AN ARCHEOLOGICAL ASSESSMENT
OF THE
BIG THICKET NATIONAL PRESERVE

by

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INTRODUCTION

Members of the Texas A&M University Anthropology Laboratory, operating through the Texas A&M Research Foundation, conducted an archeological assessment of the Big Thicket National Preserve in southeast Texas. This project was made possible by a contract between the Texas A&M Research Foundation and the National Park Service. The work was carried out between December, 1974 and August, 1975.

The objectives of the assessment were 1) to locate and evaluate archeological sites within the proposed preserve boundaries; 2) to abstract all major published contributions pertinent to the archeology; and 3) to provide a report of the assessment together with a statement regarding the projected needs for future archeological studies.

The research began by reviewing the archeological records for southeast Texas in order to determine what the archeological resources were in general and what, if any, resources had been reported within or near the preserve limits. This research proved to be very informative on the general scale and showed that the area we were interested in was essentially unknown archeologically.

Due to National Park Service priorities, it was necessary to conduct field work between mid-December, 1974 and the end of January, 1975. In some respects, the scheduling of the field work during this time of year was unfortunate because adverse weather and logistic conditions severely hampered the field party as did the problem of acquiring access to certain lands on a short notice. Our findings at the end of January were disappointing despite the fact that more time had been spent surveying than we initially planned. After reviewing the field data and the easing of certain logistics problems, another survey trip was made in mid-March for the purpose of testing specific hypotheses regarding the occurrence of archeological sites. While the March survey did not result in recording many new sites, it did yield data which allowed us to better understand why sites were not numerous along the Neches River and its adjacent preserve units. As is often the case, the survey findings provided the unexpected;
in this instance, it was a paucity of archeological resources. Specific attention is devoted to examining why so few sites were found and possible explanations are presented.

The report is divided into five parts, Part I includes a description of the area; Part II synthesizes the culture history of southeast Texas in order to place the archeological resources in the Big Thicket National Preserve in a cultural-historical context. Part III describes the archeological resources while in Part IV a summary of the archeological assessment is given, together with recommendations regarding the projected needs for future archeological work in the Big Thicket National Preserve. Abstracts of major archeological contributions of southeast Texas are presented in Part V.

PART I: THE AREA

The Big Thicket National Preserve is composed of eight units and three waterway corridors located in six southeastern Texas counties (Fig. 1). These units are:

Beech Creek Unit: This 4856 acre unit is in Tyler County east of Woodville and 2.5 miles west of the Neches River.

Hickory Creek Savannah Unit: This small (668 acre) unit is in southwestern Tyler County a few miles north of the Hardin County line.

Turkey Creek Unit: 7800 acres in size, this section parallels Turkey Creek in southern Tyler and northern Hardin counties.

Loblolly Unit: This 550 acre area is in eastern Liberty County about 5 miles northeast of the community of Moss Hill.

Big Sandy Unit: Located in southeastern Polk County, this 14,300 acre unit spans the upper reaches of Big Sandy Creek. The Menard Creek corridor follows Menard Creek from the southern portion of the Big Sandy Unit to the Trinity River.

Neches Bottom and Jack Gore Baygall Unit: This 13,300 acre unit is located along the Neches River in Tyler, Hardin, and Jasper counties. The Neches River corridor connects the southern end of this unit to the Beaumont Unit. The same river corridor stretches from the northern end of the unit to Dam "B" reservoir.
Beaumont Unit: The 6218 acre Beaumont Unit is a generally swampy area lying at the confluence of the Neches River and Pine Island Bayou in southeastern Hardin County.

Lance Rosier Unit: The 25,000 acre Lance Rosier section is located along the upper reaches of Pine Island Bayou in Hardin County. It is connected to the Beaumont Unit by the Pine Island Bayou corridor.

Geology and Topography

The geological formations were deposited in successive stages, the oldest in the north and the youngest in the south. The formations, designated from north to south, are the Fleming, Willis, Bently, Montgomery, and Beaumont. The Fleming formation was deposited in the Miocene. Deposition of the other formations during the Pleistocene resulted in subsidence of the land mass in the direction of the Gulf of Mexico, causing parts of the Willis and Bently formations to rise. This resulted in the hills of the upper Thicket and the flat topography of the lower Thicket (Watson ms.).

Major streams which drain the area include the Trinity River and Neches River lying on a north-south axis along the western and eastern sides of the Thicket, respectively. The Village Creek watershed flows through the central portion of the Big Thicket in a southeasterly direction and includes the tributaries Big Sandy Creek, Village Creek, Turkey Creek and Beech Creek. Village Creek then joins the Neches River just north of the Beaumont Unit. Little Pine Island Bayou and Pine Island Bayou flow eastward into the Neches River at the southern end of the Beaumont Unit. Menard Creek drains from the southern end of the Big Sandy Unit into the Trinity River.

Soils of the Big Thicket National Preserve fall into three major groups. Those soils of Hardin, Liberty, and Jefferson Counties belong to the Segno-Splendora-Sorter group. They consist of nearly level, moderately well to poorly drained loamy soils with yellow and red mottled or gray subsoils. Northern Turkey Creek and the Big Sandy Unit belong to the Kaufman-Trinity-Tuscumbia group which consists of grayish, cracking, mostly calcareous clayey soils and reddish loamy
Figure 1. Unit Boundary Map of Big Thicket National Preserve
soils of the Red River Floodplain. The Beech Creek Unit belongs to the Bowie-Kirvin-Troup group of undulating to rolling soils with loamy or sandy surface layer and reddish mottled clayey or loamy subsoils (Godfrey, McKee, and Oakes, 1973).

Plant Associations of the Big Thicket

Watson (ms.) identifies seven distinct plant associations in the Big Thicket ecological area. They are: the arid-sandy land area, long-leaf pinelands, prairie, palmetto-hardwood flats, stream floodplain, acidbog-baygall, and beech-magnolia-loblolly pine associations.

The prairies were located chiefly between Pine Island Bayou and the Trinity River. The calcareous clay of the prairies was deposited by the Trinity in the Holocene. Grasses found in the prairies include *Tripsacum dactyloides* (eastern grama grass), *Sorghastrum avenaceum* (Indian grass), *Sporobolus asper* (tall dropseed), *Andropogon sp.* (bluestem), *Paspalum sp.*, *Panicum sp.*, *Uniola sp.*, and *Tridens sp.* *Phlox pilosa* (prairie phlox), *Gaillardia pulchella* (Indian blanket), *Callirhoe papaver* (winecup), *Cacalia sp.* (plantain), *Oxypolis sp.* (cowbane), and *Eryngium integrifolium* (egyngo) are dominant wild-flowers of Big Thicket prairies. Most prairie land has been either converted to rice fields or has been invaded by brush and small trees due to human fire control efforts (Watson ms.).

Lying on poorly drained areas of the calcareous clay Beaumont formation, the palmetto-hardwood flats are distinguished from the stream-floodplain association by a preponderance of *Sabal minor* (palmetto). A succession of swales and ridges provide alternating wet-dry condition for plant growth. *Persicaria sp.* (smartweed), *Pluchea foetida* (stinking fleabane), *Sesbania prunicea* (bladder pod), and *Eryngium hookeri* (Hooker's eryngo) inhabit the swaley areas. *Taxodium distichum* (bald cypress) and *Nyssa aquatica* (tupelo) grow along the streambanks. Loblolly pine grows on the ridges, and water tolerant trees such as *Quercus nigra* (water oak) and *Quercus phellos* (willow oak) grow in low areas (Watson ms.).
Most of the Pine Island Bayou watershed is composed of palmetto-hardwood flats. Parts of the Lance Rosier Unit and the Little Pine Island Bayou corridor have this plant association within their boundaries (Watson ms.; 1974).

The stream floodplain is divided into two categories, "upper bottoms," which lie on old alluvial terraces beyond the reach of the annual floods, and the "lower bottoms," newly cut floodplains which are inundated annually. Upper bottoms exhibit a sandy ridge-clay swale topography cut by oxbow lakes. Lower bottoms are composed of clay and silt with sandy levees by the streambanks. Numerous sloughs and oxbow lakes dot the lower bottoms, but their vegetation differs from that of oxbow lakes in the upper bottoms (Watson ms.).

The shrubbery of the lower bottoms includes *Cephalanthus occidentalis* (buttonbush) and *Planera aquatica* (water elm). *Saururus cernuus* (lizard's tail) and *Echinodorus cordifolius* (burhead) typify streambank herbaceous plants. Bald cypress and tupelo trees thrive along bodies of water. Dominant trees throughout the bottoms are *Liquidambar styraciflua* (sweet gum), *Quercus nigra* (water oak) and *Nyssa sylvatica* (black gum). Other trees include *Carpinus caroliniana* (American hornbeam), *Ostrya virginiana* (eastern hop hornbeam), *Styrax americana* (snowbell), *Acer rubium* (scarlet maple), and *Carya aquatica* (water hickory) (Watson ms.).

Vegetation in the upper bottoms is generally less water tolerant with *Quercus falcata* (red oak), *Quercus alba* (white oak), and *Carya* sps. (hickory) being the dominant trees. In the acidic lower swaley areas are found *Cyrilla racemiflora* (black titi), *Clethra alnifolia* (sweetpepper bush), ferns, sphagnum mosses, liverworts, and *Utricularia* sp., carnivorous aquatic bladderworts (Watson ms.).

Due to varying soil types and water salinities, the plant communities of this association differ from one stream to the next. The Beaumont Unit and lower Neches corridor are brackish bodies of water with salt tolerant plant life. Floodplains along the Trinity are less acidic than the Neches floodplains (Watson ms.).

A xerophytic vegetational assemblage occupies high sandy ridges which are most prevalent along the Willis Formation. Plants typical of
this area include Pinus palustris (longleaf pine), Quercus incana (bluejack oak), Quercus marilandica (blackjack oak), Carya texana (black hickory), Opuntia sp. (prickly-pear), and assorted species of succulents (Watson ms.; 1974).

In the northern half of the Big Thicket the long-leaf pine uplands grow in the better drained soils of the Bently Formation. Andropogon sp. (bluestem), Viola pedata (bird-foot violets), Eustylis purpurea (purple pleat-leaf), and Liatris squarrosa (blazing star) typify the herbaceous vegetation that grows between the pine breaks. Under the stands of Pinus palustris grow Cornus floridana (dogwood), Symplocos tinctoria (horse sugar), and Ilex vomitoria (yaupon) (Watson ms.). The Lance Rosier Unit has extensive longleaf pinelands within its boundaries.

The pine savannah wetlands are the southern counterpart to the southern savannahs. The plant communities are similar in the two areas, but includes Habenaria nivea (snowy orchid), Hibiscus leuco-phyllus (rose mallow), and in other areas the Sarracenia alata (pitcher plants). In the more acidic areas sphagnum moss, club moss, and Osmunda sp. ferns grow in proliferation. This association, rapidly dwindling in size due to human interference, is concentrated along the younger soils of the Montgomery formation (Watson ms.).

Highly acidic (pH 4.5) soil and water distinguish a baygall from stream floodplain areas. Sphagnum moss, club moss, and ferns grow in the sterile acid soil deepest in the bog. Along the periphery of bodies of water, Cephalanthus sp. (buttonbush), Cyrilla racemiflora (black titi), Ludwigia sp., Magnolia virginiana (sweet bay), Nyssa sylvatica (pond black gum), and Taxodium sp. (bald cypress) dominate the vegetational make-up. These bogs are in transition, filling with organic detritus and showing various degrees of succession. The Jack Gore Baygall Unit exemplifies this expression of an acidic plant community (Watson ms.).

The Beech-Magnolia-Loblolly Pine association is best represented in the rolling clay hills of Jasper, Tyler, and Newton counties, following bluff lines through the central Thicket south to the confluence of Village Creek and the Neches River. The dominant trees are
indicated by the name of the association, with such herbaceous plants as *Panax quinquefolium* (ginseng), and *Sanguinaria canadensis* (bloodroot) growing in the understory. Big Sandy Creek and the Beech Creek Units have large stands of this association. This plant association is the oldest and possibly the climax forest for the region (Watson ms.).

The Big Thicket is an ecotone between forest and savannah. It is an area of dynamic change and rapidly unfolding plant succession. Due to human interference, many plant associations are rapidly disappearing or evolving into different communities. In response to natural conditions, the area shows a south to north grade of subclimax to climax plant communities. The Big Thicket National Preserve will provide the student with an excellent example of plant succession and species diversity of impressive complexity.

Fauna of the Big Thicket

The mammals of the Big Thicket area include whitetailed deer (*Odocoileus virginianus mcilhennia*), Florida opossum (*Didelphis marsupialis pigra*), ninebanded armadillo (*Dasypus novemcinctus mexicanus*), Oklahoma cottontail (*Sylvilagus floridanus alacer*), Swamp rabbit (*Sylvilagus aquaticus aquaticus*), several species of squirrels of the family *Sciuridae*, the Texas beaver (*Castor canadensis texensis*), nutria (*Myocastor coypus*), Louisiana black bear (*Evarctos americanus luteolus*), cacomistle (*Bassariscus astutus flarus*), and the raccoon (*Procyou lotor fuscipes*). Other mammals include species of the families *Soricidae* (shrews), *Talpidae* (moles), *Vespertilionidae* (bats), *Cricetidae* (rats and mice), *Canidae* (foxes, wolves, and dogs), *Mustelidae* (skunks, martens, weasels, mink, otters, etc.) and *Felidae* (cats) (Bryan 1974).

The reptiles include the American alligator (*Alligator mississippiensis*), snapping turtle (*Chelydra serpentine*), Mississippi mud turtle (*Kinosternon subrubrum*), red-eared slider (*Chrysemys scripta*), pallid spiny softshell (*Trionyx spinifer*), northern fence lizard (*Sceloporus undulatus*), six-lined racerunner lizard (*Cremidophorus sexlineatus*),
ground skink (*Lyosoma laterale*), western slender glass lizard (*Ophisaurus attenuatus*), Texas rat snake (*Elaphe obsoleta*), Texas coral snake (*Micrurus fulvius*), southern copperhead (*Agkistrodon contortrix*), western cottonmouth (*Agkistrodon piscirorpus*), western pigmy rattlesnake (*Sistrurus miliarius*), and the canebrake rattlesnake (*Crotalus horridus*) (Kennedy 1974).

**PART II: ARCHEOLOGY OF THE BIG THICKET REGION**

Any discussion of the prehistoric cultures inhabiting the area now known as the "Big Thicket" must at this time be expanded to include the broader area referred to as southeast Texas (Fig. 2). Boundaries of this area start north of the Big Thicket and include Anderson, Cherokee, Nacogdoches, and San Augustine counties. They extend to the Sabine River to the east, to the Gulf Coastal Plain on the south, and to the Navasota River to the west. This extension is necessary for several reasons. The archeological work conducted in southeast Texas to date is at best sparse. The work performed within the narrow boundaries of the Big Thicket area is virtually nonexistent. To draw any generalizations of the past inhabitants of this smaller area without the benefit of the information obtained in studies of the much broader southeast Texas area would be impossible.

Aboriginal Americans were inhabiting the southeast Texas area at least 7000 years ago and probably at even an earlier date. Cultural stages of man are usually equated with and separated by changes of the levels of his technology. It is the artifacts of technology which are often preserved and present the archeologist material with which to describe the life style of a particular group at a certain time. In this sense the level of technology is directly interrelated with the social and political complexity of the society.

The major prehistoric archeological assemblages of southeast Texas are described chronologically. Discussions of the indigenous and intrusive Indian groups of the area are presented since their material remains may be archeologically represented.
Figure 2. Southeast Texas Archeological Study Areas
SOUTHEAST TEXAS ARCHEOLOGICAL STUDY AREAS

1. CONROE RESERVOIR
2. LIVINGSTON RESERVOIR
3. HAGERE BEND-LAKE SAM RAYBURN
4. TOLEDO BEND
5. WALLISVILLE
6. SABINE LAKE
7. GEORGE C. DAVIS SITE
8. ADDICKS RESERVOIR
9. JAMISON SITE
Prehistoric Assemblages

The prehistoric Indians of southeast Texas lived a basic lifestyle of foraging for the necessities of life. They hunted the larger mammals, fished and gathered wild fruits, vegetables and seeds. The use of the atlatl and spear, later the bow and arrow, and possibly the blowgun gave them an advantage over other predators, thus insuring their dominance and giving them a far wider range of exploitation than otherwise would have been possible.

Surface finds of stone artifacts indicate that man was in southeast Texas by at least 7000 years ago. The problem of determining when the area was first settled and what characterized the early adaptations to the environment is hampered by the nature of the archaeological work performed to date. Most of the information was gathered in the late 1950's and early 1960's during the course of archeological salvage in proposed reservoir areas such as Sam Rayburn, Toledo Bend, Livingston, Conroe, Addicks and Wallisville. During the course of these surveys the most prolific sites were recommended for testing and were later excavated.

The end result is that while certain chronological periods have been well sampled, those represented by so-called lesser sites were virtually untouched. These were usually the sites of earlier occupations of which we consequently know very little.

The prehistoric sequence is divided into two broad subdivisions; Lithic and Ceramic.

Lithic Period

The lithic period spans approximately 6000 years (6000 B.C. to 200 B.C.) and is subdivided into three stages: early, middle and late.

Early Lithic

This early period is distinguished by distinct styles of projectile points. In southeast Texas the projectile point that
characterizes the best represented early assemblage is San Patrice (Shafer 1974:3; Shafer and Stearns 1975). Projectile point forms other than San Patrice include Meserve, Lerma, and Plainview golondrina (McGuff and Cox 1973:21). Other tools found in this assemblage include various unifacially worked artifacts, such as small end scrapers, and bifacially chipped tools other than projectile points. The apparent usage of these artifacts seems to indicate the stone tool technology was oriented toward hunting. Certain tools such as those termed "gouges" may have been used in the exploitation of plant resources. However, the lack of reliable archeological data from this period prohibits speculation on their year-round subsistence.

This early tool assemblage seems, however, to have been widespread over the southeast Texas area. This is based on information gained on finds from the Wolfshead site in Lake Sam Rayburn (Duffield 1963), at Livingston (McClurkan 1968:88; James Boyce personal communication) and near Lake Conroe (Shafer 1968:79; Shafer and Stearns 1975).

Middle Lithic

This period should date from approximately 4000 B.C. to approximately 1000 B.C. in southeast Texas but research has not covered all parts of this time span. Some material recovered from some of the reservoir projects such as Addicks Dam basin (Wheat 1953), Lake Livingston (McClurkan 1968:Fig. 44), and Sam Rayburn (Tunnell 1961) may represent an assemblage belonging to the later part of the middle lithic period. This assemblage is characterized by expanding stem dart points (associated with the throwing stick and atlatl), various bifacial artifacts, hammerstones, choppers and pitted stones presumably used in seed processing. Parallel stem and expanding stem dart points from Lake Sam Rayburn may also belong in the middle lithic. Similar artifacts in northeast Texas are placed in the late middle lithic.

The lack of field research of sites of the middle lithic period has greatly hampered the building of a satisfactory cultural model. Information on site locations is available from only two areas, along the Trinity around Lake Livingston and in the Lake Conroe district.
The senior author recently interviewed several relic collectors in the Livingston-Big Sandy area and surveyed their artifact collections. The information gained from this study has allowed for a tentative definition of a middle lithic period based on certain diagnostic artifact styles. Admittedly this construct has little useful value in terms of interpreting the lifeways of the prehistoric populations, but it is useful in that archeologists can tentatively identify temporal assemblages which can then be studied for purposes of obtaining more substantive data on the adaptations.

The identification of the middle lithic period is on the basis of the occurrence of several distinctive dart point forms that repeatedly occur in collections from southeast Texas, particularly along the Trinity, Brazos, Neches and San Jacinto River drainages. Since several dart point forms are present, it is assumed that a substantial time block is represented. The dart point types include Wells, Morrill, Calf Creek, Yarborough, Bulverde-like, and, along the lower Neches and Sabine Rivers, Evans. There are other corner-notched and straight stem forms represented also, some of which have either serrated or bifacially beveled blades. Data on associated materials are almost non-existent; a few stone beads are known associated with one middle lithic period site near Lake Livingston (James Boyce personal communication) and biface tools, biface failures, utilized flakes and battered stones were found in an assemblage containing middle lithic dart point types from the Scotts Ridge Site at Lake Conroe (Shafer and Stearns 1975). Shafer (1968:79) hypothesized that since sites belonging to this period were not encountered in the Lake Conroe Basin, they must occur on higher terraces and other areas outside the reservoir limits. This was based on a few surface finds beyond the reservoir limits which is thought to belong to the middle lithic period. This hypothesis has been confirmed by the Scotts Ridge findings and the information gained from interviews in the Lake Livingston district.
Late Lithic

The archeological assemblages from late lithic sites are much better documented than those of the early and middle periods. The data used to discuss the late lithic were obtained from inland sites; preceramic coastal shell middens rarely yield lithic materials but when lithics are found, they equate well with the inland artifact forms. The late lithic sites are generally located on more recent geomorphic features, many of which also tend to be within the confines of the survey areas of the various reservoir projects in southeast Texas. As a result they have been excavated and analyzed.

The late lithic period has a duration from about 1000 B.C. to about 200 B.C. in this area, at which time the presence of ceramics terminates the Lithic Period and marks the beginning of the Ceramic Period.

The peoples of the late lithic period were still living an Archaic hunting and gathering lifeway. The only specialized tools are projectile points, although the styles are changing. Late lithic points are characterized by Gary, Kent, and Palmillas types with Louisiana types, Evans and Pontchartrain appearing in collections from the Sabine River. Jelks hypothesizes that curious pebble bifaces from Lake Rayburn, termed "Perkin Pikes" (Jelks 1965), may eventually prove to be designated for specific uses, thereby adding another category of specialized tools for this period. Other stone tools of this time include various biface forms, possibly the results of failures of manufacture of projectile points. Unifacial tools are rare. Pitted stones which were perhaps used to break hard cased seeds and chert pebbles occur in sites throughout the area.

Sites appear with regularity on the sandy knolls and other higher areas along the major rivers and their tributaries in southeast Texas. The abundance of these sites may be accounted for in various ways. The high frequency of sites may represent a substantial population increase; the population became much more mobile; or our estimated time span of the late lithic period is too short.
Data outside of that derived from lithic material is scarce on these sites. Charred walnut shells and bone fragments presumably of deer, soft shell turtle, beaver, and possibly bison were found in excavations in the Lake Conroe basin (Shafer 1974:8).

The late lithic period then does not represent much change from the earlier lithic stages. Even though slight changes in the artifacts have transpired, the basic lifeway remains seemingly unchanged. The major change is in the higher frequency of sites which indicates perhaps a positive adaptive efficiency of the technology to the southeast Texas environments. Burned rocks are common on these sites and become scarcer nearer the coast. Apparently clay balls are used as rock substitutes in the coastal areas. Presumably the rocks and clay balls were used for heat retaining purposes in cooking (Webb 1968:308). "Clay nodules" were found in association with hearths at two sites excavated in Montgomery County (Shafer 1968:75). Ambler (1973:101) however, suggests the clay balls may be the result of accidental firing, and McClurkan (1967:56) states that they may be natural pieces of clay affected by the high acid content of the soil.

Experiments were undertaken using clay from the Price Daniel site where such balls were found (Malone 1969:32). It was discovered that specimens resembling the artifacts could not be reproduced by accidental firing. Manufactured (formed and fired) clay balls did resemble closely those found. Those specimens were then used satisfactorily in quickly bringing water to a boil (Malone 1969:33). The use of clay balls in late lithic sites could be the beginning of the utilization of clay by the Indians of southeast Texas. The potential importance of these resources for dating sites and features should be emphasized. Similar objects have been successfully dated by thermoluminescence in Louisiana (Jon L. Gibson personal communication).

It is suggested that the social groups during this time were small, based on the size of campsites yielding late lithic materials and on the lack of specialization indicated in the tool inventory (Shafer 1974:9).
Ceramic Period

The Ceramic Period has been divided into two temporal units, early and late, based on changes in the technology and style.

Early Ceramic

The early ceramic period begins about 100 B.C. (Ambler 1973:145) and continues to about A.D. 900 (Shafer 1974:9). The introduction of pottery evidently did not significantly alter the lifeway of the prehistoric Indian groups of southeast Texas. In fact, the archeological record indicates that very little cultural change occurred. The data obtained from the reservoir surveys show that the same type of geomorphic features occupied during the preceding period were again favored for habitation. In the inland areas the sites are small and the lithic industry remained virtually the same. Along the coast, shell middens continued to accumulate and served as habitation sites (Dillehay 1975:84-86). There seems to be no indication of any basic change in subsistence activities in any area of southeast Texas. The major change is that sandy-paste (or contorted paste without sand) vessels were being produced and used locally.

Ceramic sequences have been established in two areas of southeast Texas, the Trinity delta (northern Galveston Bay) and around Sabine Lake. The Trinity delta sequence has been securely dated on the basis of a stratified sequence of radiocarbon dates. The Sabine Lake chronology was tentatively established by seriation of surface collections and cross-dated using the Trinity delta and Lower Mississippi Valley chronologies (Aten and Bollich 1969).

While the earliest pottery in the two areas is technologically related to the Tchefuncte ceramic tradition of the Lower Mississippi Valley, the dominant ceramics are clearly the product of an indigenous ceramic tradition probably born out of the Tchefuncte but following its own development separate from that of the Lower Mississippi Valley. This fact has made correlation of the two assemblages (southeast Texas and Lower Mississippi Valley) difficult due, in part,
to the predominance of plain ware in the southeast Texas assemblages. Furthermore, while the ceramic assemblages from Sabine Lake and Trinity delta appear to be similar, significant technological differences do separate them (Aten and Bollich 1969).

Early pottery of the various areas of the southeast Texas region was basically the same, the most abundant type being plain deep utilitarian bowls. Decorated vessels are rare and are predominantly found along the coastal regions of the area.

By the middle part of the early ceramic period (A.D. 300-500) archeological data more firmly support the idea of outside influences in the area. This is expressed in the inland area by the appearance of some Hopewellian related cultural traits (McClurkan, et al. 1966; Jensen 1968a; Shafer 1975). Artifacts and practices unrelated to the functional needs of a basic hunting and gathering society were present but limited. Burial mounds containing exotic grave goods of foreign material have been excavated at Toledo Bend (McClurkan, et al. 1966; Jensen 1968b) and at Lake Sam Rayburn (Jelks 1965). At both sites the indigenous secular artifact assemblage of the area was also present. This included dart point types Kent, Gary, and Palmillas, unstemmed bifaces and plain sandy-paste pottery (Shafer 1974:13). Similar mounds are known along the middle Neches drainage.

Although the groups of southeast Texas probably came under the Hopewellian sphere of influence, their technological level does not imply that a major change in lifeway occurred. Excavations have revealed no evidence of permanent settlements which, if found, might support the idea that an early stage of horticulture was present. The lithic technology does not denote a change in subsistence activities. Any influence exerted by the radiating Hopewellian traditions seems to have been brief and did not change the basic structure of resource procurement activities of the native population.

The task of mound building requires an organized work force; a cultural dimension usually not associated with a people of a foraging oriented subsistence. However, this phenomenon could have been possible as a result of a brief but powerful influence of an outside culture and may have expressed itself in a cargo cult like atmosphere.
Basically the early ceramic period indicates no great subsistence change from the late lithic period.

Late Ceramic Period

The appearance of several material traits in the sequence about A.D. 900 suggests a widening interaction between populations in east Texas. For instance, the lithic industry shows a dramatic change in basic reduction technology due to the shift to much smaller tools; the bow and arrow replaced the atlatl thrown spear, and a diversification in ceramics indicates interaction between populations along the coast, inland groups and the horticultural Caddo in central east Texas. McClurkan (1968:109) suggested that the Caddo may have introduced the bow and arrow to southeast Texas.

While the sandy-paste pottery continues to predominate south of the Caddoan area, both plain and decorated pottery similar to, and sometimes identifiable as, Caddoan pottery was found at both Lake Livingston and Lake Conroe; more so at Lake Livingston because of the proximity to the Caddoan area.

Prehistoric and Historic Caddoan settlements are known along the middle Neches (Newell and Krieger 1949; Suhm, et al. 1954:184-189, 219-221) and the Lake Sam Rayburn basin (Jelks 1965), and prehistoric Caddoan settlements were excavated in the Toledo Bend Reservoir (McClurkan, et al. 1966; Woodall 1969). These reservoir localities lie within the Caddoan area.

The earliest identifiable Caddoan occupation in central east Texas is at the George C. Davis Site in Cherokee County (Newell and Krieger 1949; Story 1972). The initial occupation dates probably during the 8th century A.D. and continued until about A.D. 1250-1300 (Story 1972). There seems to be an abandonment of at least portions of central east Texas by the Caddo for a while but by A.D. 1400 the Middle Neches and Angelina River drainages and their larger tributaries are dotted with small family-sized hamlets of horticulture groups ancestral to the Hasinai and Hais Caddo; continuity into historic times is demonstrable as European trade goods have been found in burials along the Neches
(Suhm, et al. 1954:219-221) and Angelina Rivers (Jelks 1965). Although the Caddoan settlements were small and dispersed, they were politically united into a confederacy (Newcomb 1961:280; Griffith 1954:58).

The settlement pattern south of the Caddoan area remained basically the same as seen in the previous two periods although there may be a hint of permanent settlements and larger sites in the Lake Conroe area; at site 41 MQ 6, for instance, the remains of a possible house pattern were found and that particular site covers several acres (Shafer 1968:20-39).

The temporal span of the late ceramic period probably extends into historic times and the area south of the Caddoan area, including the Lake Livingston and Lake Conroe basins. The greater portion of southeast Texas was probably occupied by ancestors of the Atakapan speaking groups who were indigenous to the area (McClurkan 1968:109, 110). If the archeological remains from the late ceramic period recovered from the above mentioned reservoir areas were left by these groups, then we can infer that horticulture was probably practiced, since the Bidai were known to have cultivated corn (Newcomb 1961:323).

The occurrence of Caddoan and Galveston Bay ceramics in the Livingston and Conroe areas could be due to extensive interaction between the ancestral inland Atakapans and the Caddo and Coastal Atakapan respectively, through trade and possibly exchange of women. The interaction between the late ceramic populations in the Lake Livingston area with Caddoan groups seems to last throughout the central east Texas Caddoan sequence since early and late Caddoan pottery was recovered at Lake Livingston and the interaction with the coastal groups was equally long-standing and intensive.

There is no data on the size of settlements, burial practices, or social organization for the inland non-Caddoan populations of the late ceramic period. It has been postulated that permanent settlements larger in size than those of previous periods occurred in the Lake Conroe area but site locations are generally much the same for the most part as those of the earlier periods.
In sum, the archeological record indicates intensive interaction between populations along the coast, inland groups and the horticultural Caddo which provided a vehicle for the exchange of ideas and material goods. Little is known of the sociocultural traits of the late ceramic period because one set of items is noticeably absent in the archeological record; that is, artifacts indicative of social status. This is in contrast to the early Caddoan settlements to the north (cf. Shafer 1973). The absence of socially distinctive artifacts could indicate that these groups were basically egalitarian loosely structured bands. This sociocultural model seems to fit quite well the structure of the indigenous Indian groups of southeast Texas.

Indigenous Indians

Principal indigenous Indian groups in southeast Texas south of the Caddo were the Bidai, Deadose, Patiri, and Akokisa (Newcomb 1961: 316). These groups were closely related and spoke the Atakapan language. There is strong linguistic evidence that the Atakapan speakers formed a separate cultural entity for at least 4000 years (McClurkan 1968:109). Interaction with the Hasinai Caddo was long enough for the Bidai to become fluent speakers of Caddo although it is quite clear that this was not their native language. In brief, linguistic evidence is strong enough to suggest that the Atakapan speakers were indeed the historic remnants of the prehistoric groups responsible for the archeological materials discussed in the late ceramic period (Shafer 1975). There are certain elements seen in the ethnographic accounts that have not been supported by archeological work to be sure, such as horticulture, but the absence of horticultural evidence in archeological sites is probably due to either the lack of intensive work in the area or to a preservation bias.

Ethnographic information on the Atakapan speakers is regretfully scarce; for instance, about all we know of the Deadose and Patiri are their names and that they spoke the same language as the Bidai and Akokisa. A little more information is known about the latter two groups. The Bidai grew corn, hunted deer, bear, and various small
animals and made occasional forays into the prairies to the west to
hunt bison. Seeds, acorns, and rhizomes of the water chinquipin were
among the plant resources exploited (Newcomb 1961:323, 324).

The subsistence and material culture must have differed considerably among the Atakapan speakers due to variations in environmental
resources in southeast Texas. The coastal groups made extensive use of
the lagoonal and marsh resources such as fishes, shell fish, deer, bear,
alligators, and bird eggs. They used the dugout canoe extensively
but there is no evidence that they practiced horticulture like the
Bidai. The Akokisa exploitations patterns varied seasonally; they
used the resources along the coast during the spring and summer and
moved inland into the forest during the fall and winter (Newcomb 1961:
321). This pattern has recently been archeologically confirmed for
late prehistoric and early historic times (Dillehay 1975:99-102).

Descriptions of the material culture of the inland Atakapan
groups are not detailed enough to identify archeologically obtained
material items as belonging to any specific group. The bow and arrow
was the principal hunting weapon although the blowgun was also pro-
bably used. There is very little information on structures; bison hide
covered huts were used by the Bidai in the winter (Sjoberg 1951). The
Bidai and Akokisa made pottery but the descriptions of the technology
are lacking. Trade was carried on with the French and Spanish and
the Bidai acquired horses by the beginning of the 18th century; glass
trade beads have been found in several shell midden sites near the
mouth of the Trinity River (Shafer 1966; Gilmore 1974:personal commu-
nication). None of the European introduced materials has been found
in inland sites south of the Caddoan area with the possible exception
of a horse bone at site 41 MQ 6 in the Lake Conroe basin (Shafer 1968:
77).

Both direct and indirect interaction with Europeans had devastating
effects on the southeast Texas indigenous Indian population. The
estimated Bidai population in 1690 was about 500 (Ewers 1973); by 1890
they were extinct. Other Atakapan speaking groups such as the Deadose
and Patiri were apparently so hard hit that they became extinct even
earlier. Survivors of the coastal Akokisa may have drifted into
Louisiana but they too were markedly reduced in numbers. The main cause of population reduction were European diseases, especially small-pox, cholera, and measles. These epidemics ended indigenous occupation in the southeast Texas area.

Intrusive Indians

The reduction of the indigenous Atakapan and Caddoan populations provided a vacancy in southeast Texas which was filled for a time by remnant bands of Southeastern U.S. Indian groups, including the Alabama and Koasati (Coushatta).

The original homeland of the Alabama was in the state that now bears their name. They were members of the Upper Creek nation and spoke a Muskogean language closely related to that of the Choctaw, Chickasaw and Koasati. They may have been encountered by De Soto's men in 1541 in what is now Mississippi, but by the early part of the 18th century they were located in central Alabama along the Alabama River. European pressure, Indian wars, and internal dissension fragmented the Alabama tribe by the latter part of the same century. Many were attracted to the west by the hope of virgin hunting lands, French protection and trade in Louisiana. Alabama groups were reported in Louisiana as early as 1763. One small group moved to the Red River near a Caddo settlement and was encountered there in 1806. Later some moved to the Sabine and eventually into southeast Texas, establishing settlements near Chester and Big Sandy in Polk and Tyler counties (Swanton 1922:191-201; 1946:86-88).

The Alabama were horticulturalists throughout their known history. Although their initial settlements in Texas were closely patterned after their old tradition, that is, gardening supplemented by hunting and gathering, their adaptation in southeast Texas soon followed that of the European more than the Indian. The indigenous crafts were quickly replaced by European-made metal and ceramic material objects as they traded with and labored for the white settlers. Their language, social and religious beliefs changed more slowly despite efforts of Protestant missionaries to Christianize them.
One partially excavated historic Indian cemetery site near Livingston dating in the mid-19th century may belong to an ancient Alabama settlement (Hsu 1969). If so, there were obvious attempts to hold on to some of their religious practices. The graves were not unlike those of other Creek tribes in Southeastern U.S. in that numerous material objects were interred with the individuals. The interesting thing is that native made objects were few; vessels, for example, were European-made stoneware plates and cups, as well as glass. Scissors, buttons, a thimble, silver conchas and glass trade beads were among the other items recovered from the graves (Hsu 1969).

Another cemetery area was revealed by shoreline erosion at Lake Livingston. This cemetery contained at least one burial associated with two native made ceramic vessels, silver conchas, silver bow guards, and glass beads, among other things (James Boyce, personal communication). The material objects are clearly southeastern Indian and this find may relate directly to early Alabama or Koasati settlements. It is interesting to note the presence of native made ceramics instead of European stoneware.

The Koasati were also members of the upper Creek nation and closely related to the Alabama. They were encountered by De Soto and are mentioned in his narratives. The Koasati were located in northern Alabama initially, but, forced by the same pressures that affected the Alabama, they too fragmented and some small groups drifted westward across the Mississippi. They occupied several different places in Louisiana during the late 18th century; some lived for a while in the Opelousas district and then went to the Sabine, Neches and Trinity rivers in Texas. Those who moved into Texas suffered seriously from diseases; a few married and settled with the Alabama in Polk County but many reunited with relatives living in what are now Allen and Jefferson Parishes in Louisiana (Swanton 1946:145, 146). Descendants who married Alabama still reside in or near the Alabama Coushatta Reservation.

The Alabama and Koasati were the only Indian groups outside the Tigua of El Paso allowed to remain in Texas. The Alabama and the Koasati were granted land along the Trinity River in the early 1800's but they were forced to give this up due to expansion of white
settlements and influence. However, the Alabama were granted 1280 acres of land in Polk County in 1854; no grants were made for the Koasati. Until 1968, the Alabama had the only Indian reservation in Texas.

PART III: THE ARCHEOLOGICAL RESOURCES

The Big Thicket data collecting project began with a survey of the existing archeological records and literature. This phase of data collection was started prior to the field reconnaissance. A search of the archeological records at the Texas Archeological Research Laboratory in Austin was conducted to locate recorded sites, obtain site descriptions, and to view artifacts from sites within or near the proposed boundaries of the Big Thicket Preserve.

The Field Reconnaissance

The survey work was conducted in two stages. From December 1974 through January 1975 a three-member field party performed field investigations in the Big Thicket. In March 1975 a five-member team investigated selected areas of the Neches River corridor, the Big Sandy Unit and the Turkey Creek Unit. During this period all of the Big Thicket tracts were investigated with the exception of the Loblolly Unit and the Menard Creek corridor.

Before a unit was surveyed an effort was made to find and contact the major landowners to gain permission to survey, secure any needed gate keys, contact hunting clubs with leases, and gather other information which would aid in the survey. This contact work was time-consuming but necessary.

When tracts were cleared to survey, the researchers would walk the area searching for evidence of aboriginal occupation. Because of dense vegetation, one key to recognizing sites was by locating prominent topographic features. These were areas meeting certain criteria such as availability of a permanent or semi-permanent water supply and high enough to escape major seasonal flooding. The ideal type of terrain would be ridges at the confluence of creeks or along river
Figure 3. Location of Archeological Sites
Figure 4. A, Researchers floating the Neches River corridor; B, View of the bank, Neches River corridor
bluffs and terraces. The inhabitants of such areas could be near but above water and able to exploit the waterways for both food and transportation.

These areas were sought by traversing the drainages on foot with the aid of USGS Quadrangle maps. Most of the quadrangles available for the area are of the 30 minute series and proved to be too general for work involving the type of accuracy required to survey in dense forests and bottoms.

As promising areas were found, the forest floor leaf cover was scraped away in selected spots; the exposed soil was then troweled in hopes of discovering evidence of aboriginal habitation or usage. The root systems of fallen trees, rodent hole backdirt piles, eroded areas, and any other soil disturbances such as dirt road cuts were also inspected.

During the Neches River float an attempt was made to identify sites from cultural remains eroding out of the banks and to investigate areas of higher elevation along the river. Canoes were used to alleviate the basic transportation problem encountered in the Big Thicket, thereby allowing approximately 30 river miles to be surveyed.

When aboriginal sites were found, they were located on the quad maps, photographed, described, assigned a temporary field number which was later replaced by permanent trinomial numbers registered with the Texas Archeological Research Laboratory. All field data, including occasional artifact collections, were then transferred to Texas A&M University to be processed analyzed and stored at the Anthropology Laboratory.

At times, bad weather would prohibit field work. This provided an opportunity to contact local amateur archeologists, view their collections and gain information on unrecorded sites.

Archeological Sites

Twelve archeological sites were found within or near the boundaries of the Big Thicket National Preserve. These are described below.
Figure 5. A, View of Hicks Road in the Beech Creek Unit; B, Jack Gore Baygall and Neches Bottoms Unit, 41 HN 6.
41 HN 1  De Gave Site. A village site east of Little Pine Island Bayou. Located on a sand ridge paralleling the bayou. Reported to be Alabama-Coushatti campsite. Arnold Survey, 1940.

41 HN 5  Two aboriginal fire hearths found in road bank on a sand ridge between Jack Gore Baygall and the Neches River. Bone and burned clay found in the hearths. TAMU Big Thicket Survey, 1974-75.

41 HN 6  Site on the south bank of Maple Slough - a sand ridge. Sherds and lithic material found in a disturbed area. TAMU Big Thicket Survey, 1974-75.

41 HN 7  A series (4) of water-filled holes averaging 20-25 feet in diameter with a mound of old backdirt around the outside making a slight hump. Two of the holes are interconnected by a small 4-foot channel. The bank was troweled and no cultural debris (other than late historic) was found. These holes may be aboriginal clay procurement areas or they may be mud procurement areas for use in making mud chimneys or caulking chinks in logs of houses. TAMU Big Thicket Survey, 1974-75.
Figure 6. A, Beech Creek Unit, 41 TL 8; B, View of the Terrain, Jack Gore Baygall and Neches Bottoms Unit.
41 JF 30 Little Pine Island Bayou Site. A sand ridge along the bayou. Sherds, flakes and one Perdiz point found eroding from an old road. Shallow artifact deposit. Charles Bollich, 1967.

41 JP 8 Evadale Site. A sandy ridge which once projected into the Neches Bottoms. Most of the site removed by the Highway Department for fill. Sherds, gar scales, burned clay and charcoal found. TAMU Big Thicket Survey, 1974-75 and Charles Bollich, 1967.


41 JP 62 Mill Creek Site. A site along an old terrace east of the Neches River on the north side of Highway 1013. The site was partially destroyed by earth removal during the construction of the highway. Artifacts were found in the eroding areas left after this earth removal. The site is outside the Neches River Corridor but is important to the archeological assessment of the area. TAMU Big Thicket Survey, 1974-75.
Figure 7. A, Neches River Corridor and the Evadale Site, 41 JP 8; B, View of terrain in the Beech Creek Unit.
41 JP 63 This is a questionable fire-hearth in the south bank side of the junction of Walnut Creek and Neches River. A dark stain and some charcoal were all that was observed. The ridge above the bank was surveyed and showed no cultural material. TAMU Big Thicket Survey, 1974-75.

41 JP 64 An area that has been badly disturbed by modern excavation for sand. The site is on the west bank of the Neches River just south of Evadale. One hearth was found in a bank wall. Shell covers the site but some dredging has occurred. Flakes were collected but no potsherds were found. TAMU Big Thicket Survey, 1974-75.

41 OR 66 Wadell Lake Site. A small rise near Wadell Lake. The site is covered by a thick blanket of leaf mold and pine needles. No collection was made but one was obtained from Charles Bollich. The site is outside the Beaumont Unit. TAMU Big Thicket Survey, 1974-75 and Charles Bollich, 1967.
Figure 8. A, Profiling roadcut at 41 HN 5 in the Jack Gore Baygall Unit; B, Exposed aboriginal fire hearth in roadcut, 41 HN 5.
43 TL 8  A sandy ridge slope on the east bank of Beech Creek. Lithic material and charcoal flakes present. TAMU Big Thicket Survey, 1974-75.

Units Surveyed

This section is a statement of the area covered during the surveys of the proposed Big Thicket National Preserve. For purposes of description the preserve lands are broken down into units and corridors.

**Beech Creek Unit:** The majority of land contained in this unit was not inundated and consequently a complete survey was conducted.

**Jack Gore Baygall Unit:** High water and landowner problems hampered the survey in this unit. Approximately two thirds of the unit was surveyed.

**Neches Bottoms Unit:** This area was mainly inundated during all the fieldwork. Very little of the land area was surveyed.

**Beaumont Unit:** An inundated landscape and landowner problems prevented work in any part of this unit lying west of the Neches River during the initial (December 1974-January 1975) survey. The later survey (March 1975) covered portions of this area. The eastern portion was completely surveyed during the initial survey.

**Turkey Creek Unit:** Landowners and a swollen creek limited the area which could be surveyed. However, a large portion of the southern half of the unit was investigated.

**Hickory Creek Savannah Unit:** The main portion of this unit was surveyed.

**Big Sandy Unit:** Exposed ground and eroded areas were investigated throughout this unit.

**Loblolly Unit:** No field work was performed within this unit.

**Neches River Corridor:** Approximately 1/2 to 1/3 of this unit was investigated by canoe. The eastern bank of the south 1/2 of the corridor was surveyed during the initial survey.
Figure 9. A & B, Turkey Creek Unit, view of water filled holes (41 HN 7)
Little Pine Island Bayou Corridor: Parts of the bayou accessible by land were surveyed. The eastern portion of the bayou was investigated by canoe.

Significance of Sites

All sites yielding cultural resources, meager though they are, are deemed significant to the problem addressed in this study because they represent traces of prehistoric human activity. We cannot, however, rank the sites on a scale of significance for other archeological research problems without some prior knowledge of those problems. The site sample is too small and site information too poor to recommend sites for a chronological study. Site 41 HN 1, reported by Arnold to be that of an Alabama-Coushatta settlement, seems to be a promising resource for the study of Creek migration into southeast Texas although our survey party was unable to confirm Arnold's report. Site 41 JF 30 promises to yield important new information on Late Ceramic Period adaptations in the Beaumont Unit-Little Pine Island Bayou area. While both of these problems can contribute to our knowledge of southeastern Texas prehistory, we are still faced with building workable models of the prehistoric cultural systems which adapted to this environment.

Description of the Artifacts

A brief description follows of the artifacts collected either by the Texas A&M field party or by Dr. Charles Bollich from the various sites in the Preserve. Established type names are used when appropriate. Projectile point typology follows that of Suhm and Jelks (1962). Debitage typology follows Shafer (1973). Ceramic typology follows that of Ambler (1973) and Aten and Bollich (1969). The artifacts are described by site.
41 JP 8 Lithics

Biface fragment (2 specimens)

One of the artifacts is a proximal end of a dart point. It appears to be a manufacturing failure caused by a snap fracture. The other specimen is a distal section of a biface made of silicified wood.

Flakes (2 specimens)

One of these is a hard hammer secondary cortex flake; the other is a flake fragment.

41 JP 8 Ceramics

The total ceramic sample from 41 JP 8 is 17 sherds; 4 are grog tempered and 13 are sandy paste. There is one rim sherd in the sample and it is rounded. All of the sherds are plain.

41 JP 61 Lithics

Biface fragment (1 specimen)

This is either the proximal or distal end of a biface. The material is silicified wood.

Flakes (13 specimens)

These items are classified as follows: hard hammer, primary cortex (1); hard hammer, secondary cortex (4); hard hammer, interior (2); soft hammer, secondary cortex (1); flake fragments (5).
41 JP 61 Ceramics

The ceramic sample is composed of 41 sherds, of which only two are decorated. Twenty-four have a sandy paste; the remainder are grog tempered. The two decorated sherds are incised. One is grog tempered and the other is sandy paste. The latter sherd exhibits two parallel incised lines. The grog tempered sherd has three horizontal incised lines that appear immediately below the rim. A single rounded rim sherd is also in the collection.

The ceramic sample also includes 10 sherds of European manufacture; these are either earthenware or stoneware sherds; one is a ceramic doll's head.

41 JP 62 Lithics

Dart points (1 specimen; Fig. 9)

This artifact is classified as a Kent dart point. The stem is slightly contracting and the base is rounded. The shoulders are slight; lateral edges are slightly convex.

Flakes (11 specimens)

The flakes are classified as follows: hard hammer, secondary cortex (2); soft hammer, interior (2); flake fragments (7).

41 JP 64 Lithics

Flakes (2 specimens)

The flakes are as follows: hard hammer, secondary cortex (1); flake fragments (1).
Figure 10. Potsherds. A, B, jar sherds from 41 JF 30; C, rim sherd of Tchefuncte-like ware from 41 OR 34
41 HN 5 Ceramics

The total collection from 41 HN 5 consists of 3 very small sandy paste sherds, and one Historic sherd.

41 HN 6 Lithics

Flakes (1 specimen)

The flake is a hard hammer, secondary cortex specimen.

41 HN 6 Ceramics

The collection from 41 HN 6 numbers 2 sherds. Both are plain sandy paste body sherds.

41 OR 34 Lithics

Projectile points (5 specimens). The projectile points are described as follows:

**Gary** (2 specimens; Fig. 9): These two specimens have triangular blades with convex edges. The shoulders are small with a small barb on the more prominent shoulder. Both of the stems contract, one to a straight base, the other to a rounded base.

**Kent** (2 specimens; Fig. 9): The blades are roughly asymmetrically triangular with straight edges. They both have weak shoulders, one with 2 barbs, the other with one. The stems are slightly expanded and the bases are roughly straight.

Leaf shaped (1 specimen; Fig. 9): This point is leaf shaped and has a thick (1.1 m), diamond shaped cross-section. The base is thinned and rounded.
Figure 11. Chipped stone artifacts. A, B, Gary dart points; C, D, F, Kent dart points; E, leaf shaped point; G, K, drills; H, uniface; I, J, Perdiz arrow points.

Provenience: A-E, G, H, K, 41 OR 34; I, J, 41 JF 30; F, 41 JP 62
Other Artifacts.

Drill (2 specimens; Fig. 9): Both are bifacially flaked on the proximal end to a point. One of the specimens is square sided distally; the other is rounded distally. The lateral edges on both specimens show abrasion in a perpendicular direction to the edges.

Uniface (1 specimen; Fig. 9): This specimen is a pebble which has one large flake removed from one side. On the opposite face several retouch flakes have been removed about mid-way up each lateral edge.

Biface fragments (2 specimens): These are both distal fragments of bifaces. One appears to have been fractured by impact.

Cores (2 specimens): One is a hard hammer percussion core, the other is a bipolar core.

Flakes (27 specimens): The flakes are grouped as follows: hard hammer, interior (4); hard hammer, secondary cortex (1); soft hammer, interior (3); soft hammer, secondary cortex (1); flake fragments (8).

41 OR 34 Ceramics

The total ceramic collection of 41 OR 34 numbers 253 sherds. There are 127 grog tempered sherds and 126 sandy paste sherds. Sixteen rim sherds are present in the collection along with 1 basal sherd and 3 decorated sherds. In general appearance the sherds are thick and have a gritty or sometimes chalky texture (Fig. 8).

Of the 16 rim sherds, 9 are rounded, 5 are flattened and 2 have a ridge manufactured by adding a coil to the rim on the interior of the pot. The one basal sherd is of a flat rounded base. The three decorated sherds are either incised (2) or punctated (1). The punctated sherd is a small piece of grog tempered body sherd. The two incised sherds are of sandy paste and are small rim sherds.
Some of the pottery is Tchefuncte-like. It tends to break along coil junctures and usually is tempered with grog, although some pieces have no grog tempering. The surfaces are soft and chalky and the core tends to be contorted. The clay is poorly fired and is easily broken. The rim sherds are rounded and are from deep pots with nearly vertical rims. The interiors are smoothed, but still lumpy. The surfaces are usually crackled. At least one piece is similar to Ambler's (1974:81-86) Lost River Plain, a Tchefuncte variant. The rest of the sherds were not able to be identified as to type.

There are also 30 historic ceramic sherds of European manufacture. These include glazed earthenware and stoneware.

41 OR 66 Lithics

Flakes (14 specimens)

These flakes are classified as follows: hard hammer, secondary cortex (1); hard hammer, interior (4); flake fragments (9).

41 OR 66 Ceramics

The collection from 41 OR 66 numbers 16 sherds. Five of the sherds are grog tempered and 11 are sandy paste sherds. There are no rim sherds and none of the sherds are decorated.

41 JF 30 Lithics

Arrow Point

Perdiz (2 specimens; Fig. 9): The specimens have a triangular blade with straight serrated edges. The shoulders on one are well barbed; the other has slightly barbed shoulders. The stem is contracted to a point at the base on the smaller of the two. The other has parallel stem edges and a rounded base.
Flakes (103 specimens)

These flakes are classified as follows: hard hammer, primary cortex (2); hard hammer, secondary cortex (17); hard hammer, interior (11); soft hammer, secondary cortex (3); soft hammer, interior (6); flake fragments (64).

Biface Fragment (1 specimen)

This is the proximal end to a pointed biface.

Gun Flint (1 specimen)

The striking end is very battered, as is the distal end.

41 JF 30 Ceramics

The ceramic collection from 41 JF 30 totals 201 sherds, of which 67 sherds can be pieced together to represent 9 partially reconstructed vessels. There are 123 grog tempered sherds, 69 sandy paste sherds, 7 bone tempered sherds and 2 bone and clay tempered sherds. Forty-nine of the sherds are decorated. Decoration techniques include incising and punctate-incised-brushed. All the grog tempered sherds that are decorated are incised. The sandy paste pottery that is decorated is predominantly incised, though ten sherds that form a partial deep jar of possible Plaquemine affiliation are punctate-incised-brushed.

There are 18 rim sherds, of which 11 fit together to form partial mouths of 3 jars (Fig. 8). Eleven of the rim sherds are rounded, of which one is also incised. The other 6 are overhung exteriorly.

There are two sherds exhibiting drilled holes. Both holes are drilled from the exterior.

41 TL 8 Lithics

The single flake from 41 TL 8 is a soft hammer, interior flake.
PART IV: ASSESSMENT OF THE ARCHEOLOGY

Attention in this section is directed at synthesizing the survey information and assessing the needs for future studies.

Summary of Survey Findings

Analysis of field data from previous archeological research in southeast Texas revealed the major characteristics of archeological sites in the area. The chief characteristics are as follows:

1. Known archeological sites are on elevated landforms such as abandoned stream levees, terrace remnants and upland features located in the proximity of larger streams or rivers.

2. Cultural refuse marking the presence of an archeological site includes chipped stone, burned clay nodules, potsherds, charcoal flecks, burned rock fragments, bone fragments (rare), and clam shells, especially in sites located near and in the delta marshes. The presence of either charcoal flecks, burned clay or clam shells is not in itself conclusive evidence that an archeological site is present since these items can be introduced by other means. For instance, periodic burning of the forest can leave extensive charcoal deposits and this same burning can result in localized baking of exposed clay, thereby producing burned clay nodules. Throughout this century clam shells have been taken from shell middens in the delta regions and used for base material in road construction. The shell fragments from road bases have been redistributed by natural agencies and, if the context is not closely inspected, could lead to misidentification of a locality as an archeological site. However, when burned clay and charcoal are found in the context with other material the presence of an archeological site is usually assured.

The sites anticipated in the preserve were "sand middens" and "earth middens," that is, traces of cultural refuse buried in either sandy matrix or in the upper mantle of a clayey terrace deposit such as that found on remnants of the Beaumont terrace. We did not expect to encounter Rangia shell middens since the distribution of these kinds of sites tend to lie southeast of Beaumont rather than extending upstream into the preserve.
along the Neches River and Little Pine Island Bayou (Charles Bollich, personal communication). Also, we did not expect to find artificial mounds since no such features of this kind have been documented in southeast Texas.

When field work began in December, 1974 the procedures followed were to secure permission from the landowner and traverse the area designated for survey on foot. The primary objective was to inspect as much land as possible within and immediately adjacent to the various preserve units. This was sometimes difficult since much of the terrain was swampy and partially inundated.

The survey party operated with the assumption that an archeological site may occur anywhere but specific attention was directed at elevated topographic features along or near waterways. Road cuts, erosional cuts and other exposures were constantly inspected for evidence of aboriginal occupation or utilization.

At the end of the first two weeks of reconnaissance, the survey findings were very disappointing. Only four previously unknown sites were recorded by the survey team. The amount of land covered compared to the number of sites found was seemingly excessive. We therefore began to alter our survey strategy somewhat by not emphasizing total coverage and concentrating more on topographic features which might reveal the presence of archeological sites. Once again, however, the archeological sites eluded the survey team. Still operating on the assumption that archeological sites were present but that our survey techniques were not productive, several hypotheses were formulated to explain our difficulty in locating sites. Among these were: 1) the sites were mostly obscured by high water (much of the lowland was flooded during the time of the December-January survey); 2) the accumulation of soil through time could have buried sites so deep that no amount of surface inspection or trowel testing could detect them; 3) the preserve boundaries were set up along botanical lines excluding many of the high sand ridges which could conceivably contain sites; 4) the prehistoric inhabitants may have utilized the area for procurement of certain resources only and these activities resulted in virtually no material remains being preserved in the archeological record; 5) the original Big Thicket may have been used as resource procurement area but
Figure 12. A, Neches River corridor, the Kirkpatrick Site, 41 JP 61; B, Lance Rosier Unit, view of an inundated road.
due to certain natural barriers such as dense vegetation and the limited number of streams large enough to serve as avenues for waterborn transportation, the location and manner of use was very restricted.

In order to test some of these hypotheses, another survey trip was made in March, 1975. Two areas were concentrated on, the Neches River corridor and the Big Sandy Unit. We had hoped that by March, the water would not be as high as experienced during the winter. Too, we hoped that permission could be secured by that time to investigate lands owned by a wood products company, a major landowner of the Big Thicket area. Unfortunately, this was not the case. Despite this handicap, the March survey employed totally different field tactics which we felt were necessary under the circumstances. For instance, the survey of the Neches River corridor was accomplished using canoes. Aside from solving a major access problem, a major waterway corridor could be examined, thereby investigating the problem of buried sites. The results of the canoe survey brought to light some interesting observations but resulted in documenting only three new archeological sites. One, 41 JP 64, did support the hypothesis that soil accumulation can completely obscure a site, as archeological material was found at the bottom of a sand pit. Also, the surveyors realized the advantage on one hand of canoe transportation so long as the voyager travels a major stream such as the Neches River. However, smaller streams were found to be choked with vegetation. Since waterborn transportation appeared to be indeed limited to the major streams, it is suggested that these were major transportation corridors through the Thicket region in prehistoric times. Given this, we expected that the greatest density of archeological sites would be along the Neches River and while our findings do not necessarily indicate this to be the case, the paucity of sites in this area could be due to factors such as destruction through channel migration as discussed below.

The inspection of the Big Sandy Unit also failed to reveal sites outside bottomland areas. However, the areas of the Big Sandy Unit available for inspection did not serve as an adequate test for hypotheses.

In sum, a total of 90 man days was spent surveying for archeological sites in the Big Thicket National Preserve, yet only 12 archeological sites were documented. Several survey approaches were tried in attempts to
eliminate procedural biases. The fact remains that few aboriginal sites were observable. Several explanations are presented which may account for the limited number of sites. Because of the topographic and environmental diversity, it is felt that no one explanation is applicable to all of the preserve units but taken together, we feel that a combination of factors best explains the paucity of archeological resources.

1. The proposed boundaries of certain preserve units include mostly bottomland and swamp land vegetational communities. Consequently, elevated landforms suitable for aboriginal habitations usually occurred outside the proposed boundaries. This explanation is certainly applicable to such units as Lance Rosier, Beaumont, Pine Island Bayou, Lower Neches, Neches Bottom and Jack Gore Baygall. It applies to portions of Turkey Creek as well.

2. The accumulation of soil and humus through time could have buried cultural material so deep that even extensive inspection of surface exposure could not detect the evidence. This may explain part of the problem of site identification in the Neches Bottom, Jack Gore Baygall, Lower Neches and Beaumont Units. Evidence obtained during the March survey supports this explanation at least for the Neches River corridor.

3. Due to the inability of the survey team to secure access permission to much of the land, most archeological sites lie outside the areas surveyed. This amounts mostly to a sampling problem but the explanation is not regarded as sufficient to explain the paucity of archeological sites considering the amount of land actually surveyed. The access problem certainly hampered our survey of the Big Sandy Creek, Lance Rosier and Pine Island Bayou Units but did not prevent at least a partial inspection of these areas.

4. The paucity of archeological sites is due to the manner in which the aboriginal populations utilized the Big Thicket area. This possibility cannot be resolved with the kind of data we now have; therefore, it remains a viable possibility for several reasons. First of all, the Big Thicket has a reputation of being a refuse for renegades, ruffians and bears due to the dense vegetation and swamp-like characteristics of the bottomlands. These natural impediments could have restricted prehistoric use of the area as well. There were undoubtedly trails through some of the area but
Figure 13. A, Jack Gore Baygall and Neches Bottoms Unit, view of Maple Slough; B, Turkey Creek Unit, view of Turkey Creek.
we hypothesize that its accessibility was limited mainly to waterborn transportation along the larger streams, particularly the Neches River, Little Pine Island Bayou and Pine Island Bayou. This is not to say that the aboriginal peoples did not make use of the area; rather, their use was restricted to harvesting certain resources such as bear. The temporary nature of the occupation plus the restricted activities carried out at the campsites left little to be preserved in the archeological record.

5. The meander pattern of the lower Neches River has removed a significant number of archeological sites. This is a high probability explanation. An inspection of aerial photographs and U.S.G.S. maps plus surveying from land and canoe reveals the extent to which the Neches River has migrated across its wide floodplain in recent times. Today, sandy bluffs along the Neches River corridor are eroding rapidly and threatening numerous dwellings which were once safely situated on top of the ancient terraces. The degree to which these bluffs are eroding plus the rapidity to which old levees are truncated by new channels leaves one with the impression that it is a wonder that there are traces of prehistoric habitation along the corridor at all. But traces do remain and probably represent only a fraction of the archeological resources that were once present along the lower reaches of this stream.

The aboriginal artifacts collected during the course of the reconnaissance together with those previously collected by Dr. Charles Bollich in his survey work around Beaumont place most sites in the early ceramic period or later. An estimated maximum date for the early ceramic period in this area is about 200 B.C. based on the cross-dating of Tchefuncte-like pottery (Ambler 1973:138-145). Sites which likely include early ceramic components are 41 OR 34 and 41 JP 62. Late ceramic components are also represented in the site inventory as indicated by the remains from 41 JP 61 and 41 JF 30. Other sites of the ceramic period are listed in Table 1 but their temporal placement within the ceramic period is uncertain. One site, 41 JF 30, also contained a historic component. Several European made earthenware and stoneware sherds were recovered by Bollich along with a small badly battered gunflint. This component may represent an early Anglo settlement along Little Pine Island Bayou.
Table 1: Tentative Temporal Placement of Archeological Sites and Recommendations

<table>
<thead>
<tr>
<th>Site</th>
<th>Recommendations</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>41 OR 34</td>
<td>None</td>
<td>Early Ceramic</td>
</tr>
<tr>
<td>41 OR 66</td>
<td>None</td>
<td>Ceramic</td>
</tr>
<tr>
<td>41 JF 30</td>
<td>None</td>
<td>Late Ceramic, Historic Component³</td>
</tr>
<tr>
<td>41 JP 8</td>
<td>None</td>
<td>Ceramic</td>
</tr>
<tr>
<td>41 JP 61</td>
<td>None</td>
<td>Probably Late Ceramic</td>
</tr>
<tr>
<td>41 JP 62</td>
<td>None</td>
<td>Early Ceramic?</td>
</tr>
<tr>
<td>41 JP 63</td>
<td>None</td>
<td>?</td>
</tr>
<tr>
<td>41 JP 64</td>
<td>None</td>
<td>?</td>
</tr>
<tr>
<td>41 HN 5</td>
<td>None</td>
<td>Ceramic</td>
</tr>
<tr>
<td>41 HN 6</td>
<td>None</td>
<td>Ceramic</td>
</tr>
<tr>
<td>41 HN 7</td>
<td>None</td>
<td>?</td>
</tr>
<tr>
<td>41 TL 8</td>
<td>None</td>
<td>?</td>
</tr>
</tbody>
</table>

¹For a statement of site significance, see page 46.
²For a description of the temporal periods, see Part II.
³The Historic component is represented by European, probably Anglo, artifacts.
If this late temporal placement is a valid indicator for the time range of the archeological resources in the Big Thicket area, then some explanation is needed for the relatively short time span of the aboriginal utilization.

Extensive archeological research in the Trinity River delta has yielded a wealth of archeological data on the late prehistoric adaptations in this area. These resources generally date no older than about 1500 B.C. (Dillehay 1975:4). Aten (1966) has estimated that the modern alluvial-deltaic complex was no older than about 5000 years. This estimate, while not based on radiocarbon dates at the time it was made, is now supported by dates from archeological sites situated on or buried in deltaic features.

Research work in the Sabine-Neches deltaic area has also yielded primarily late archeological resources (McIntire 1958; Aten and Bollich 1969). The explanation that no preceramic sites were recognized due to the late geological age of the surface deposits in the lowlands of the Big Thicket seems to be a valid one particularly when the dynamics of the geology are considered. We will contend, however, that the Neches River and perhaps other drainages are old enough that populations extending back to the Lithic Periods could have camped and utilized resources along the streams. If such archeological sites did exist, they are largely destroyed by alluviation and erosion. Traces of these occupations may be preserved by chance on older geomorphic features as indicated by recent findings along the San Jacinto River basin in Montgomery County (Shafer and Stearns 1975).

**RECOMMENDATIONS**

The Big Thicket National Preserve was established largely on the basis of its unique botanical resources. The results of our survey indicate that archeological resources are present but are not numerous enough to warrant a priority for interpretative development. We feel that the emphasis should remain focused on the unique botanical communities and how the overall environmental situation could have attracted aboriginal utilization on the one hand and deterred it on the other. Since additional information is needed to confirm our mostly negative findings, we recommend that a thorough survey be made of the entire preserve after the lands have been purchased.
An intensive survey will not be possible until complete access to the lands is provided. During the course of the survey, it may be necessary to conduct minor subsurface testing to inspect soil profiles below the sometimes thick humic deposits.

The artifact preservation in this portion of southeast Texas is not unlike that of tropical forest situations (Meggers and Evans 1957:6-11) as are the logistics and survey conditions. These factors must be kept in mind when future archeological studies are planned, particularly in designing research problems appropriate to the resources available and in weighing the cost of such field investigations.

The development of the preserve should not have adverse effects on its archeological resources except in possible instances where the construction of public facilities such as campgrounds, roads, trails, etc. might endanger archeological sites. The need for an intensive archeological survey to locate sites as a guide to planning the preserve development should be stressed. Since the preserve is composed of discontinuous units, an intensive archeological survey will not provide a comprehensive picture of the range of archeological resources for the Big Thicket area in general. Each site is part of a system of sites together which form the material remains of an extinct cultural system. It is necessary to identify the full range of resources in a particular area in order to place any one site in the context which it belongs. Political and ownership boundaries naturally divide and break up these site complexes. It would be more desirable to recommend an extended survey to include the entire watershed of certain streams. Such a survey would come closer to including a true "system of sites." However, our experience in southeast Texas leads us to conclude that a survey of this kind is not possible due to the present landowner situation. We therefore recommend that an intensive survey be carried out of the various preserve units despite the fact that this will probably result in a biased sample which will not be representative of the area as a whole.

In conjunction with the archeological survey, a full description is needed of the Quarternary geology geared toward identifying and dating geomorphic features which may contain archeological resources. Such studies have proved to be a valuable aid to archeologists working in the Trinity
and Mississippi River deltas. Furthermore, such a geological study would lend a better understanding to the erosional and depositional processes which may be responsible for either the destruction or the masking of cultural deposits.

Another study which would likely yield important data pertinent to the archeological interpretation of the region is an intensive pollen analysis of the peat bogs in southeast Texas, specifically those in and adjacent to the Big Thicket. This would provide invaluable paleoenvironmental data for archeologists and botanists.

The estimated cost of the primary needs for the Big Thicket National Preserve are listed below.

<table>
<thead>
<tr>
<th>Intensive Archeological Survey</th>
<th>$70,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paleoenvironmental Studies</td>
<td>$10,000</td>
</tr>
<tr>
<td>Geological Studies</td>
<td>$10,000</td>
</tr>
<tr>
<td>Total Amount Anticipated</td>
<td>$90,000</td>
</tr>
</tbody>
</table>

In sum, while the archeological resources which exist in the preserve do not appear to be outstanding, the importance may lie in their meagerness in the sense that this too is indicative of how the aboriginal inhabitants utilized this unique biological area. Despite the apparent low site density and relatively short cultural history of the region, it is important to document the cultural resources as accurately as possible, not only for the obvious interpretative advantages but for the future planning and development of the preserve itself.
A major objective of the assessment was to abstract all major manuscripts (published and unpublished) pertinent to southeast Texas archeology. These abstracts are presented in this section of the report.

Ambler, J. Richard

Three sites in Harris County near Cedar Bayou were excavated in 1967 (41 HR 50, 41 HR 56 and 41 HR 59). Most effort was expended on 41 HR 50, the Wright site. Artifacts (ceramics, bone, stone, and clay) are described with ceramics being discussed in some detail and placed in five different assemblages. Archeological evidence of any major changes in the economy of subsistence of the people along Cedar Bayou seems to be lacking in spite of the sequential change in artifact assemblages.

Ambler, J. Richard
1970 Additional Archeological Survey of the Wallisville Reservoir Area, Southeast Texas. Texas Archeological Salvage Project Survey Reports, No. 6. The University of Texas at Austin.

This paper is a continuation of the survey begun by Shafer in 1966. In 1968, 95 additional sites were located. Data on new sites are presented in table form with brief comments on particular sites. Recommendations for additional work are based on the recovery of potsherds, stone artifacts, bone artifacts, and the general potential of the site. The suggestion is presented that the area was occupied probably earlier than 300 B.C. and that the population was dense and concentrated near clam (Rangia) sources. Through time, there seems to be a slight shift in settlement pattern away from the lower reaches of the delta area.
Five sites from the Trinity River Delta were excavated in 1966. Time of occupation (based on radiocarbon dates) is placed at approximately 200 B.C. - A.D. 600 with pottery being introduced between A.D. 100 and A.D. 200. A description of the Lost River Phase ceramic period is provided, along with an explanation of differences in terminology used by Aten (Aten and Chandler 1971; Aten 1971a; 1971b) and Ambler concerning the Lost River Phase. Ambler separates Lost River Plain, Tchefuncte Plain and Mandeville Plain on the basis of paste and temper characteristics. A major shift in the Trinity River channel correlated with the lowered productivity of Rangia clams in the area, the disappearance of the Tchefuncte-like ceramics, and the development of a ceramic tradition typical of later types of the area, mark the end of the Lost River Phase.

Ambler, J. Richard

This article is a brief summary of archeological work being done in the Trinity River Basin. The area has been occupied since about 10,000 years ago by prehistoric hunters. About A.D. 500, an increase in the number of people occurred and agriculture was introduced to the area. A very brief summary of several reservoir sites is presented.

Arnold, G. E.
1939 Arnold Reports, County Files. Texas Archeological Research Laboratory, Balcones Research Center, The University of Texas at Austin.

Numerous sites were reported for Nacogdoches, Tyler, Angelina, San Augustine, Sabine, and Jasper counties. Artifacts include potsherds, bone fragments, lithic artifacts, and shell. A partial description of pottery is included.
Arnold, G. E.
1940 Reconnaissance Quarterly. County Files, Texas Archeological Research Laboratory. Balcones Research Center, The University of Texas at Austin.

A total of 166 sites were reported for various counties in east Texas. Potsherds account for most of the artifacts collected for each site. Projectile points and burials were reported for one site. Potsherds recovered include plain and incised with plain ware predominating with proximity to the coast. Descriptions and locations of artifacts and sites are included.

Aten, Lawrence E.

Anthropometric and morphologic data are presented on three complete and two fragmentary skulls excavated from the Jamaica Beach Site (41 GV 5) on Galveston Island which was occupied ca. 1500 A.D. The burial complex and skeletal materials at the site share traits with those of the Addicks Basin and Caplen sites. The lack of a midden portion of the Jamaica Beach site prevents making a direct relationship.

Aten, Lawrence E.

A report centering on the excavation of the Jamison site (41 LB 2) conducted by the Houston Archeological Society from 1959-1961. Included are descriptions of the pottery and lithic artifacts. Roughly 88% of the artifacts unearthed were ceramic in nature. Bone material was placed under the category of food remains. Four assemblages were defined on the basis of presence or absence of ceramics and by the method of manufacturing dart and arrow points. Cultural analysis of
the four units included methods of subsistence, technology, and trade. Very little comparative information relating this site to others in the Galveston Bay area was available; therefore, few specific conclusions can be drawn.

Aten, Lawrence E. and Charles N. Bollich

This is a preliminary report of ceramic collections from shell and earth middens in the Sabine Lake area of Texas and Louisiana. An attempt was made to compare these ceramic collections with those of the Lower Mississippi Valley. The two sequences are similar but the use of two different classification systems prevents direct comparison. The Sabine Lake ceramic sequence is also compared with a sequence for the upper Galveston Bay area. A significant amount of cultural lag exists but the reason is unclear. The authors state the need for additional collections in order to present a chronological analysis of ceramic assemblages for the Sabine Lake area.

Briggs, Alton K.

This report is a discussion of the archeological resources of 35 counties along the Texas coastal lowlands and tidelands. In the Big Thicket area, a survey by G. E. Arnold in 1940-41 located 34 of 58 sites reported for Orange County. Eleven sites, two of which have been excavated, are reported for Liberty County. Both sites indicated Archaic and Neo-American stages. Also included are a list of shipwreck locations along the Texas coast, sites on the National Register (two are reported for Liberty County, and three for Jefferson).
Campbell, T. N.

This report is a summary of a dissertation at Harvard University in 1947 on the Caplen Site, Galveston County, Texas. The site revealed 66 burials but few artifacts. The artifacts did include lithic and bone and shell artifacts, glass beads, asphaltum, red ochre pigment, and pottery. The Caplen site shares many traits with the Galveston Bay Focus, yet it is not clearly defined as such due to differences in pottery types and burial goods. The site spans a time period from A.D. 1000 to A.D. 1519 and is attributed to Atakapan-speaking peoples.

Campbell, T. N.

This is a guide to the publications on prehistoric and protohistoric Indian cultures of the Texas area. It includes publications concerned with archeological sites and materials in Texas and the surrounding area. The guide is indexed by regions (north, central, etc.), counties, and cultures. A topical list covering radiocarbon dates, pictographs, human skeletal remains, etc. is also included. The guide includes 1287 publications and is current to 1 January 1960.

Davis, E. Mott

Mention is made in the notes and news section that Edward B. Jelks was carrying on salvage archeology in the McGee Bend reservoir area on the Angelina River in East Texas.
Dillehay, Tom D.


This report describes the findings made at five sites in the Wallisville Reservoir during the summer of 1973. The sites, 41 CH 32, 41 CH 33, 41 CH 46, 41 CH 47, and 41 CH 172, are all shell middens. Dillehay's approach is one of studying the prehistoric adaptation to the marshy deltaic environment. Data on Historic Indian adaptations are used to compare and explain the archaeological model. This is the most thorough and useful report yet published on the prehistoric adaptations of the Galveston Bay area. Appendix I by Dillehay is a description of the cultural materials recovered during the excavations. The environment of the Wallisville area is discussed in Appendix II by Davidson. Shellfish refuse analysis is discussed in Appendix III by Dillehay. Appendix IV reports the statistical data on the non-human faunal remains and Butler discusses the human skeletal remains from 41 CH 172 in Appendix V.

Gilmore, Kathleen


This report documents the findings of the 1972 excavations at 41 CH 110, a shell midden. Occupations of the site extended from Late Prehistoric through European contact. The late occupation of the site was contemporaneous with 18th century Spanish Colonial occupation in the area. The report includes detail statements of several excavation (analysis) units. Appendices provide artifact descriptions, burial analysis and seasonality assessments of Rangia cuneata from 41 CH 110.
Hole, Frank (editor)


This report contains three separate contributions: "Archeology of the Upper Galveston Bay Region" by Frank Hole; "The Armand Bayou Survey and Excavations" by Michael J. O'Brien; and "Analysis of the Molluscs" by Bonnie Hole. The title of the first paper by Hole does not follow the contents. The paper essentially discussed the theoretical orientation of the author and outlines certain basic objectives of the Armand Bayou Project. Hole presents a cursory description of the Atakapan and Karankawa lifeways and attempts to relate this lifestyle to the archeological remains. An adequate background in Galveston Bay and local archeology is lacking and pertinent references to Galveston Bay archeology are omitted for reasons unknown. O'Brien's paper is basically descriptive in the sense that the archeological sites surveyed and tested are described. One site, the Fuller Site (41 HR 82) was partially excavated and the archeological findings for this season were described. For reasons not made clear, however, O'Brien fails to relate these findings to those made and published by him in 1971. Bonnie Hole's paper on the molluscs is an interesting contribution to Galveston Bay culture ecology studies. She poses some interesting and practical questions regarding the structure of Rangia shell midden sites and proceeds to investigate the questions. Her procedures were adequately described and the mistakes made during the course of the analysis are discussed.
Hsu, Dick Ping

This report includes a thorough description of material collected from three burials excavated in San Jacinto County, Texas in 1969 (41 SJ 67). These sites were selected because of the association of glass trade beads and silver brooches, never before reported from Southeast Texas. Pottery and stone artifacts manufactured by Indians were present, but the major emphasis was on objects either made by non-Indians or from material obtained by non-Indians. Such objects included buttons, metalware, coins, silver ornaments, glassware, and china. Also included in this report are the location and positioning of each object collected (with photographs and drawings). The sites were all late historic Indian (1840-1870) and helped reveal the expansion and acculturation of the Alabama-Coushatta Indians, although the degree of acculturation was impossible to ascertain on the basis of material collected.

Jackson, A. T.

The pottery types from East Texas are here believed to be extensions of the Lower Mississippi Valley types. This report includes a rough classification of pottery forms, variation in customs pertaining to the quality, distribution, and position of pottery within graves, and a discussion of use, variation in contents, form, size, ware, temper, finish, and decoration of the pottery analyzed. Differences are noted between prehistoric and historic ceramics. Four major cultural areas are defined by relying on the four principal river basins (the Red, Sabine, Sulphur, and Neches) and an attempt is made to correlate specific types with each of these four areas.
Jackson, A. T.

A very brief summary of the field work of G. E. Arnold is presented. Extensive shell middens were found in the swamp areas near the Neches River. The summary reports that particular attention was paid to pottery. Arnold found that many of the sites are presently located in areas which are now underwater.

Jelks, Edward B.

This article explains the purpose and development of the Archeology Laboratory at the Balcones Research Center in Austin, Texas. The development of the program is explained along with past projects and future projects. Short explanations of work done on Lavon, Whitney, and McGee Bend Reservoirs are included. Six sites were excavated at McGee Bend Reservoir giving evidence of three different prehistoric cultures ranging from a preceramic nomadic people to a group that practiced intensive agriculture and had well-organized permanent villages.

Johnson, Frederick

This article is a report of archeological work in progress in the Americas during the calendar year 1948. The only investigation reported within the Big Thicket area was that of R. L. Stevenson, working for the River Basin Surveys, Smithsonian Institution, surveying the "Dam B" basin of the Neches River. No further information is given on this project.
Malone, James M.

1969 Report on the Excavation and Analysis of a Prehistoric Site in Liberty County, Texas, the Price Daniel Site (41 LB 3).

Unpublished Master's thesis, Department of Anthropology, The University of Texas, Austin.

This thesis reports the excavation and analysis of a prehistoric earth midden in the lower Trinity River Valley of Texas. The initial 1967 testing and the excavation of 1969 are described along with a brief history of information derived from past excavations of similar sites in the region. Cultural sequences range from Archaic to Neo-American at the site with indications that the population was a small gradually increasing one. Occupation was probably intermittent or seasonal due to the lack of agriculture. It is indicated that cultural contacts were probably restricted to close neighbors along the Trinity River Drainage Basin. Lithic and ceramic artifacts were abundant. A skull, some bone fragments, and shell were also excavated. The thesis reports experiments conducted to find the functions of "clay balls" found at the site. These experiments suggest such artifacts were purposefully manufactured and used for heat retaining purposes in cooking. The results of the 1969 excavation indicate that only a small part of the site has been excavated. It is recommended that further work be performed at the site and at neighboring 41 LB 5, possibly to determine cultural sequences and interrelated chronology for the two sites.

McClurkan, Barney B.

1965 Excavations at Livingston Reservoir - 1965 season.

Investigation of four sites (Jones Hill - 41 PK 8, Houston - 41 SJ 19, Trichel - 41 SJ 16, and 41 PK 21) was undertaken in 1965 to locate and excavate artifacts located in the area to be inundated by the Livingston Reservoir. The Jones Hill site yielded hearths, burials and child cremations, pottery and stone artifacts, all of which are discussed in this report. Occupation occurred over a 1000 year period...
(late Archaic to Neo-American stage). The Houston site yielded pottery and stone artifacts which were similar in configuration to the Jones Hill site. The Trichel site revealed rock and clay clusters and a possible post mold. Ceramic and lithic artifacts were also unearthed. Artifacts recovered from 41 PK 21 are described in detail. It is believed that the area was once occupied by the Atakapan Indians. A hypothesis was made concerning the arrival and spread of pottery via the Gulf of Mexico and south Atlantic seaboard. The most accurate representation of cultural change was believed to be the Jones Hill site.

McClurkan, Barney B.

This is a report of excavations conducted in 1965-1966 at Livingston Reservoir. Six sites were investigated: Jones Hill site (41 PK 8); Houston site (41 SJ 19); Trichel site (41 SJ 16); 41 PK 21; Burris 2 (41 PK 89); and Burris 1 (41 PK 88). The report includes description, distribution, and composition of artifacts which include pottery sherds and vessels, stone artifacts and hearths. At the Jones Hill site three adult burials and two infant cremations were investigated. A grinding slab was also reported for Burris 1. A time span of 2000 years encompassing late Archaic and Neo-American stages of development is represented and attributed to Atakapan speaking Indians.

McGuff, Paul and Wayne Roberson

Eighty-six archeological sites were investigated along the Lower Sabine and Neches Rivers in 1973. The sites are described primarily
as *Rangia* shell middens. The condition of the site is also reported with, unfortunately, a large number of the sites either being destroyed or in poor condition. A limited number of artifacts are reported and remarks concerning previous investigation are provided. Site 41 OR 9 indicated evidence of human burials in 1940; however, no such indications were found in 1973. Site 41 OR 49 was excavated in 1958-1961 but was not located in 1973. About 25% of the sites were expected to be negatively influenced by the impact of the navigation improvements.

McGuff, Paul R. and Wayne N. Cox

Seventy-six prehistoric sites and two historic sites were reported from the study area which included parts of Brazoria, Fort Bend, Galveston, and Harris counties. The prehistoric sites were recorded in two distinct areas of relative density. The known archeological sequence spans a time period from Early Archaic to Late Prehistoric. An appendix with descriptions of reported sites and an appendix of the association of archeological material with pimple mounds is also included.

McIntire, William G.

Over 500 sites within the survey area are recorded. Types of vegetation and animal remains are discussed as well as ceramic remains. Five different cultural periods as demarcation lines are discussed. Radiocarbon dates were determined on selected samples throughout the survey area. These dates support previous conclusions based on measurement of cultural change shown through the development of pottery types.
A relative pattern for the development of the delta is correlated with the initial occupation sites for each particular time period.

Newcomb, W. W., Jr.

Newcomb includes an extensive treatment of the Indians of east Texas. He covers both the Caddo group of northeast Texas and the Atakapan groups of southeast Texas. The groups are discussed with regard to origins and early history, their appearance and dress, their subsistence and material culture, social organization, and supernaturalism. Newcomb presents the Caddo as the most productive, advanced, and populous peoples of Texas, while the Atakapan culture is presented as more provincial and not full exploiters of their coastal environment.

Nunley, John P.
1961 *Appraisal of the Archeological Resources of the Livingston Reservoir, Polk, San Jacinto, Trinity, and Walker Counties, Texas*. Mimeographed report submitted to the National Park Service by the Texas Archeological Salvage Project, University of Texas. Austin.

Individual descriptions and recommendations are made for each of the 40 sites located in 1961 along the proposed Livingston Reservoir. Both the Archaic and Neo-American components are well represented. Sandy paste pottery was particularly abundant and a special section was devoted to the implications of this type of pottery, believed to be the earliest. The emphasis was on the need for more information from this area; 22 excavations (3 intensive, 19 testing on small scale) were recommended.
O'Brien, Michael  

This report investigates the relationship of the environment to the natural stratigraphy of the Fullen Site (41 HR 82) in southeast Texas. Analysis of artifactual remains centered around three major groupings—pottery, stone artifacts, and bone artifacts. The four natural levels of stratigraphy were described and the types of artifacts within each level were mentioned. An explanation was offered for the economy and technology by fluctuation of environmental conditions. A second use of the area was offered as an explanation for the discontinuous stratigraphy.

Patterson, J. T.  

A description of 331 boatstones is given along with an explanation of their use. It is deduced from the shape and size of the boatstones that they were used primarily as weight stones bound to atlatls to give the weapon additional weight and efficiency. Use of the boatstones as charms may also have been an occasional use.

Prewitt, Elton R.  

Two sites were reported in Liberty County, Texas in 1973, 41 LB 15 and 41 LB 37. Test pits of site 41 LB 15 indicated four groups of artifacts: lithic, aboriginal ceramic, miscellaneous historic artifacts, and shell and bone. These artifacts are described in an appendix. The design of the ceramics is indicative of the ceramic tradition.
of the Galveston Bay area. Also included is an account of a possible historic site which consists of a sunken steamboat (Black Cloud - 1870) on the Trinity River. Both sites could be detrimentally affected by the proposed pipeline construction.

Sears, William H.

A report of the excavations at McGee Bend Reservoir on the Angelina River in east Texas in 1957 is presented. The Jonas Short site included a circular mound and evidence of three burials including a cremation, boatstones, large stemmed knives or spear points, quartz pendants, and copper ornaments. The material has a Hopewell-Adena appearance. No signs of a village were found. The Walter Bell site indicated a small village of people related to the Caddoan Fulton Aspect. House patterns, burials, and midden deposits were investigated. Three minor sites (Powell, Dubois, and Print Bell) were tested.

Sears, William H.

Mention is made of four sites partially excavated by Edward B. Jelks and J. Graham on the north side of McGee Bend Reservoir in the Attoyac-Harvey Creek area. A preceramic Archaic component underlay a ceramic component in three sites. The fourth site contained evidence of European contact.

Shafer, Harry J.

A review of the surface collections made from each proposed reservoir comprises the major content of this paper. Included in the report are
descriptions of the environment, a review of the archeological background, site descriptions, and an overall summary and recommendations for each area. The importance of doing further work in the Honea Reservoir was stressed. Stone and ceramic artifacts were abundant. This area touches several cultural and geographic borders.

Shafer, Harry J.

Before the Wallisville Dam was erected on the Wallisville Reservoir in Chambers County, southeast Texas, an archeological assessment of the area was conducted in 1965. The preliminary survey located 47 sites; all but three of these were shell middens. Individual site descriptions and recommendations were included in this report, along with a general description of the environment and archeological background. Most of the artifacts collected were ceramic; out of 1556 pieces collected, only 23 stone, 3 glass, and 2 bone artifacts were recovered. Representative photographs of the artifacts were made and descriptions of the objects were included. Recommendations were made for further excavation to be carried out on 25 sites, 7 of which were recommended for intensive excavation, the other 18 for testing or small scale excavation. Although difficulties would be encountered due to the denseness of shell material, the sites were believed worthy of excavation because so little was known of the cultural affiliations and manifestations of the Texas coastal areas.

Shafer, Harry J.

The partial excavations of three prehistoric sites in 1967 in the Conroe Reservoir area are reported. The report includes a description
of sites (41 MQ 4, 41 MQ 5, 41 MQ 6), a description of ceramic and stone artifacts, and a description of non-artifactual remains (chipping debris, burned clay nodules, bone fragments, burned walnut shells, and mussel shells). The excavations indicate intermittent occupation. Archaic material collected is indicative of the southern La Harpe Aspect. Material from the Neo-American stage indicates the area was a buffer zone between the Caddoan area to the north and the Galveston Bay area to the south. An indigenous ceramic trade is reported.

Shafer, Harry J.

An archeological survey of the lower Cedar Bayou indicated 19 archeological sites, 10 of which would be adversely affected by the proposed modification. Two of the sites (41 CH 58 and 41 CH 214) contain intact cultural deposits. Locations, descriptions, and recommendations for each site are presented. Animal bone fragments, shell (Rangia and Crassotrea) were reported. Potsherds representing the San Jacinto Plain, San Jacinto Incised, Goose Creek Plain, and Oroquizac Plain were indicated.

Shafer, Harry J.

This paper discusses the late prehistoric archeological assemblages of southeast Texas. The early sandy paste ceramic assemblages are related to the Woodland Cultures of the Eastern United States. A Hopewell expression is defined and its geographic scope discussed. The sandy paste ceramic tradition is attributed to the ancestral Atakapan speaking peoples of southeastern Texas.
Shafer, Harry J. and Thomas B. Stearns  
1975 Archeological Investigations at the Scotts Ridge Site  
(41 MQ 41), Montgomery County, Texas. Report No. 17, 
Anthropology Laboratory, Texas A&M University.

This report documents the findings made during subsurface assessment 
work at the Scotts Ridge site in the Sam Houston National Forest. 
The cultural material was found to be thinly dispersed in a shallow 
sandy deposit. The archeological materials are assigned to Early 
and Middle Lithic Periods and represent the oldest cultural remains 
yet recovered from the Lake Conroe district.

Skinner, S. Alan and Maynard B. Cliff  
1973 Archeological Survey of the Blue Hills Station, Newton County, 
Texas. Report submitted to Bechtel Power Corporation, 
Norwalk, California by the Archaeology Research Program, 
Southern Methodist University.

This report describes the largely negative results of an archeological 
survey of the Blue Hills Station - a future nuclear power plant site. 
The archeological findings consist of mere traces of prehistoric 
utilization which was marked by lithic refuse. A spot check was also 
made of a pipeline and a railroad right-of-way.

Stephenson, Robert L.  
1948 Archeological Survey of McGee Bend Reservoir: A Preliminary 

This report includes a description of all sites surveyed for the McGee 
Bend Salvage Project in 1948. A listing of Indian tribes found within 
the area is also included; preliminary work showed occupation by at 
least five different cultural groups. Artifacts indicative of non-
pottery people were also found. However, the major period of occu­
pation occurred from 1200-1500 A.D. Various types of pottery were
mentioned, the most dominant type being Dunkin Incised. Recommendations were made for excavation.

Suhm, Dee Ann, Alex D. Krieger and Edward B. Jelks

This report discusses sites found throughout east Texas. Four major stages (Paleo-American, Archaic, Neo-American, and Historic) divide the discussion. Within each major stage, one or more foci are mentioned, along with site descriptions covering types of sites, houses, livelihood, ceramic traits, lithic artifacts, artifacts of miscellaneous material, burial customs, relationships, and estimated age.

Tunnell, Curtis D. and J. Richard Ambler

This report contains a description of a historic site in Chambers County, Texas. The site, a Spanish presidio and associated mission, was excavated. A large amount of artifactual material (both Spanish and Indian) was recovered. The Spanish material included ceramics, glass, copper, and iron artifacts. Indian artifacts included ceramics, stone, and shell. A historical appendix is included. The presidio was established in 1756, had several commanders, and was eventually abandoned in 1771.

Walley, Raymond

This report concerns the Albert George site. In 1951, three burials with shell artifacts were reported. In 1954, additional burials,
bone and shell artifacts and potsherds were found. A cache of both plain and incised bone implements representing a variety of uses was found in association with one burial. Potsherds from the site indicate an affiliation with the Galveston Bay focus.

Wedel, Waldo R.

It is reported that R. L. Stephenson of the River Basin Survey conducted field work on Dam B. Reservoir on the Neches River and in the McGee Bend Reservoir on the Angelina River.

Wheat, Joe Ben

A survey of the Addicks Dam Basin in Harris County was conducted in 1947. Data revealed three levels of occupation extending from Pre-ceramic to the beginning of contact with European cultures (A.D. 900-A.D. 1600). Nine sites were described with two sites excavated and artifacts (burials, pottery, and projectile points) described. The sites represent a group of people southeastern in origin, probably following the Akokisa pattern.
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