the nature of the data recovery, no conclusions concerning the chronological placement of these features or their purpose can be made at this point in time.

Marshall concluded from his study that the project area was used extensively during the Late Archaic and Early Woodland periods (Marshall 1982:iv). The sites were intermittently used over "short term, or seasonal occupation over a considerably long period of time" (Marshall 1982:54). The cultures are reported to be closely related to the Gulf Coast area, although in what specific way it is not made clear (Marshall 1982:iv). Marshall also observes that "Point types identified with the Early Woodland are essentially the same as those identified with the preceding transitional Late Archaic and Poverty Point periods" (Marshall 1982:56). These types included Archusa stemmed (similar to Kent or Carrollton points), Carrollton points, Macon, McIntire, Kent, Elora as well as several others (Marshall 1982:14).

A 1982 study of four lake construction areas included Sardis Lake, Enid Lake, and Grenada Lake in the North Central Hills area, and Arkabutla lake which is in the North Loess Hills region of the state. The primary source for site data in this study was previously recorded site records and information from collectors and other informants. Most of the sites were found between the normal water level and low water level mark, during the winter (Broyles et al. 1982:17). Unfortunately, the positioning of the sites is conducive to their destruction by water action. "In most cases, the topsoil or midden has been eroded away and the artifacts dropped onto the top of the subsoil" (Broyles et al. 1982:17). Most of the sites therefore, were almost completely disturbed.

Late Archaic sites were identified primarily by stemmed, parallel-sided bifaces (Broyles et al. 1982:146). Unfortunately, bifaces were not named, rather they were categorized into 476 numerical categories (Broyles et al. 1982:17). Overall the information in this report is so general and unscientific as to be almost useless. No relevant conclusions concerning Late Archaic settlement, subsistence, chronology etc. is given.

A 1984 study of the Yocona River found that sites occurred in a relatively "low density" in the area (Johnson and Sparks 1984:4). Most of the sites were small, and were Late Archaic or Woodland in age. They tended to occur on erosional remnants or on "on upland margins near the stream bottoms" (Johnson and Sparks 1984:4). The ceramic types found showed traits of both the Tombigbee and Yazoo Basin types (Johnson and Sparks 1984:4). During the study 17 new sites were found. All of these sites had a Woodland component, and none were single component sites. Three of the sites had Late Archaic components as well, several of which had sub-plowzone deposits (Johnson and Sparks 1984:5).

Due to the geographic location, early peoples living in the upper Yocona had to import lithic raw material for tool making. Imported materials included Fort Payne chert, Citronelle gravel and Kosciusko quartzite (Johnson and Sparks 1984:15). During the Late Archaic, Fort Payne chert appears to be the most widely utilized material, even though this is from the most distant source of the most often used materials (Johnson and Sparks 1984:23). Apparently most of the Fort Payne was brought into the area in the form of nearly completed artifacts (Johnson and Sparks 1984:24). The most common diagnostics of this period were Flint Creek, Little Bear Creek, and Wade points (Johnson and Sparks 1984:19).

A more recent survey was conducted along the shoreline of lake Okatibbee in Lauderdale county (Mistovich et al. 1990). Although the survey was a reconnaissance level study only, some 77 new sites and 4 previously recorded sites were located (Mistovich et al. 1990:3). Of the sites found, 15 had definite Late Archaic components (Mistovich et al. 1990:19-21). Defining the Late Archaic occupation was based on culture histories "established for the central and lower Tombigbee river" (Mistovich et al. 1990:8). This period is thought to date from 3000-1000 B.C. (Mistovich et al. 1990:9), and is similar to Ensor's West Greene phase (Gainesville Lake area of the Tombigbee river area). "The assemblage of cultural materials recovered during the Okatibbee Lake survey most closely resembles recently defined assemblages from the Tombigbee river regions" (Mistovich et al. 1990:8). Common diagnostics included Little Bear Creek and Gary points of heat treated local gravels (Mistovich et al. 1990:10). There was said to be an extensive use of shellfish during this time and the period ends with the appearance of Gulf Formational period ceramics (Mistovich et al. 1990:11). The area appears to have been most widely used during the Late Archaic and Woodland periods, with use declining during the Mississippian and Proto-Historic times. There was again substantial use during the Historic period by the Choctaw (this being a Choctaw homeland area) (Mistovich et al. 1990:17).

None of the sites found was thought to be eligible for the National Register due to the high level of disturbance and low artifact density of the sites (Mistovich et al. 1990:17). As with the other lake area sites, "Post-depositional impact, particularly in the form of sheet wash erosion, has severely impacted these sites" (Mistovich et al. 1990:1).

Most of the sites found were small, however, the researchers feel that there was enough material to show that a substantial use of the area during prehistoric times took place.

The sheer number of sites and components represented demonstrates once again that "hinterland" environments outside of major river valleys formed an important component in

prehistoric settlement and subsistence patterns" (Mistovich et al. 1990:133).

In the Choctaw lake area, Peacock (1993:2,13) found a number of sites, which demonstrated to him that the area was utilized primarily during the Woodland period. However, several Late Archaic sites were found as well. None of the sites was found to be NRHP eligible (Peacock 1993:13).

Another study by Peacock in the North Central Hills did locate a potentially important Late Archaic site (1992:21). This site, 22La695, was found to have a high density of artifacts, and was thought to likely have intact subsurface deposits. The reason for this belief was due to the geological conditions in which the site lay. Further testing will be required in order to test this probability.

Blitz (1984:6) sees the Late Archaic in the area as dating from between 3000-1000 B.C., with projectile point morphology being the primary diagnostic tool. The "initial appearance of pottery in the region" marks the end of the period, and the beginning of the Gulf Formational stage. "Other aspects of culture, such as hunting and gathering subsistence and lithic technologies apparently remained little changed from the previous Late Archaic Period" (Blitz 1984:6). The chronologies are based on "established sequences in the Yazoo river basin to the west, and the Tombigbee River drainage, to the east" (Blitz 1984:5).

Chert sources for the manufacture of stone tools included gravel from the Tuscaloosa and Citronelle formations, and quartzite from the Tallahatta and Kosciusko formations. Fort Payne chert was also utilized quite often in the area, although the source is from extreme Northeast Mississippi and Alabama, and is not locally available (Blitz 1994:36-37).

Blitz found in his survey that there were two types of sites in the area, transitory camps and temporary activity locations. The most common sites were Miller period sites, although "smaller Late Archaic and post-Woodland components were also found" (Blitz 1984:45).

A large scale study is currently in progress which includes large areas of the North Central Hills (France et al. 1992). This study, the "Demonstration Erosion Control Project" included the surveying of a 10% sample of over 665,000 acres. As of now, the study is in the analysis and write up stage. Perhaps this study will shed some more light on this regions prehistory when it is completed.

Perhaps the most unique feature of the North Central Hills area archaeologically speaking is the availability of quartzite from the Tallahatta formation. Tallahatta quartzite is an orthoquartzite of cemented silica overlying a claystone formation. It is easily worked and does not require heat treating, but quality varies and is quite unpredictable (O'Hear and Lehmann 1983:2 etc.). The nature of the Tallahatta quartzite affords easy weathering which often obliterates flake

scars, wear, and grinding. "Fresh specimens vary considerably, and are greatly affected by weathering" (O'Hear and Lehmann 1983:2). It is found to outcrop in east-central Mississippi and Alabama, in both nodule and tabular slabs. The nodules being found as waterworn cobbles in stream bottoms (O'Hear and Lehmann 1983:1, Dunning 196? etc.).

Numerous large sites associated with the exploitation of this resource have been found recently in the east-central Mississippi area. They occur usually as either upland quarries or as reduction areas in the stream bottoms. The exploitation of this resource appears to have "developed between 9000 and 3000 years ago in east-central Mississippi" (McGahey and Dockery 1992:37). The material was apparently traded or dispersed to areas "as far away as Louisiana and Arkansas" (McGahey and Dockery 1992:38). It was used extensively throughout the Archaic period, but use appears to quickly diminish after the Late Archaic period (McGahey and Dockery 1992:38).

Several sites have been investigated and reported on in the North Central Hills area, including 22Ld645 by McGahey and Dockery, and 22Ld521 by O'Hear and Lehmann 1983.

A review of the state archaeological site files revealed 262 recorded Late Archaic sites from the North Central Hills. A total of 25 of these sites have been listed as eligible for the register, with one having been placed on the NRHP. The site listed is 22Ho502, which contains a mound and village area, and is not remarkable for its Late Archaic component. Many of the sites listed as eligible are also not remarkable for their late Archaic component, rather, they are multi-component sites with either significant early material, or with later village midden or associated mounds. Still other sites are listed as eligible with very little indication as to why the site is important. Ninety Three sites are listed as having unknown eligibility.

There are however, still several remarkable Late Archaic sites from the area. A number of the important sites are located in Lauderdale county and are associated with Tallahatta quartzite outcrops. These include the Flake City site 22Ld552, the Oaks-Bonita I site 22Ld650, the Allen Creek site 22Ld653, and the Johnson Farm site 22Ld657. 22Gr685 contains a heavy density of relatively undisturbed material up to .7 meters deep. 22Po556 reported by Rafferty contains intact midden (MDAH 91-015). The Holland Village site 22We529, contains Paleoindian through Mississippian material, with a possible midden mound. The Toby Thornhill site (22Ld521) is also an important site. Unfortunately a number of important sites have been destroyed by pot hunters and intensive collecting.

The most commonly named diagnostics for Late Archaic components in the area are Little Bear Creek points. This is followed by Gary, Pontchartrain, Flint Creek, and Ledbetter points (chart &\*). This distribution of diagnostic points shows a marked difference from areas to

the West and to the South. Perhaps this difference is reflective of a regional trend in nomenclature. Or perhaps this difference confirms the suggestions by previously mentioned researchers that the North Central Hills area is influenced primarily from the east rather than the West.

The majority of the recorded Late Archaic sites in the North Central Hills not surprisingly occur on first terraces. Upland ridges represent the next most common natural setting where sites were found, followed by stream bottoms, floodplains, and knolls on terraces (see chart).

Elevations for the sites is not available at the present time as well as Conclusions/Recommendations.

### **Northern Loess Hills**

This region is called the Yazoo Bluffs by Morgan (1992), who offers little in the way of a definitive cut-off date for Late Archaic in the area. Morgan reports that only two Poverty Point sites and no Gulf Formational sites have yet been reported in the Yazoo bluffs. The Poverty Point sites have insufficient diagnostic evidence for their temporal designation, which has been determined by the presence of projectile points and micro-blade cores at the sites.

This area, although not completely ignored by archaeological survey, has never-the-less had little written about its specific prehistory. Several fairly large surveys have been conducted, but none has defined the cultural sequence specifically for the area.

The majority of large projects conducted in the area of focus have occurred on or near the Tillatoba creek, in Tallahatchie and Yalobusha Counties (Lauro 1978, Marshall 1981, Rafferty 1992). Lauro's study in 1978 located 96 sites in the area of which 92 were considered to be "transitional archaic" (Lauro 1978:2). However, many of these sites lacked definitive diagnostics, or at least these diagnostics were not listed. This may be another case of the Late Archaic period being used as a "catch all" category.

As mentioned, no prehistory of the region is provided by this study although some mention of site preservation was made. According to this report, the preservation of organic remains is not expected to occur in the area. "The soils of this region in North Mississippi are high in moisture content and especially high in acid content" (Lauro 1978:45). Further, agricultural activities are thought to have damaged many sites.

Although Lauro (1978:47) states that "There are no known sites in the watershed that are worthy of inclusion or potentially eligible for nomination to the National Register of Historic Places", 23 of these sites are listed as potentially eligible in the state site files. This anomaly was explained by McGahey (personal communication) as having to do with a district nomination for the NRHP for the region, rather than based on individual site merit. This type of nomination has since fallen from favor,

but at the time was strongly encouraged by the Advisory Council. The one in question was never accepted.

A summary of the sites found during this survey indeed suggests that many of the sites display poor organic material preservation as was expected. Site 22T1565 is the notable exception (Lauro 1978:11-12). This site contained lithic remains including Pontchartrain Points and a described "Bradley Spike", meanwhile no ceramics were found at the site. Two pits were observed in a road cut which bisects the site, which was reported to be up to a half a mile in length. Also observed in the road cut was a 15-40 cm deep midden (Lauro 1978:11-12). This midden was also found in a number of shovel tests, which would indicate that the site could yield potentially significant information about the Late Archaic in the Northern Loess Hills.

Another study in the Tallahatchie and Yalobusha counties area was conducted by Marshall in 1978. No specific prehistory for the Northern Loess Hills was presented by the author, rather readers were referred back to Lauro 1978 (Marshall 1978:I). This is interesting considering that no background was provided by Lauro.

Marshall found a number of prehistoric sites in the area, however his results concerning site significance were disappointing.

The sites were numerous, most small, and few with more than a minimal scatter of cultural material and deposit depth. Most sites then appear to be of very limited use and occupation. Most sites probably represent temporary resource extraction sites occupied only long enough to obtain that resource in the immediate locale (Marshall 1981:iii).

Yet another study was done in the immediate area of Lauro's study, that of Rafferty (1992). This study also had no information concerning the prehistory of the Northern Loess Hills. This is likely due to the lack of archaeologically gathered evidence concerning chronology for the area. "Little archaeological excavation has been done in the loess uplands bordering the Mississippi River Valley in Northwest Mississippi" (Rafferty 1992:49).

This study located 49 sites, including 30 previously unrecorded ones. Three of those sites found were listed as potentially eligible for the NRHP. Of the three sites listed as potentially eligible, one was Late Woodland, and the other two had no definitive Late Archaic diagnostics listed. The site listed as definitely eligible was site 22T11111. The site was listed as a multi-component site with diagnostics indicating use from the Early Archaic through the Woodland period. Artifact density was said to be high, with various points, unifaces, fire cracked rock, and 2 grog tempered sherds having been found (Rafferty 1992:43). As this quote indicates, the Late Archaic component is not definitively identified. No

subsurface testing was conducted at the site, and thus it is uncertain whether any intact cultural deposits or features remain, although this possibility is suggested by the investigator (Rafferty 1992:44).

A study conducted in Holmes County indicated finding a site with a Late Archaic component (22Ho610), which was eligible for the NRHP (Thorne 1984). A single Little Bear Creek point was found at the site, as well as some daub and numerous sherds of the Baytown period, which indicated that the site had a significant post-Archaic component. Non-diagnostic artifacts included flakes, preforms and "bifaces". There was also a substantial amount of historic debris in the site area, which was located in an active construction area and adjacent to a school building (Thorne 1984:2). Testing revealed that cultural deposits were present no deeper than 12" below the ground surface. This suggests a rather shallow site. The soil was reported to be a "tannish sandy loam" with a sparse number of artifacts having been encountered (Thorne 1984:3). This suggests that the site is shallow, with most of the cultural material located on the surface and with little chance of substantial subsurface deposits.

A review of the state archaeological site files revealed little of great significance concerning the Late Archaic of the North Loess Hills as well. A total of 84 Late Archaic sites were recorded from the area. Many of these sites had few diagnostics linking them to this temporal assignment however. Often sites with few temporal indicators or with multiple components were assigned to the Late Archaic, I assume based on the lack of a better guess. Therefore, many of those 84 sites may not be Late Archaic in nature.

Of the 84 sites recorded, 25 were listed as eligible for the NRHP. Twenty-three those sites were part of the district nomination previously mentioned, of which only 22Ti565 appears to be eligible on its own merits. The other two sites listed as eligible are those reported by Thorne (1984), and Rafferty (1992). Neither of those sites appears to be of particular value to the understanding of the Late Archaic period for the area. Only one site with a Late Archaic component is listed on the NRHP from the area, 22Ho654. This site is the Francis Lee mound group, from which the Late Archaic affiliation is based on the recovery of some blades and a blade core. From all indications, the Late Archaic component does not appear to be significant at this site. Therefore, with the exception of 22Ti565, there are no significant Late Archaic sites from which to gather data concerning the period in this region. I would suggest that the lack of important sites from the area is the result of sampling area, that is that so little of the area has undergone archaeological survey.

An examination of diagnostic bifaces recorded revealed that Little Bear Creek points were encountered most frequently, followed by Gary, Pontchartrain and Flint Creek Points (see chart \*\*). I believe the likely reason for the prevalence of Little Bear Creek points in this area may be

do to the fact that the vast majority of the Late Archaic sites recorded in this region were recorded by only three researchers. This may show the researchers preference for the use of one type name over another. This suggests the need for more communication between researchers in this state in hopes of standardizing lithic typological classification.

The Natural setting where the sites most often occurred was on first terraces, followed by upland ridges, bluffs and knolls on terraces (see chart ). The elevation of sites ranged from 110 to 340 feet above sea level, with the vast majority occurring between 180 and 300 feet. I'm not sure what this tells us other than that the land forms tend to fall in this height range.

### **Conclusions**

The Late Archaic period in the Northern Loess Hills is very poorly defined. Little direct data other than a scattering of disturbed, generally small sites is available at the present time for study. Many sites appear to have been classified as Late Archaic based on the absence of materials, rather than the presence of any particular diagnostics. The exceptions to this are those sites found with blade cores, or any one of several stemmed bifaces including Little Bear Creek, Gary, Pontchartrain, Flint Creek, and Ledbetter points. The likely starting date for this period is around 5,000 B.P., based on the standard end for the Middle Archaic proposed by McGahey (1993?). With the presence of only two possible Poverty Point sites, the Late Archaic in the Area is likely to have continued until the appearance of pottery in the Gulf Formational or possibly as late as the Middle Woodland period (see Morgan 1992: ). As indicated by Morgan, there is even less evidence at this time for Gulf Formational sites from this area than there is for Late Archaic sites. Therefore a definitive date for the transition is not possible at this time.

From the evidence presented, the Northern Loess Hills area of the state is in need of both archaeological survey (to locate sites with intact deposits), and excavation (to begin to shed some light on the Late Archaic period). Due to the lack of information available as of now, I would suggest that any site such as 22Ho565, which has intact midden related to the Late Archaic in the area, is eligible for the National Register of Historic Places.

A review of the state archaeological site files revealed little of great significance concerning the Late Archaic of the North Loess Hills. a total of 84 Late Archaic sites were recorded from the area. Many of these sites have little definitive diagnostics linking them to this temporal assignment however. Often sites with little temporal indicators or with multiple components are assigned to Late Archaic. Therefore, many of those 84 sites may not be Late Archaic in nature. Anyway, of the 84 sites recorded, 25 were listed as eligible for the National Register. However, 23 of those sites were part of the district nomination previously mentioned,

of which only 22Tl565 appears to be Eligible on its own merits. The other two sites listed as eligible are those reported by Thorne (1984), and Rafferty (1992). Neither of these sites appears to be of particular value to the understanding of the Late Archaic period for the area. Only one site with a Late Archaic component is listed on the Register from the area, 22Ho654. This site is the Francis Lee mound group, from which the Late Archaic affiliation is based on the recovery of some blades and a blade core. From all indications, the Late Archaic component does not appear to be significant from this site. Therefore, with the exception of 22Tl565, there are no significant Late Archaic sites from which to gather data concerning the period in this region. I would suggest that the lack of important sites from this area are the result of sampling area, that is that so little of the area has undergone archaeological survey.

An examination of diagnostic bifaces recorded for this area revealed that Little Bear Creek points were encountered most frequently, followed by Gary, Pontchartrain and Flint Creek Points (see chart \*\*). I believe the likely reason for the prevalence of Little Bear Creek points in this area may be do to the fact that the vast majority of the Late Archaic sites recorded in this region were recorded by only three researchers. This may show the researchers preference for the use of one type name for another or maybe not. This may suggest the need for more communication between researchers in this area and those of the South Mississippi and Yazoo Basin areas concerning lithic typological classification. This may help standardized classes for these Late Archaic stemmed points.

The Natural setting where the sites most often occurred was on first terraces. This followed by upland ridges, bluffs and knolls on terraces (see chart ). The elevation where sites were located ranged from 110 to 340 feet above sea level, with the vast majority occurring between 180 and 300 feet. I'm not sure what this tells us other than that the land forms tend to fall in this height range. Must check this.

### **South Loess Hills**

The final sub-region of the South Mississippi area is the southern part of the Loess Hills as defined by McGahey (199?). This includes all of the Loess Hills south of a line from \_\_\_\_\_. The southern part of the Yazoo Basin contained no Late Archaic sites and thus a separate examination of the area will not be made. The lack of any sites in that region is thought to be due to the age of the landforms there.

The southern area of the Loess Hills, like the rest of the South Mississippi has had remarkably little archaeological work conducted there, with the Late Archaic period being no exception. Although 120 Late Archaic sites have been recorded in the region, only a few studies have actually focused on the area or these sites.

One study that was conducted within the southern Loess Hills was that of Broyles, Thorne, and Owens (1982). This was a reconnaissance level survey of four lakes for the Corps of Engineers. In a discussion of the History and Background of the area, the Late Archaic is thought to be marked by particular stemmed bifaces. These bifaces are “more or less parallel-sided”, stemmed points with blade shapes which differ primarily as the “result of stages in the manufacturing process” (Broyles et al. 1982:146). Typological categories including Pickwick, Ledbetter, and Mulberry Creek points are mentioned as being represented, although the authors suggest that the similarities allow for their inclusion in one category, Pickwick Stemmed. These categories are commonly used in northeastern Mississippi, but this author is unsure if they are applicable to the southern Loess Hills area. Gary points are interestingly considered by the authors to be primarily Early Woodland diagnostics (Broyles et al. 1982).

A large gas pipeline survey that crossed the entire South Mississippi region, including the southern Loess Hills, considered the entire area to have a similar culture history. This history is not seen as being unique, but rather is thought to be similar to other areas of the Southeast. “In general, the prehistoric cultural sequence for the project area is consistent with the overall pattern found throughout the southeastern area of the Eastern Woodlands of North America” (Ecology and Environment 1992:3-1). The Archaic period is portrayed as being a time of increasing adaptation to local environments, particularly the Late Archaic. Horticulture is believed to have begun in this period, attesting to this adaptation, although collecting and hunting is still believed to be the primary subsistence strategy during this period. Little in the way of primary data on the Late Archaic was gained during this study however.

Other Archaeological studies conducted in the area offer little relevant Late Archaic data as well. Connaway and Brookes (1983), Atkinson (1992), Tribble (1989) all conducted archaeological research in the Southern Loess Hills area. Unfortunately, other than the recording of a few Late Archaic sites, little important insight into the period was gained. Perhaps the most interesting Late Archaic site recorded in the area is the John Nelson site (22Cb542). The site was discovered during a survey of Claiborne county (Brookes and Inmon 1973). It is a single component Late Archaic site that contains a large area of black midden 14” deep. It is thought to date to around 1000 B.C.(Stone 1973). Numerous lithic artifacts were recovered from the nine acre area, which included a number of diagnostic bifaces such as Shumla, Little Bear Creek and Mulberry Creek points. The site was nominated for the NRHP in 1973 and subsequently listed the following year (Stone 1973). Unfortunately, no further testing has been done at this site, and it is not known whether the site still exists.

This once again points out the critical need for site testing in the state. An examination of the site file for other National Register listed or eligible sites confirms this need also. Of the 120 sites found, only the John Nelson site is listed on the NRHP, while six others are thought to be potentially eligible. Thirty-two other sites were listed as ineligible. Eighty-one or fully two-thirds of the sites listed have not had their eligibility determined (See chart \*8^ for a listing of eligible sites and those of particular interest).

Site distribution in the area showed that a majority of the 92 sites with the natural setting recorded, most are found on first terraces and upland ridges, followed by bluffs, floodplains, stream bottoms, knolls on terraces and natural levees.

No pattern in elevation was detectable, with sites being found anywhere from 100 to 350 feet above sea level. A majority of sites did fall between the 100 and 200 foot levels (see map \*8^). Only 38 sites had elevation listed however.

Named diagnostics were also not commonly given. Only thirty-three different diagnostic components were identified from the Late Archaic sites in this area, while 34 possible diagnostic points were not identified or named. This means over half of the potential diagnostic components were not even identified. Of those named, Pontchartrains were most common with eighteen examples, followed by Shumla with 7, Gary with 5, Kent with two and one Adena narrow stemmed point (see chart\*8^). Again this shows a lack of knowledge of the lithics of the area, or lack of effort in identification. Whichever the case is, it is an easily solvable problem and should be addressed.

### **Long-Leaf Pine Belt**

The Long Leaf Pine Belt physiographic region is also considered part of the South Mississippi macro region (see chart \*\*\*) (also see McGahey 1993; Morgan 1992). As with the Late Archaic of the Coastal area, McGahey (1993) believes there is continuity between the Middle and Late Archaic cultures in this region. The primary difference readily observable between Middle and Late Archaic components again seems to be in a change in biface morphology from broad to narrow stemmed points (see page \*\*\*).

Unlike the coastal area however, the Late Archaic of the piney woods region of South Mississippi does not appear to terminate with the appearance of Poverty Point. Rather, "It appears that the inhabitants of the Long Leaf Pine Belt persisted in their archaic lifeways throughout that period when the Poverty Point culture rose in dominance" (Morgan 1992). The appearance of Gulf Formational ceramics, including those from the Tchefuncte, Alexander and Wheeler series, mark the end of the Late Archaic in the area according to Morgan. However, Morgan recognizes that almost nothing is known about the area archaeologically.

Blitz (1982:16), recognizes that the southern region of the state is poorly known archaeologically as well. With "Only a few stratigraphic excavations" having been conducted and very little published research being available (Blitz 1982:16). Blitz summarizes, "the prehistory of this region is the least understood in the state" (Blitz 1982:17).

What published information there is concerning the Late Archaic in the Long Leaf Pine Belt is found primarily in outlines from Cultural Resource Survey reports. This information is primarily based on archaeological evidence from other regions (Blitz 1982; Deleon 1981a, 1981b, 1983; Ecology & Environment 1992; Heartfield, Price, & Greene Inc. 1982a, 1988; Wright 1982).

Some of the most frequently referenced and yet least useful work from the area is that of Deleon (1981A; 1981B; 1983). The works include a Masters thesis as well as two cultural resource surveys for the U.S. Forest Service. These works focused on the Black Creek drainage in the DeSoto National Forest. Unfortunately, very little in the way of new archaeological evidence was presented concerning the prehistory of the area. Rather, the majority of the data was again the summation of other works. The primary data that was collected by Deleon was not adequate for use in creating site locational or settlement models as was the intent. Problems included major flaws in the sample design and the survey techniques employed. This fact is recognized by Deleon himself (although he proceeds to gather the data anyway). "Although at the outset this study was initially oriented to a rigorous sampling design, compromises were made". For instance, the sampling design was based on land management needs and not a stratified random sample. "This study is largely based on intuitive or judgmental types of observations and levels of testing" (Deleon 1981A:58). Sampling based on subjective whims and land management needs is not considered by this and other researchers as being of scientific value in model building , including Deleon himself.

In an archaeological unknown region such as the study area, the preferred method of analysis between site locations and environmental factors would be statistical. Ideally, the study area would be sampled in a unbiased manner, e.g., by stratified random sampling. The underlying patterns of unity exhibited in the sample could be determined with factor analysis, for example, or multiple regression techniques could predict a given environmental factor for a given site location (Deleon 1981a:68-69).

Further, Deleon's field techniques were not up to a standard widely acceptable at the time of his research or of a standard acceptable today, especially for scientific sampling (Giliberti 1990).

Deleon dates the Late Archaic ca. 2,500-500 B.C. in the area based on other regions (Deleon 1981a). The time is said to be marked by adaptation to more modern environmental conditions, the development of incipient agriculture, a broad based economy, increased population and an increase in regionalization. Deleon (1981a) quotes McGahey (1976) on the Late Archaic as being "probably the point in time when man was as effectively adapted to obtaining a living from the land as possible". (Deleon relies on McGahey 1976, Marshall 1973 and Brain 1971 for generalizations on Late Archaic but most of this is not specific to pine belt, use on overview).

Deleon found Late Archaic material throughout the Piney Woods uplands, and believes that the area was exploited seasonally, with the coastal areas being more permanently occupied. This idea probably comes from Marshall (1973).

The Archaic pattern persisted alongside the development of Poverty Point and it has been proposed that during this time of diverging cultural settings there were apparently numerous exchanges between the "Archaic Hill People" and the Poverty Point culture peoples of the Coast (Marshall 1973).

One large study conducted in the area by Padgett and Heisler (1979) was an attempt at creating a predictive model for site location in the Leaf River Basin. This area included parts of three counties. In their preliminary evaluation these researchers also noted the lack of archaeological knowledge available for the area. "Compared to the amount of published archaeological works dealing with other parts of the state (particularly the Yazoo Basin), almost nothing has been published concerning the Pine Hills region" (Padgett & Heisler 1979).

The discrepancy between the number of sites found in these regions is thought to be due to the difference in the intensity of research in the areas and not due to a lack of use of the Pine Uplands region. Unfortunately, this study did not lead to any revelations as to site location for significant Late Archaic sites. The researchers did notice the lack of any Poverty Point sites in the area, however.

In a synthesis of earlier years of field work Penman (1980), discusses several areas in the Long Leaf Pine Belt. The areas included the Big Creek, Okatoma, and Tallahoma watersheds. Again, like the other researchers already mentioned, Penman comments that little is known of the area archaeologically. "The great expanse of central and Southeast Mississippi today remains largely a vacuum in our knowledge" (Penman 1980).

Penman's field work in the area was on a reconnaissance level at best, so little was accomplished other than the recording of sites. From the sites recorded Penman did point out a few trends he observed. The

Okatoma area was used over a long span of time, although this use was short term in nature and not very intense (Penman 1980). The use of the sites was thought to be mainly for hunting camps, tool making activities associated with deer processing, and plant procurement and processing. The latter, especially seed milling, was particularly important due to the "considerable amount of ground stone material" that was found there (Penman 1980).

Little was found in the Big Creek area, with only one site being recorded (although I must stress that the level of investigation was minimal). In the Tallahoma watershed, small, seasonal sites are believed to represent the majority of site types. One notable observation was that Tallahata Quartzite was the predominant raw material for lithic tool manufacture (Penman 1980).

One of the more important works concerning the Late Archaic period in the Long Leaf Pine Belt was done in 1982, this being a Cultural Resource Survey conducted near the Leaf River in Perry county (Wright 1982). Again noting the lack of specific archaeological knowledge in the "Pine Hills" region, Wright first extrapolates data from nearby areas from which to create a local prehistory. This prehistory places the Archaic in the area from 8,000-1,000 B.C. The end of the Archaic is based on the appearance of pottery. "In much of the Southeast, the first appearance of pottery in the archaeological record is used as the transitional marker from the Archaic to Formative or Woodland culture" (Wright 1982). Wright does not believe that the appearance of pottery reflects changes in other aspects of cultural systems, however. Rather, subsistence during the Late Archaic is compared with the Woodland occupation at the Boyd site and the Poverty Point occupation at Teoc Creek. It is also again noted that no Poverty Point sites were found in the area.

Unlike most of the previously mentioned studies, the field work in the case of the aforementioned study produced very useful information. A large, primarily Late Archaic site was found and determined to be significant enough to be eligible for the National Register. The site, Augusta Bluff: 22Pe543, was thus targeted for a Phase II investigation (Wright 1982).

The Augusta Bluff site was a 50 x 100 meter lithic scatter located on a bluff 50 meters from the Leaf River. Excavation revealed a living floor at a depth of 20-30 cm, which contained a number of hearths. Cultural deposits were found as deep as 70 cm, however. The deeper deposits were thought to have been the result of "vertical migration" due to bioturbation, forestry activities, and plowing (Wright 1984).

The site was initially dated as Late Archaic due to the predominance of Pontchartrain and Kent points found. A radiocarbon date of 3,620 B.P.  $\pm$  170 was obtained from a sample of charcoal taken from one of the hearths, which confirms the Late Archaic cultural assignment (Wright 1984).

The vast majority of artifacts recovered from the site were lithic in nature. These stone artifacts were primarily made of local gravel, which is available from a quarry located less than 150 meters from the site itself. The debitage found included a large percentage of early stage reduction material. This suggested to the researchers that the site may have been used to manufacture preforms for trade or use elsewhere.

The number of unfinished preforms and complete bifaces suggests, but nothing more, that those artificers could have been producing preforms and finished tools for use elsewhere and, perhaps, for redistribution through various culturally defined means (Wright 1984).

Those tools not made of local gravel were finished tools and biface thinning flakes of Tallahatta Quartzite. The closest outcrop of Tallahatta Quartzite to Augusta Bluff is in Jasper and Clarke counties (Padgett and Heisler 1979) (see map #\*\*). This suggested to Wright that there may have existed a trade network for this material or perhaps resource gathering missions were undertaken to gather the material. These ideas could not be substantiated, but "what can be determined, however, is that the artifacts made of Tallahatta quartzite were manufactured prior to their appearance at Augusta Bluff" (Wright 1984).

Interestingly, no hammer stones were found at the site. Wright (1984) suggests this may be because the tools were perishable in nature and did not survive (being made of antler or hardwood), and/or that hammerstones were a highly curated item, being disposed of only after they became badly damaged. Less likely explanations include that the hammer stones were made of local material and were indistinguishable from the local cobbles or that their use had a site specific use-area which was missed by the study sample.

In general, small flat pebbles in the shape of the finished tool were the primary choice for use as initial stage cores. Flakes were not used as cores for bifacial manufacture. Core rejuvenation was rare because of the small size of the original cores and the amount of available raw material. Use wear analyses of many of tools revealed cutting as the primary task, rather than use as scrapers or projectile points (Wright 1984).

As previously mentioned, the most common finished biface category found at the site was Pontchartrain points. Thirteen were recovered from the site. These tools were well made and slightly broader than those found at Poverty Point, resembling more closely those found at Teoc Creek (Wright 1984). Six Kent points were recovered from the site as well. These points were similar to the Pontchartrains, although they lacked pressure retouch and were less well made. Four Gary points were also recovered from the site.

Hard amorphous fired clay lumps were found at the site as well. These clay lumps appeared similar to those found at the Cedarland and Goode Lake sites. The distribution seemed to be random. A close examination revealed no fingerprints, mat impressions or other noticeable physical characteristics (Wright 1984). Three possible explanations for these objects were forwarded. First, they may have been the result of woodworking in which fire was used and wet clay was applied for fire control. Second, they may have been the remnants of hearth linings, such as those found at the Teoc Creek site (Connaway et al. 1977). Finally, the material may have been used as cooking balls (Wright 1984).

The material recovered from the site suggests that a range of activities occurred there. Activities included the full range of the lithic reduction sequence. For this reason, Wright believes the Augusta Bluff site was likely a base camp, which was surrounded by a number of small special activity sites such as butchering, kill, and gathering sites (Wright 1984).

Wright believes that the area around the Augusta Bluff site was "marginal" for use by prehistoric peoples (Wright 1984). He suggests that population pressure from the Poverty Point developments to the west forced other Late Archaic peoples into moving to new environmental zones. However, present evidence shows the area was more widely exploited during pre-Late Archaic periods than suspected by Wright (Geiger 1980; Giliberti n.d.; Scott & Jackson 1993; McGahey personal communication; Stowe personal communication; also see MDAH site files). Thus, Wright's idea that population pressure from Poverty Point caused increased exploitation of the area seems unfounded. Rather, it appears that (at least along the major drainage's in the Pine Belt area), the areas were commonly exploited by Early Archaic times.

Further west, a similarly important Late Archaic site to Augusta Bluff was found in Marion county. This site, the John Ford House site (22Ma245), was a significant historical farmstead from the 19th century. An archaeological investigation of the farmstead conducted in 1975 revealed that *in situ* prehistoric material was present below much of the historic material (MacDonald & Townsend 1975). The excavations, as well as surface collections from nearby fields, revealed a primarily Late Archaic prehistoric occupation in the area. Projectile points recovered were primarily Late Archaic Pontchartrain and Kent points. With the Kents being considered a cruder version of the Pontchartrains. A few Middle Archaic points were recovered from one particular area of a plowed field, and one possible Early Archaic point was also found.

Besides projectile points, the largest category of artifacts was bifacial scrapers. The scrapers included end scrapers, elongated "adze like" scrapers, and circular bifacial scrapers that are said to have been commonly found on Late Archaic and Early Woodland sites (MacDonald

and Townsend 1975). Other tools recovered included hammer stones, drills, awls, gravers, and flake knives. A few pottery fragments were also recovered.

The most significant prehistoric finds at the site were perhaps a number of intact features. The features included two rectangular clay lined pits, several circular hearths and a possible posthole. The clay lined pits were deep, with fired clay linings and contained fired clay lumps and charcoal. One of the pits extensively excavated was described as being twelve inches wide, with walls "lined with fired clay to a depth of at least six inches". The pit continues "to a depth of approximately two feet, the lower portions of the pit were found to contain sizable concentrations of charcoal and at least two lumps of fired clay" (MacDonald and Townsend 1975). Nothing else was found in the pit other than two flakes. Interestingly, a radiocarbon sample of charcoal was recovered from one of the rectangular features but was never dated. Fortunately, the artifacts are stored at the MDAH, therefore an absolute date from the feature is still possible, and hopefully will be run in the near future.

The rectangular fired clay pit features are similar to those described at Cedarland and Goode Lake, and as mentioned, contained fired clay and clay lumps like that from Augusta Bluff. At first discovery, the pits were thought to be storage pits, similar to those described by Jennings (1968:189) as being peculiar to the Archaic/Formative transitional period (MacDonald and Townsend 1975). After the discovery of the clay lumps and extensive amounts of charcoal however, the authors "subsequently redefined" the features as cooking pits (MacDonald and Townsend 1975). The conclusion is backed up by the authors by mentioning "the probable association of fired clay balls with cooking functions, in areas with presence of natural clay and a scarcity of native stone" as inferred by Marshall (1974:33) and Jennings (1968:214) (MacDonald and Townsend 1975).

The excavated hearths were said to be approximately two feet in diameter and contained charcoal and lumps of burned clay. Also, a thick deposit of chert flakes "in apparent association with the prehistoric pit and hearth" was said to have been observed (MacDonald and Townsend 1975).

The "posthole" feature was said to be six inches in diameter and over three feet deep. This feature contained only one artifact within its fill, a chert end scraper, as well as one side scraper adjacent to it. Also, "Significantly, none of the features interpreted as prehistoric were found to contain historic artifacts, strengthening the assumed temporal dichotomy between prehistoric and historic occupations of the site" (MacDonald and Townsend 1975).

Another important Late Archaic site was also discovered in Marion County (Hartfield 1984). Site 22Ma542, the Dorothy Lowe site, contained

a cache of 41 biface blanks and finished projectile points. The cache was found within a 16" area, approximately 8-10" deep, with the points arranged in a regular pattern. All but six of the bifaces were complete, and five of the remaining six broken tools could be completely reconstructed. Four of the points were nearly finished Pontchartrain points, with only the pressure retouch flaking along the blade missing. Six other bifaces were completed Shumla points. The other thirty-one bifaces were diamond shaped blanks. These bifaces closely resembled "Morrow Mountain" points in shape. However, upon closer examination they were shown to be Shumla preforms (Hartfield 1984; McGahey personnel communication).

The discovery of these "Morrow Mountain like" preforms in direct association with Shumla points perhaps resolves an old argument. This argument concerns the true identity of many of the Morrow Mountain points found in Mississippi. Are these bifaces true Morrow Mountain points, or are they often misidentified Shumla preforms (McGahey 1974 & 1984; Connaway & Brookes 1974; Hartfield 1984)? McGahey argued that in most cases the so-called "Morrow Mountain" points were found in association with Pontchartrain, Gary and other Late Archaic artifacts. Also, in several sites from Yazoo county (22Yz622 & 22Yz696), the land surface is not thought to be old enough to contain Middle Archaic sites. These facts as well as other physical traits, led McGahey (1984) to conclude, "It seems quite likely that most or perhaps all of the Morrow Mountain points in the west central Mississippi area are Late Archaic advanced stage preforms for points such as Shumla". As Hartfield (1984) points out, the discovery of these triangular preforms with Shumla points within the Dorothy Lowe Cache "should be conclusive evidence that the so-called Morrow Mountain points found in this area (Southwest Mississippi), usually in association with Late Archaic artifacts, are not the Round Based Morrow Mountain points", but, are in fact, Shumla preforms.

A search of the MDAH site file for Late Archaic sites in the region revealed 300 recorded sites. Of the three hundred sites found, only three were listed on the National Register. Thirteen other sites were listed as potentially eligible, while 86 were thought to be ineligible. The vast majority of the sites, some 198 of them, were listed as being of unknown eligibility. These statistics point out a serious problem concerning the determination of site significance. Apparently, while many individuals and organizations are recording sites, very few are willing or able to perform even the most rudimentary tests on the sites once found. Therefore the need for site testing has grown exponentially as surveys and site recording has increased. The fact that in many cases, site testing is required by Law has not seemed to have had any effect on this problem. In fact, the worst cases of neglect when it comes to site testing and determination of National Register Eligibility involve Federal

Agencies. This problem must be resolved before any site location or settlement pattern determination can even be considered. Another problem, partly linked to the site testing dilemma, is that of the misidentification of sites. Often, lithic scatters which lack ceramic remains or identifiable early material are simply classified as Late Archaic. Further, many investigators do not know or possibly care to know, subtle distinctions between earlier Archaic diagnostics as well as Woodland diagnostics, from Late Archaic tools. Instead, sites are simply dumped into the Late Archaic time period, which has become some-what of a "catchall" category. This is very unfortunate, and has made analysis of this period difficult.

Of the three sites listed on the NRHP, sites 22Lw511 and 22Si512 are not important due to their Late Archaic components. Rather, these sites are both mound sites with associated villages, which happen to have some Late Archaic materials found in the surrounding area. The Nugent site, 22Ha592, on the other hand appears to be much more relevant to the study of the Late Archaic. This site is a multi-component site located on a first terrace adjacent to Bayou La Terre. The Bayou is a tributary of the Jourdan River, which flows directly into the Bay of St. Louis about eight miles south of the site. The site contains a Paleoindian component, which is likely the main reason it has been placed on the National Register. However, the site is a deep, apparently intact midden, which contains stratified deposits of Early, Middle and Late Archaic material, as well as Woodland ceramics and the Paleoindian tools. Surface collection and some pot hunting was carried out on the site, unfortunately.

The site was tested by a group of MAA members, amateurs, and the landowners. This group was led by archaeologist Jim Lauro. Various artifacts were recovered from the site, as well as faunal material, fish bones, bone, clam and oyster shell, a polished jasper bead, and amorphous clay balls. Possible hearths and post holes were also reported. Unfortunately, many of the artifacts were destroyed by a fire, and few details of the excavation have yet been reported. The site has now reportedly been re-seeded for protection. It is believed that intact deposits still remain, and thus further testing and analyses could reveal tremendous amount of information on the prehistory of the area, especially early period information. With the great potential this site may still offer, it is hoped here that further work will be in the future, and hopefully details of the first excavation will yet be made available.

Just south and downstream from the Nugent site is the Bayou La Terre site, 22Ha604. This site is also a multi-component site with a Paleoindian through Woodland component. Testing here should also help answer chronological questions, as well as questions concerning technological and subsistence strategy. Also, settlement pattern information could also be gained. Unfortunately, as with many potentially valuable sites, Bayou La Terre site is listed as unknown as far

as National Register Eligibility. Again, this points out the need for an increase in site testing in Mississippi.

As previously mentioned, a search of the site file revealed 13 Late Archaic sites reported as being eligible for the NRHP. These sites, along with other sites with particular interest, are detailed in the following chart. Attributes which were considered of special interest or importance include intact middens, deep stratified sites, also sites with unique or rare objects such as steatite sherds, beads, bannerstones, or features of interest (such as fired clay balls and clay lined pits). These sites are included in Table 3.2.

Table 3.2

<b>Sites</b>	<b>Description</b>
22Am507	Listed as potentially eligible. Multi- component site but no report or indications of site details.
22Cp536	Listed as Potentially eligible. Multi-component but no particulars on Late Archaic component.
22Fo506	This was a multi-component site found in a gravel pit which contained a cache of dozens of Shumla preforms of Tallahatta quartzite. The site was also said to have contained several fire pit features as well as possible house patterns, although this was never confirmed. The site is now thought to be destroyed.
22Fr541	Listed as potentially eligible. The site is multi-component, with little remarkable about it except the degree of disturbance, which is reported as being very low.
22Gn504	Listed as potentially eligible. The site is multi-component, and is reportedly a village area which dates from Miller II back to Middle Archaic. No indications whether any village occupation is directly attributable to the Archaic components is indicated, and very little detail is given about the site.
22Li500	Listed as potentially eligible. This site is a Middle to Late Archaic site first reported in 1898 by Fulton. Magnum as well as Connaway reported on the site (dates references etc,...) The site contained 30 Zoomorphic jasper beads. An attempt at relocating the site in 197? was not successful.
22Lm585	Listed as potentially eligible. The site was reported to have had 90% ground cover, and yet without subsurface testing was also said to be 100% disturbed and still eligible for the Register. No reason for these inconsistencies was given.
22Lw514	Listed as potentially eligible. No details or reason for this determination are given.
22Pi503	This site contained an unprovenienced stone bead cache, as

	well as drills, Pontchartrain points, and numerous flakes. It is listed as a Village site, but no other details are available.
22Pe500	(Cooper #1 site) Fired clay pits (14"x 24"x 3') with associated Archaic points were reported by Marshall. No other details or bibliography is noted.
22Pe501	(Cooper #2 site) This is apparently a companion site to Pe-500 and was also reported by Marshall.
22Pe504	(Beaumont Gravel Pit site) Listed as potentially eligible for the NRHP, this site is a multi-component site dating from Late Paleoindian through Woodland times. The site is located on a gravel deposit on a terrace near the Leaf river. The primary components are Paleoindian and Early Archaic, however a number of Late Archaic points were also recovered (Geiger 1980). The site was excavated by a number of amateurs and the recovered artifacts are now being analyzed for a Masters Thesis at the University of Southern Mississippi (Giliberti n.d.). Also, a complete site report is expected to follow as well.
22Pe505	This site is quite similar to Pe-504 and is located less than a mile from the Beaumont site (Geiger 1980). It is also located on a gravel deposit near the Leaf River. These gravel deposit areas along the first terrace of the Leaf consistently contain such sites as these (Geiger 1980). Unfortunately, these areas are also favorite areas for modern gravel mining which often destroys the sites before they can be studied.
22Pe570	This site was reported by Deleon (MDAH 83-040). It contained 2 rims from a steatite bowl, and was listed as a single component Late Archaic site. Unfortunately, it is listed as 100% disturbed. However, no details on how or even if the site was tested was given.
22Pe600	This site was listed as Eligible for the National Register. It was one of six sites found in follow up work to the Augusta Bluff survey performed by Wright in 1982. Wright was asked to survey the area where fill for the Leaf River Plant construction was to be obtained. Several sites with Late Archaic components were discovered including 22Pe600 and listed as eligible for the Register. However, the scope of the project called for all sites to be avoided, rather than tested or mitigated. Therefore, no testing was conducted. The sites appear to be similar to many already mentioned from the Leaf River area. They occur on the first terrace or bluff over the floodplain, on gravel deposits. Unfortunately,

	these same areas are still prized today for their gravel.
22Pe681	This site is listed as ineligible, however amorphous clay lumps were reported along with Gary and Pontchartrain points.
22Pe952	This site is a multi-component site much like 22Pe504 and located in an adjacent area and in a similar physiographical situation.
22Ra560	This site is listed as unknown concerning National Register eligibility. It has both Early and Late Archaic components reported. A "red quartzite boatstone" was reported to have been recovered from this site.
22Ra571	This site has Early, Middle and Late Archaic components and is listed as unknown for National Register eligibility. A red tan chert "stone ring" which was unfinished was found there. The ring was said to have been drilled with a solid bit, and is thought to likely to be Middle Archaic in origin (McGahey personal communication). However, the stone ring may also be Late Archaic in origin.
22Si518	This is a multi-component site ranging from the Middle Archaic through Late Woodland time periods. It is listed as being potentially eligible for the register, but is reported to be 75% disturbed.
22Si520	This site is a multi-component site again dating from Middle Archaic through Woodland.
22Si539	This is a multi-component site from which a Pontchartrain point was found, as well as a celt. It was reported by an amateur but was never field checked by an archaeologist.

An intensive examination of the site file records for the Late Archaic sites for the Pine Belt was conducted, focusing on the named diagnostics, Natural setting, site elevation and soil types associated with the sites. Although the site files are obviously biased and do not contain a scientifically valid sample, it was hoped that an analysis of the data could be useful. It was thought that some patterning may be revealed, at least in the areas exposed by land use. The search should also reveal areas of need for archaeological research and focus. It should also help to isolate usable data from the site files from data which is less likely to be useful to future researchers.

A search of the collected diagnostic points from the 302 Late Archaic sites reported from the Long Leaf Pine Belt revealed a number of interesting things. First, of 226 projectile points mentioned from these sites, 90 were not typologically classified. This means fully 40% of all Late Archaic diagnostic projectile points were not properly identified. This points out a glaring lack of attention or expertise by site recorders

concerning lithic identification. This is especially true when considering the relatively small artifact population one deals with for the Late Archaic.

Of the projectile points identified, there were six typological classes with three or more representatives, three more types with two identified specimens, and one dozen other types with a single reported representative. Chart # \*\*\* shows the numerical representation by each class with more than one representative. The overwhelming majority of points identified were Pontchartrains, followed by Garys and Shumlas. Kent points, Flint Creek, and Little Bear Creek points were also fairly common, while Ledbetter, Edwards, and Carrollton points all have two reported examples found in the area.

Looking at site location for the Long Leaf Pine Belt, as mentioned in the introduction of the plan?@ may not reveal much but.... anyway Of the 301 sites found in my search, 215 had a recorded physiographic setting. Unfortunately, that means 28% had no physiographic setting recorded. Surely all archaeologists are capable of indicating this on the site card? Not surprisingly, the majority of sites were located on the first terrace, followed by upland ridges and Knolls on terraces. However, what was rather interesting was the large minority that were found on other natural features (see chart^&%). Those features utilized included a number of sites in stream bottoms, on floodplains, bluffs and natural levees. Again, as I said, this may only reflect land use patterns, areas of high ground visibility due to forestry and agricultural activities, and or biased surveying techniques by archaeologists (self fulfilling site locational models). It does reflect the need for more regular, stratified random sampling in archaeological field survey techniques in order to cover all physiographic settings ..blah blah.

Site elevation was also examined, giving 198 entrees for the 301 sites or about 2/3 of the sites. Again, this number should be 100%. Anyway, again this is from a biased sample etc....may reveal nothing but the local topographic range etc... The sites range from 20 feet in elevation to 460 feet, with the vast majority occurring between 180 and 250 foot elevation (see graph &^%).

The final site attribute that was checked for all sites was that of soil type. Less than half of the sites had any entry at all. Of those with entries, many did not use the official soil USDA soil code. Instead, descriptive terminology was employed, such as "sandy/loam". Of those with soil code information, no discernible pattern was observed. Rather, there appeared to be almost as many soil types as there were sites with entries. This may suggest that, while soil code is useful for a site specific study, region wide studies are not yet feasible. It would appear that descriptive terminology is more useful for generalizing about site location. Specifically, sandy or sandy loam, well drained soils were preferred. Perhaps when G.I.S. soil data is available on 7.5" scale for the

state, utilizing macro soil groups, rather than specific soil types will prove more profitable for modeling. For now, it would seem that descriptive soil types rather than the USDA soil codes may be more useful.

### **Coastal Pine Meadows**

The Coastal Pine Meadows physiographic region of Mississippi is included by McGahey as part of the South Mississippi area, along with the Long Leaf Pine Belt, Jackson Prairie, South Loess Hills, and the Southern Yazoo Basin. The primary means for determining the beginning point of the Late Archaic is through biface morphology (McGahey 1993). Unfortunately, according to McGahey, in the South Mississippi region it is "more difficult to see [the division between the Middle Archaic and Late Archaic] in the morphology of bifaces" than in other areas of the state. However, a shift from broad-stemmed forms to narrow -stemmed, better made forms, is seen as a primary difference reflected in the material culture of these periods. McGahey mentions Pontchartrain, Shumla, and Evans points as being indicators of the Late Archaic in this region. No cultural markers unique to the Coastal Pine Meadows are noted by McGahey.

Culturally, a continuation from Middle to Late Archaic times is suggested by McGahey (1993). A notched blade tradition that appears early in the Middle Archaic in Southwest Mississippi, seems to continue through the Late Archaic. The notched-blade, broad based St. Helena point types, are apparently replaced in the area by a narrow stemmed notched blade, known as Tangipahoa points.

The cut-off time for the Late Archaic given by Morgan for this area is based upon the appearance of Poverty Point related cultural items and or ceramics, and is roughly dated to 2,000 B.C. at its earliest. It is at this time that ceramics begin to appear, as well as large trading networks, more complex social groupings, and Poverty Point Objects (Morgan 1992).

Other researchers have attempted to place chronological markers on the cultural periods (including the Late Archaic) from the Coast area. In 1963, Gagliano discussed the preceramic occupations of South Mississippi and South Louisiana. In this paper, Gagliano defined the "Pearl River Phase" of the Mississippi Coast (Gagliano 1963:116). This Phase is a local adaptation of Late Archaic, preceramic peoples, to the unique ecological areas of the Coast, particularly early shorelines and estuaries. The sites are typified by oyster shell middens with a variety of characteristic artifacts including: baked clay hearth fragments, several types of Atlatl weights, sandstone saws, and shell gouges or scrapers (Gagliano 1963:116). Gagliano (1963:116) relays that Saucier (1962:16,59-60) believes these sites may represent the first occupations on the Coast after sea level stabilization.

The type-sites for this phase include the Graveyard, Cedar Point, and the Cedarland Plantation sites (see map #??). A radiocarbon date from the upper levels of the oyster shell midden at Cedarland produced a date of  $1240 \pm 130$  B.C. (Gagliano 1963:116). Gagliano gives a date of sea level stabilization from between 3,500-4,000 years ago, thus the beginning of the phase would be placed around 2,000 B.C. The end of the phase corresponds with the appearance of Poverty Point objects and ceramics and dates to no later than 1,000 B.C.

A unique opportunity for the study of the differences between the Late Archaic and Poverty Point periods was afforded in the region by the Cedarland site. This was due to the fact that a large, early Poverty Point site was located adjacent to the Cedarland site. Unfortunately, both the Cedarland site and its companion site, Claiborne, were all but destroyed by artifact collectors and the development of an industrial park in the site area. The individuals involved with these activities have surely robbed the scientific community of its best hope of understanding the transition from Late Archaic to the Poverty Point culture on the Mississippi Gulf Coast.

Some attempts have been made to quantify data from Claiborne and Cedarland despite the frustrations and impediments involved. Gagliano and Webb (1970:50-63) for example, analyzed collections from various looters as well as spent time at the sites themselves. The sites were found to both be semicircular shell middens, with evidence for villages on the interior of the circles. The open end of the circles both faced toward the common estuary. The midden at Cedarland contained primarily oyster shell, while the midden at Claiborne contained primarily rangia, with some oyster. Both sites also contained assorted artifacts and a variety of fish and animal bone.

Closer comparisons of the two assemblages was difficult do to the fact that the looters often did not separate artifacts by site. However, some observations were made (Gagliano and Webb 1970:50-66). Claiborne contained thousands of Poverty Point Objects, while Cedarland contained only a few Poverty Point-like objects. Both sites showed evidence that a majority of tool manufacture was done away from the immediate area, although some cores were brought in for reduction. Both sites contained tools made from opalized oyster shell, which is peculiar to these sites. Lithic technology was similar, with both having a full range of tools (including bone and antler tools), chipped celts, stone vessels, perforated and grooved plummets, etc... Point types found included Pontchartrain and Gary as the most common types. Macon, Carrollton, Hale, Kent, and Motley points were also present. "Noticeably rare or absent Poverty Point types are Delhi, Epps, Ellis, Marcos, and Marshall" from the two areas. Claiborne differed from Cedarland with the presence of Shumla-like points, Motley points and two Delhi points. Also, Claiborne produced a number of artifacts made of exotic raw

materials which were rare or absent at Cedarland. Another apparent difference between the two assemblages was a change in micro-flint manufacturing technology. It was reported that a shift from bipolar production at the Cedarland site to the use of micro-blade cores at the Claiborne site had occurred. There also appeared to be a shift from the use of bannerstones, to the use of two-hole gorgets through time (Gagliano and Webb 1970:63).

Gagliano and Webb (1970:69) see these two sites as coastal villages that were sequentially occupied, with the shift in occupation location coinciding with the introduction of Poverty Point Complex cultural traits, not with the influx of a new population. This shift is thought to have occurred approximately 1200 B.C.

Bruseth (1986), synthesized the earlier work on the Cedarland and Claiborne sites, as well as offered some differing conclusions. Bruseth argues that the population of Cedarland did not transform into the Claiborne culture over time, but rather, the Cedarland culture was replaced by another population (Bruseth 1986:30). Bruseth (1986:30) believes this replacement corresponds to a change in the local environment which occurred in Hancock county between 1850 and 2050 B.C. (according to Saucier, 1963:60).

Besides his disagreement with Gagliano and Webb's theory for the change in culture between the two sites, Bruseth (1986) also made some new observations concerning the differences observed. Reportedly, Cedarland had three and four sided drills, while Claiborne had bifacial drills (Bruseth 1986:26). Also, the Cedarland midden was created more by accretion, with the artifacts scattered throughout randomly (Bruseth 1986:27). Claiborne on the other hand, was considered to be more structured and displayed more long term planning in its development (Bruseth 1986:27).

East of Cedarland (see map ??), Mistovich et al (1983:5) in a report on a reconnaissance of Pascagoula harbor said "Middle and Late Archaic site components are present in the region, but little is known concerning them". Of the area in general, they say "There is a definite dearth in both original systematic research and synthetic statements concerning the archaeology of the Mississippi Gulf Coast. Consequently there is not much to tell" (Mistovich et al. 1983:40).

However, they suggest that the Late Archaic culture of the eastern Gulf Coast area will be "closely related, if not identical to" the Pearl River Phase (Mistovich et al. 1983:6). They call Pascagoula the eastern edge of the Poverty Point frontier, and believe that this developed directly out of the Late Archaic culture around 1800 B.C. (Mistovich et al. 1983:6).

In Perspectives on Gulf Coast Prehistory the section on the Mississippi Coast is considered by this and other archaeologists as unreliable and therefore is not considered here (Weinstein 1985:114-116; Lewis 1988:109). The section on the Louisiana Coast by Neuman

however, is worth noting. Of the Gulf Coast region in general, Neuman states:

"Relatively little is known today about the prehistoric demography and subsistence in the area...pertinent data for most of the prehistoric cultures are still notable only for their absence" (Neuman 1984:156, 164).

Work at Goode Lake, an oxbow of the Escatawpa River in Jackson county, may offer some information concerning the Late Archaic of the eastern part of the Mississippi Coast (Marshall 1982). Three sites were tested from a single area, revealing one multi-component site with what was thought to be a Late Archaic occupation. The cultural designation was based on the discovery of a single Abbey point, which Marshall (1982:46) dates roughly between 4,000-500 B.C. Other than the single point, very little in the way of artifacts were recovered from the Late Archaic level of the site. However, a number of pit/hearths with fired clay were found at the site, certain ones of which Marshall attributes to the Late Archaic occupation. Large shallow basin-shaped pits, filled with fired clay are thought by Marshall to be similar to features found at Teoc Creek, Denton, Longstreet, Cedarland and the Claiborne site (Marshall 1982:59). Marshall suggests that these pits were used in food cooking and food preparation activities, "rack-drying", or even used as part of "sweatbaths" (Marshall 1982:59,57-60,71). Marshall compares some of the "U" shaped pits as being similar to some pits at Claiborne, which were filled with Poverty Point Objects. To Marshall, this means that the Poverty Point "tradition does not seem to lie east of the Goode Lake sites" (Marshall 1982:59).

There is a problem with assignment of these pit features to the Late Archaic, however. There is little definitive proof that these features are associated with a Late Archaic use of the site. A single Abbey point (spelled Abby in the Goode Lake Report), is not enough evidence to assign these features to a cultural period. The features were reported from all three sites in the Goode Lake study, two of which had no Late Archaic diagnostics. Numerous sherds were recovered from the sites involved, while only one point. Further, the point involved may be associated with Gulf Formational or Early Woodland cultures as well as Late Archaic. Therefore, while the appearance of these pit features should be noted, further research will be needed before they should be considered chronological indicators of the Late Archaic. Perhaps, if some samples remain of these features, an absolute date could be run, the result of which would either support or refute this theory.

Lewis (1982:5; 1988:109), points out the obvious, that Late Archaic and Poverty Point sites tend to be located near estuarine environments. He discusses Cedarland, and also mentions the Swetman site (22Ja611), however, he offers little in the way of new physical evidence or ideas on the Late Archaic of the coastal area.

Recent investigations on the Coast have unfortunately added little new archaeological data concerning the Late Archaic. Ensor and Wilson (1993) found no Late Archaic sites on their survey in the Pascagoula Delta. In their historical overview they do discuss the Late Archaic, however. They date the period from 5,000-3,000 B.P., corresponding to time of sea level stabilization. They mention that the development of the Poverty Point culture comes "out of the Late Archaic base sometime around 3,800 B.P." (Ensor and Wilson 1993:15).

Blitz and Mann (1993:59) in their study of Jackson county, date the Late Archaic from 3,000-1100 B.C. Modern climatic and ecological conditions lead to the developments of "new cultural dynamics" in the area. Larger social groups, increased sedentism, population growth, increased use of aquatic resources, as well as a more focused exploitation of the environment, are mentioned as being traits of the Late Archaic. The "advent of pottery integrated into Late Archaic assemblages" is considered an indicator of the Gulf Formational stage (Blitz and Mann 1993:59).

Based on the work of Morgan (1992), McGahey (1993), and the other researchers mentioned previously, the Late Archaic for the Mississippi Gulf Coast will here be considered to date from approximately 5,000 to 3,000 B.P. The culture is preceramic in nature, and is primarily defined by a variety of narrow-stemmed bifaces. However, due to the continued presence of many of the Late Archaic stemmed bifaces into the later Poverty Point/Gulf Formational cultures, there can be great difficulty in determining cultural affinity based on biface morphology. Often, the cultural identification of Late Archaic sites is based on negative evidence. This of course contains inherent problems, however, at the present time, there are no other simple ways of identifying Late Archaic components.

A detailed search of the state archaeological site file revealed 16 recorded Late Archaic sites from the Mississippi Gulf Coast. The sites included several shell middens, a number of lithic scatters, and at least one village site (Cedarland). Only the Cedarland site was considered eligible for the National Register, and of course, with its destruction, this status has now changed. No other sites were considered eligible for the Register, however nine of the sites have an eligibility listed as "unknown". Other than the diagnostics listed from the Cedarland site and Goode lake site (Marshall 1982), six artifact types have been identified as cultural indicators of the Late Archaic by researchers. These diagnostics are all stemmed bifaces and include Pontchartrain and Gary points, as well as Kent, Flint Creek, Wade and Shumla points.

## **JACKSON PRAIRIES**

Another sub-region of South Mississippi is the Jackson Prairies (see McGahey n.d.; Morgan 1991). This area exemplifies the lack of knowledge for the entire South Mississippi macro-region, with very little archaeological work having been conducted there. The work that has been done has revealed less than spectacular results. Fewer than fifty Late Archaic sites have been recorded in the area. Some of the dearth of information/sites may be due to the relatively small area the Jackson Prairies represents geographically. However, the lack of information has also been suggested as being attributable to the area's relatively marginal nature (being less than optimal for prehistoric utilization) (McGahey personal communication).

U.S. Forest Service Archaeologist Missy Reams who presently conducts the majority of Cultural Resource Surveys in the area has found prehistoric archaeological resources scarce. She mentions that the soil consists primarily of clay, which likely was unappealing to early peoples. When wet the soil is sticky, non-pliable and does not offer the type of surface conditions normally desired for encampment. When dry, the soil becomes desert like, sparse of vegetation, with large cracks penetrating deep into the ground (Missy Reams, personal communication). Those sites which were located on soils of this nature might easily lose large numbers of artifacts into these cracks, obscuring them from view and destroying the sites original context.

Of the work that has been conducted in the Jackson Prairies, none has focused directly on the Late Archaic Period. The work that does address the Late Archaic cultural period does so as parts of general overviews of the prehistory of the area, based on other regions (Hartfield et al. 1982a; 1982b, Penman 1980, Tesar 1974).

Tesar, in his 1974 report on survey of a proposed reservoir within the Jackson Prairies generalized about Archaic adaptation, but offered little in the way of area specific data. No exact dates were given for the Late Archaic, although the period was recognized as being separate from the Middle Archaic and Early Woodland times. The Archaic was said to be a period of "rapid change" with increased regional adaptations to local forest, river, and coastal environments (Tesar 1974). Subsistence patterns diversified, stemmed points and ground stone tools appear, and the atlatl increases in popularity. Plant foods become more important in the diet as is evidenced by the increased numbers of plant processing tools, such as nutting stones. The end of the Archaic is thought to be marked by the appearance of ceramics, and the increasing size and occupation length of sites. No date is given for this transformation however (Tesar 1974).

A number of sites were found and investigated by Tesar, although the survey was conducted primarily on a reconnaissance level. Several of these sites were later revisited and tested by Atkinson and Elliott (1979). Those of note will be mentioned in the section on sites.

A 1982 study by Hartfield, Price and Greene of the Pearl River Basin Primarily consisted of a literature search. The research area included parts of the Jackson Prairies, Long Leaf Pine Belt, Coastal Pine Meadows, and "Vicksburg Hills" (Hartfield et al. 1982a; 1982b). The search revealed, as has been mentioned previously, that "Very little research regarding the cultural resources of the corridor (Pearl River Basin) has been done" (Hartfield et al. 1982a?). For the prehistoric periods, most of the information is taken from the more intensely studied regions such as the Lower Mississippi Valley and the Tennessee-Tombigbee Waterway area. From this research, the Archaic is again not separated by periods, but rather is discussed as one unit. It is said to be marked by a number of trends, including the following:

1. Increased diversity of projectile point styles.
  2. More permanent settlements.
  3. More specialized artifact assemblages.
  4. Increased population.
  5. Seasonal movement designed to exploit different resources: fruits, nuts, fish and game.
  6. Increased variety of resource utilization for giving security against famine.
  7. Increased importance of aquatic resources.
  8. Plant foods comprising a major portion of the diet.
- (see notes and use for overview not separate section)

In the Pearl River basin little specific information is forwarded other than an increase in occupation of the area. The most notable site is Cedarland, previously discussed in the section on the Coastal Pine Meadows.

The end of the Archaic is marked by either the "Post-Archaic" or Poverty point cultures. The Post Archaic is said to date from 2,000 B.C. to 1,000 A.D., and is associated with the use of pottery, the appearance of the bow and arrow, the practice of agriculture, and the building of mounds (Hartfield et al. 1982a; 1982b). The Poverty Point culture is dated from 2,000 to 500 B.C. and is associated with baked clay objects, microlithic tools, plummets, steatite vessels, and specific bifaces such as Epps, Gary and Motley points (Hartfield et al. 1982a; 1983b). Only one Poverty Point site has as of now, been found in the Jackson Prairies. The Wills site, 22Hi512, was located on the Pearl River near Jackson. It was shown to be unique in being the only Poverty Point site known for South Mississippi outside of the Gulf Coast (Rand n.d.). Unfortunately, as with many important sites, the Wills' site has since been destroyed.

A cultural resources study of the Tallahala creek lake area was conducted in 1979 (Atkinson and Elliott 1979). This study succeeded in finding and testing a number of previously unrecorded sites as well as re-examining sites recorded by Tesar (1974). Little is provided in the way of

a prehistory of the area, possibly due to the lack of information on the subject. No beginning for the Late Archaic is provided for instance. An ending point is suggested, however. According to the researchers, at 2,000 B.C. fiber tempered ceramics of the Wheeler type mark the beginning of the "Post Archaic" period (Atkinson and Elliott 1979). The adoption of pottery, although considered to mark the end of the Late Archaic, is not believed to necessarily indicate a dramatic change in the life ways of these peoples.

There is presently little evidence that the introduction of pottery coincided with an

alteration of the Late Archaic way of life, but such could have occurred during the

time lapse leading to the introduction of the Early Woodland period Ceramics

known as Alexander and Tchefuncte (Atkinson and Elliott 1979).

Prehistoric settlement in the Tallahala lake area was found to occur in highest numbers on the "Low Bottomland Terraces", where the vast majority of the sites were located. Interestingly, only 2 sites out of thirty-one were found above the 320' elevation level. Sites rather occur nearest wetlands "Where a great variety of flora and fauna would have been available for exploitation" (Atkinson and Elliott 1979). One other item of note mentioned by Atkinson and Elliott (1979) is that stone artifacts "with few exceptions" were made with local raw materials. The majority of the material used is Tallahata Quartzite, while a large minority is local chert. Small amounts of locally available ferruginous sandstone was also utilized (Atkinson and Elliott 1979).

Penman's (1980) summary of his survey in Mississippi included the Souinlovey creek watershed of the Jackson Prairies. Unfortunately, the work done on this area was minimal, and few sites were found and none were tested. Sites in the Souinlovey creek area were thought to be small, seasonal, sites, although little data is given as basis for these assumptions. It is mentioned that Tallahata quartzite appears to be the dominate lithic material used throughout the prehistoric periods (Penman 1980).

The work of McGahey (1975; 1984) dealt with areas including the Jackson Prairies. However, this has already been detailed in the Long Leaf Pine Belt section (see page &\*^).

An intensive search of the state site files revealed forty-nine Late Archaic sites listed. A search for significant sites or those of particular interest revealed 12 sites listed as potentially eligible for the NRHP. No Late Archaic sites were actually listed however. Four sites were listed as ineligible, while 33 sites did not have NRHP status determined. (see chart ) This again points out the critical need for site testing. Of the 12 sites

listed as being potentially eligible, 11 were found during the Tallahala creek survey (Atkinson and Elliott 1979). Besides those sites listed as potentially eligible for the NRHP, 8 were thought to have some particular interest and are briefed as well (see Table 3.3).

Table 3.3

Site	Description
22Js506	This site contained some Late Archaic material including a Motley point and was listed as having a cemetery. The cemetery proved to be Historic Choctaw however.
22Js518	Reported as being a rich site with dense deposits, this site contained over 43 points, a microlithic perforator, flakes and sherds. Found by Tesar (197?), little detail is given other than some disturbance had been incurred by cultivation.
22Js522	Has no status listed for NRHP eligibility but is a single component Late Archaic site. No reference is made in report as to what the sites chronological placement is based on, how deep the site is etc... The site has reportedly been partially disturbed by cultivation.
22Js528	Listed as an ineligible site, it is listed as a "settlement. A number of points and...

Diagnostic artifacts listed from Late Archaic sites of the Jackson Prairies revealed that projectile points are the most recognized artifact class. Very few diagnostics are named, including only 18 points while 16 have not been identified. Of those classified, Pontchartrain points make up the largest class with seven examples found. There were five Shumla points and six types with only one site containing them (See chart &\*). Interestingly, among those types with only one component containing them was the Gary point. In the Long Leaf Pine Belt the Gary type made up a large minority of the identified projectile points. This may be a result of the extremely small sample, however the possibility that some cultural or economic differences existed between the physiographic regions during this time deserves to be considered.

Non-projectile point artifact classes identified included three components containing beads, one microlithic perforator and one nutting stone.

Site location within the region reflects a distribution pattern suggested by Atkinson and Elliott (1979). Twenty three of the thirty five sites which had the natural setting listed were found to exist on the floodplain, in a stream bottom, or on the first terrace. Only seven sites were found on upland ridges, while five were found on knolls on terraces. (see chart \*&)

Twenty-seven of 32 sites with elevation given were found below the 320' mark discussed by Atkinson and Elliott (1979). (See chart 76)

Soil type was also checked for all Late Archaic sites from the region. Like the Long Leaf Pine Belt however, this search did not reveal any usable data. Soil types given showed no discernible pattern, rather this search again showed that for comparison purposes, USDA soil codes are not very useful. They change by county etc..blah blah blah. This is unfortunate, particularly for this region considering the earlier discussions of the peculiar soils of the area. Hopefully, the completion of G.I.S. soil data for the state will provide an opportunity for a re-examination of this issue. For now, however, a check of soil types will not be made for the succeeding regions.

## **FLATWOODS**

The Flatwoods is a relatively small physiographic region located in the Northeastern part of the state . It is included in the Northeast Mississippi macro region by McGahey (1992?). Perhaps due to its small size or perhaps due to a lack of large scale development in the region, very little information specific to the areas archaeology is available. In fact, a search of the state site files revealed only two surveys listed within the bibliographic field for this area relevant to Late Archaic research.

The first survey listed was a 1988 report by Mississippi Department of Transportation archaeologists. During this survey the researchers found a single Late Archaic site in the area (based on the discovery of a nutting stone and an adze). No subsurface deposits were found however, and the site (22Un627) was determined not to be eligible for the National register by the researchers (Hyatt 1988).

The other study was a cultural resources survey in the Line Creek area. This survey crosscut four physiographic zones, including the Flatwoods (Johnson et al. 1984:1). Unfortunately only one Late Archaic site was found during this study in the Flatwoods region. Due to this small sample, the pre-ceramic settlement was not considered to be a major component of the areas prehistory (Johnson et al. 1984:7). A good description of background of 10 physiographic zones is given on page 12-39 however.

Study of the state site files revealed only 43 recorded Late Archaic sites for the region. Of these sites, none was listed on the NRHP. Again, as with the other regions previously discussed, a large number of the sites (29 of 43) have not had their potential determined through testing. Of those where a determination has been made, five sites have been determined as being ineligible, while nine sites are thought to be eligible for the NRHP.

The sites listed as being potentially significant were all multi-component sites located by MSU field schools of the 1984 and 1985 field seasons. None of the sites were tested however (Baca personal communication). Therefore, the depth and nature of the deposits is not known. Perhaps a further field season of testing could add some potentially useful data to the archaeological record base for this region.

One observable feature of the Flatwoods area is that it has a noticeably large amount of recorded ground stone artifacts when compared to the southern regions of the state. These artifacts include celts, nutting stones, metates, and gorgets.

Named diagnostics found there included Flint Creek, Little Bear Creek, Ledbetter, McIntire, Kays, and Pontchartrain points (see figure \$\$). Pontchartrains were surprisingly rare as indicated by the site files however.

Sites in this region were primarily found on first terraces and upland ridges. Sites were also found in stream bottoms, knolls or rises in bottoms, knolls on terraces and one was found on a floodplain.

Forty-two of the forty-three sites in the site file had an elevation listed. Of those forty-two sites, 33 were found between 300 to 360 feet, with an overall range of elevation of 200-390 feet.

## **BLACK PRAIRIES**

The Black Prairie is a relatively small area geographically which has received a proportionally large amount of attention archaeologically. Much of the attention is the result, either directly or indirectly, of the Tombigbee Waterway project. Several flood control projects conducted by the Soil Conservation Service have also contributed to the archaeological record of the area. Many of these studies crosscut several physiographic regions including the Black Prairies, Tombigbee Hills, Pontotoc Ridge and Flatwoods. Other studies were also carried out in the area including several university field schools and several early studies which "resulted in a reasonably complex overview of prehistoric lifeways" for the area (Mistovich 1987:5). Early research in the area included the Pickwick reservoir study by Webb and DeJarnette (1942) and Jennings' work (1941). Much of the knowledge gained concerning the history of the area focuses on the ceramic and Historic periods with much less being understood about the earlier periods, including the Late Archaic (Mistovich 1987:5).

The Archaic "stage" is dated between 8,000-1,000 B.C. in the region (Mistovich 1987:6) and is subdivided into Early, Middle and Late periods "based on distinctive socioeconomic traits". The Late Archaic period is defined by Mistovich (1987:6) as follows.

The trajectory towards a broader subsistence base and more intensive, long term

site occupation continues into the Late Archaic period, spanning 2,500 to 1,000

B.C. A settlement system composed of large scale villages, gathering stations with subterranean storage facilities, and lithic extraction/reduction sites appears well

established. PP/Ks of the Ledbetter and Little Bear Creek styles were in widespread

use. The introduction of a new technology, pottery production, is used as a

chronological marker for the Gulf Formational period. In this area, the period is

noted by the presence of the fiber tempered Wheeler and sand tempered Alexander

series of ceramics.

Penman's survey of the Town Creek Watershed in 1980 was carried out primarily in Lee County and found that the early work of Jennings's (1940:408-414) lacked good site locational data (Penman 1980:70-71). The Town Creek study located a number of Late Archaic sites, but none were found to be of particular interest, therefore none were tested (Penman 1980:69-90).

Another study was conducted in the Town Creek watershed (Mistovich 1987:1) and included 4,257 acres and some 40 miles of channel area. As with Penman's study, this study was conducted primarily in Lee county, however it also included small parcels in Prentiss, Union, Pontotoc, and Monroe counties. Physiographic regions touched by the study included the Black Prairies and Tombigbee Hills. The survey revealed 35 previously unrecorded sites, 8 of which had Late Archaic components (Mistovich 1987:10-11). Two previously recorded Late Archaic sites were also noted, both of which were originally reported by Stubbs during a survey of Chickasaw sites in 1982 (Mistovich 1987:12). Both of these sites were located in the Tombigbee Hills physiographic region. One other Late Archaic site was noted, however it was located outside the project area and thus was not tested (Mistovich 1987:13). One of the recorded Late Archaic sites from the Black Prairie zone (Le-932) was a single component site. Unfortunately the site had only a light amount of material with no cultural deposits below the plowzone and thus revealed little useful archaeological information (Mistovich 1987:40-41). Site 22Le939 was listed as a multi component site with a Late Archaic episode which was potentially eligible for the National Register of Historic Places (Mistovich 1987:11). The site contained a number of Late Archaic projectile points including Wade, Pickwick, and Gary points (Mistovich 1987:49-50). Unfortunately no

intact stratified deposits have yet been revealed and it was not made clear by either the survey report or state site card as to why the site was considered eligible for the National Register of Historic Places.

As mentioned in the previous section Johnson's et al. (1984) survey crosscut several physiographic zones including areas of the Black Prairies. Only one Late Archaic site was found in this region however and it was not of note.

In 1987 Sparks attempted to utilize previously generated data in order to analyze settlement patterns across several physiographic zones. The data was taken from a 1979 survey of Clay county by MDAH staff archaeologists John Connaway and Sam Brookes (Sparks 1987:3). The physiographic regions included the Black Prairies, Pontotoc Ridge and Tombigbee "Bluffs" (Sparks 1987:5).

Unfortunately the data used by Sparks to generate his model was not adequate for that purpose. This data was primarily informant based with no sampling strategy employed. The primary goal of Brookes and Connaway (personal communication) was to generate as many potential National Register sites as possible. This approach is obviously not applicable for model building. Sparks himself acknowledges the biased nature of his data (Sparks 1987:31-32).

An important factor to keep in mind is that definite biases exist in the data base. The Brookes and Connaway survey was not intended to be a random sample of the county but rather a survey to locate National Register quality sites. Not only is the site sample biased, but the material collected from these sites is biased. Because of the goals of the survey, Brookes and Connaway solicited site locations from local collectors (Brookes personal communication) who directed them to sites from which surface collections had already been made. Collectors tend to collect the whole points and unusual artifacts and leave debitage, small sherds, and broken points. Even on sites visited by Brookes and Connaway, random surface collections were not taken, but representative samples of artifacts were collected (Brookes personal communication) (Sparks 1987:32).

Other problems identified by Sparks (1987:33) included multi-component sites and confusion in chronological markers. Although not specifically singled out, chronological confusion is especially prevalent between the Late Archaic and Gulf Formational stemmed points. Due to this difficulty in distinguishing between Gulf Formational and Late Archaic points, the absence of ceramics is often the determining factor when identifying the Late Archaic.

Sparks identified the Late Archaic for the Tombigbee Valley (including the Black Prairies) as dating to 3,000-2,000 B.C. based on "the presence of certain point types and the absence of Gulf Formational ceramics" (Sparks 1987:7). Point types identified with the Late Archaic included Pontchartrain, [Little] Bear Creek, and Flint Creek points. These types

were also identified with Gulf Formational times however (Sparks 1987:7).

The primary lithic raw material utilized is reported to be heat treated Tuscaloosa gravel, with little or no Fort Payne having been used (Sparks 1987:44-45). This shows a stark contrast with the use of Fort Payne during the Middle Archaic. The earliest ceramics to appear are fiber tempered Wheeler varieties (Sparks 1987:8). The use of "exotic" cultigens is also said to indicate the transition to Gulf Formational times (Sparks 1987:8).

Not surprisingly, Sparks' results concerning Late Archaic were less than enlightening.

"During the Late Archaic period the settlement patterns in Clay County were fairly consistent. Large sites were exclusively in the large bottoms, and sites were found in the uplands of the county" (Sparks 1987:38). Sparks' analysis also indicated a difference between the Late Archaic and Gulf Formational patterns (Sparks 1987:39) with more sites of a Late Archaic nature than expected showing up on the "thick soiled prairie, but during Gulf Formational period this value is less than expected" (Sparks 1987:39). Finally, it was found that settlement patterns were "sensitive to physiographic zones" within the county (Sparks 1987:49).

A search of the state site files for the Black Prairies revealed 180 sites with Late Archaic components in the region. Of the sites recorded, fifteen are listed as eligible for the National Register and two sites are on the Register. Twenty six other sites are listed as ineligible for the National Register. The bulk of the sites however, totaling some 137 in number, are of unknown eligibility. Apparently the increased archaeological attention has not led to a huge increase in site testing or evaluation.

The two sites listed on the National Register are both multi-component middens. They are the Crawford site (22Mo902) and the James Creek #1 site (22Lo617). The Crawford site is a .6m deep midden which contained Middle Archaic through Mississippian material including bone, lithic and ceramic remains. The site has had only limited testing conducted on it, with several bore holes having been dug to test site depth and some surface collecting. The site has been in active cultivation for years, thus plowing (and possibly pot hunting activity) may have since disturbed the site. If some areas do remain intact however, this site offers potentially important information concerning cultural chronology, settlement strategy and subsistence patterns during these prehistoric periods.

The James Creek #1 site is a midden sometimes known as the Broken Pumpkin Creek site. Because occupation of the site appears to have occurred primarily during the Gulf Formational and proceeding Woodland times, it is discussed in some detail by Morgan in the post-Archaic section of the State Plan. It is reported to had some Early and

Late Archaic components however. Unfortunately there is little available data on the site, especially concerning the pre-ceramic components. This site like the Crawford site may hold potential answers to questions concerning settlement, subsistence and how they changed through time in the Black Prairies. The potential is of course contingent on how badly damaged the site is due to agricultural and pot-hunting activity.

There are a number of other sites which offer potential for learning about the Late Archaic in the area. None have received intensive archaeological activity as of now, however perhaps future researchers might target some of them for testing. These sites are listed in table #@.

A review of the site files also revealed that while projectile points make up the vast majority of diagnostics for the Late Archaic period in the Black Prairies, few of these diagnostics are identified beyond being called "stemmed Archaic" points. Over 2/3 of the identified Late Archaic projectile points remained unclassified beyond this general classification. Of those identified, the majority were Gary or Flint Creek points (which of course can also be found on later period sites) (See figure !#). The sites in the Black Prairies like those in the Pontotoc Ridge and Flatwoods also displayed a large number of groundstone artifacts such as nutting stones.

The natural setting of the sites showed no clear preference, with most environments being exploited to some degree (see chart \*&). First terraces do have the most number of Late Archaic sites, although knolls on terraces, upland ridges, natural levees etc.. are all well represented.

As far as elevation being a major factor in site location, most sites are found between 170 and 280 feet, although this may simply reflect the overall surrounding elevation rather than preferences for site height (see chart \*&).

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