

**The Archaic Period of Georgia,
South of the Fall Line**
*LAMAR Institute Publication Series,
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The Early Archaic

Dating the Early Archaic. The Archaic period in Georgia lasted from about 10,000 to 3000 years ago and for convenience this period has been subdivided into Early, Middle, and Late sub-periods. Some researchers have divided the Late Archaic period further into a Preceramic and Ceramic Late Archaic, Terminal Archaic, or Gulf Formational. Archaic period sites are abundant in Georgia's coastal plain, although our knowledge of them is spotty. This dearth in knowledge has resulted, in part, from past researcher's avoidance of the Archaic research topic, preferring to focus on later ceramic periods (Williams 1977; Kelly 1954; Caldwell 1958; Huscher 1964).

A. R. Kelly (1939) provided a rudimentary cultural sequence for the Macon Plateau that included an early lithic assemblage that was a blend of Paleoindian through Archaic cultures. Kelly's curiosity with early lithic sites continued periodically, especially during his reservoir salvage efforts in Southwest Georgia in the 1950s (Kelly 1950, 1954). Kelly recognized antiquity of heavily patinated cherts at sites such as Lane Springs in Decatur County and Kinchafoonee in Lee County. Kelly worked with geologist Vernon Hurst and others to develop a chronological scheme for dating these ancient tools, which was received with little success. Although other oversimplified attempts to describe the Archaic period in Georgia were presented by Waring, Kelly, Caldwell, Huscher, and others, these researchers preferred to focus on later ceramic periods.

Research in the Ocmulgee River floodplain at Macon in the 1960s by Ingmanson (1964), Cosner (1973) and others revealed an Archaic sequence similar to that defined by Coe (1952, 1964) in North Carolina. At Macon, Early Archaic (spinner) points were found below Middle Archaic Morrow Mountain points, which were below a Late Archaic zone that was preceramic Savannah River phase in the lower zone with the addition of fiber tempered pottery and soapstone vessel sherds in the upper zone (Ingmanson 1964; Cosner 1973). Cosner provided additional information about the stratigraphic sequence at this location. Spinner-type points (Early Archaic) were found in the lower sand member. Above that in mottled silty sandy clay were Morrow Mountain points. The intermediate sand contained Savannah River point. Fiber tempered pottery and soapstone vessel sherds were found in the upper half of the intermediate sand zone.

The extensive excavations of Archaic deposits, in advance of construction of Interstate Highway 16 near Macon, is hamstrung, however, since most of this work has not been reported. A similar tale of unreported and underreported excavations at Archaic period sites is told for Interstate 75 and other portions of Interstate 16.

Based on his excavations at the Lake Springs site in the Georgia piedmont in the late 1940s, Joseph Caldwell defined an "Old Quartz Culture", which was identified beneath the Late Archaic cultures (Caldwell n.d., 1951; Miller 1949). This quartz culture actually represented a compressed assemblage of Early and Middle Archaic stone tools, and Caldwell's "Old Quartz Culture" helped stymie Archaic research for several decades (Johnson 1984). Like many other sites, Caldwell's excavations went unreported and for years the collections were presumed lost. Caldwell's excavated material from Lake Springs has recently surfaced, however, and its analysis is pending.

Late Archaic pottery series that were defined from the 1930s through the 1960s include Stallings Island and Thoms Creek (Haag 1939; Griffin 1945; Sears and Griffin 1950; Waddell 1968; Phelps 1968). Researchers prior to the 1950s did not have the benefit of radio isotope dating, however, so their time depth could only be estimated. The Orange series, defined by Bullen from his excavations in Florida, has been identified on the extreme southern Georgia coast.

By the early 1970s a great awakening in Archaic research in Georgia was beginning. Brockington (1971) presented cultural sequence data from the University of South Carolina's excavations at the Theriault Site in Burke County (9BK2). For many years these excavations stood as the standard for Archaic period studies in Georgia. While the stratigraphy on this site was not strictly separated, some semblance of superposition was maintained. Early Archaic projectile points at Theriault included Taylor, Palmer, Kirk types. Middle Archaic point types included Stanly, Morrow Mountain and Guilford types. Late Archaic types included Gary, Savannah River, Cypress Creek, and Webb. Thoms Creek series and Stalling series wares pottery peaked in the 18-24 inch zone, below the peak occurrence of Savannah River points. Unfortunately, extensive excavations in the 1960s by the University of Georgia at the Theriault Site remain unreported.

DePratter (1975) wrote an overview of the Archaic period in Georgia. From it one can obtain an immediate grasp of the advances in Archaic research in Georgia that have been made since the mid 1970s. The interior coastal plain was a virtual void in knowledge in 1975. DePratter presented a rudimentary projectile point type sequence for the Georgia piedmont, but he made no pretenses as to its applicability to the coastal plain. Research by Crusoe and DePratter focused primarily on the ceramic Late Archaic period (Crusoe 1972; Crusoe and DePratter 1976). Bullen's research on the Florida Archaic was generally applicable to the Georgia coastal plain (Bullen 1975; Bullen and Greene 1970). Since 1975 there have been substantial advances in Archaic period research in Georgia, largely due to the explosion of Cultural Resource Management (CRM).

Betty Smith wrote an overview of southwestern Georgia archaeology, which was equally terse to DePratter's overview of the Archaic period. She cited Clemens DeBaillou's unpublished Kinchafoonee complex, which included weathered blades, knives, and scrapers that he had unearthed at the Kinchafoonee site in the mid 1950s. She also reviewed A. R. Kelly's work at Lane Springs and her own work in Clay County, where Archaic lithic sites had been found (Smith 1978; Kelly 1950).

Schnell and Knight's (1978) presented a projectile point scheme for the Archaic period in western Georgia that is slightly more refined, but still reflects the naivety that characterized the archaeology of the interior coastal plain in the mid 1970s. Schnell and Knight's scheme for the Early Archaic projectile point sequence in western Georgia, which included Kirk Serrated, Hardee Beveled, Hamilton, Arrendondo, Sumter, Stanfield, Thonotosassa, and Florida Spike types (Schnell and Knight 1978).

By the late 1970s archaeological data from Archaic sites began to accumulated at a rapid rate and the need for a reliable projectile point sequence in Georgia became even more pressing. Clearly, terms such as "spinners" and "Old Quartz" were inadequate for adequately describing the stylistic variability in Archaic period tool assemblages in Georgia. Most of this CRM research

was centered in the northern third of the state, however, and large scale excavations did not appear in the interior coastal plain until the mid 1980s.

In many ways researchers in adjacent states have set the tone of Archaic research in Georgia. Significant research by Mark Brooks, Glen Hanson, Ken Sassaman, and other members of the Savannah River Archaeological Research Program at the Department of Energy's Savannah River Site began in the late 1970s and has continued to the present. Research conducted there includes major survey of the Sand Hills of the South Carolina coastal plain, excavations the G. S. Lewis, Pen Point, and Tinker Creek sites and Mark Brook's innovative studies of changes in geomorphology of the interior coastal plain during the Holocene Epoch. Their work has direct applicability to adjacent areas of Georgia (Brooks et al. 1986; Hanson 1982; Sassaman et al. 1990; Brooks and Sassaman 1990).

Whatley (1984:59-60) presented a proposed projectile point chronology for southern Georgia, which served as a structure for building a cultural sequence for the region. Whatley's sequence was based on his numerous surface collections and it remained to be validated by stratigraphic excavations. Whatley's dogged persistence in developing a projectile point typology for the Georgia coastal plain is nearing fruition with the recently published *Early Georgia* volume (Whatley:2002). The lack of projectile point data from stratigraphic excavations in coastal Georgia continues to hamper this research.

No absolute dates are available for Early Archaic sites in Georgia's coastal plain. All age estimates are based on inference from excavations on Early Archaic sites in adjacent states. Two dates were obtained for an Early Archaic Palmer component at Site 9BL69 on the Oconee River near the Fall Line, which are 9190 and 8730 B.P. (+/-110 and 50, respectively; Beta-71956, Beta-71957). These dates are consistent with dates from other Early Archaic sites in the Southeast (Espenshade et al. 1994:105). Sassaman and his colleagues defined four phases for the Early Archaic period of the Savannah River region (Sassaman et al. 1990). These consist of Taylor phase (9900-9500 B.P.), Palmer/Kirk phase (9500-8300 B.P.), Bifurcate phase (8900-8000 B.P.), and Kirk Stemmed phase (8000-7500 B.P.). This scheme can be applied to the entire coastal plain of Georgia, in the absence of data to the contrary.

Early Archaic Settlement Patterns and Site Types. The summary of the Archaic Period for Georgia's coastal plain includes data from 95 of Georgia's 159 counties including approximately 9,314,319 hectares (ha), or approximately 61 percent of the state. The coastal plain and coast can be divided into several physiographic subdivisions based on distinctive features (Wharton 1979; Williams 1994, 2000). The Fall Line Hills is the upper most section that interdigitates with the Piedmont region to create an area of high rolling hills capped by coastal sand deposits and occasional outcrops of piedmont stone. This subprovince includes approximately 1,980,415 ha spanning the entire width of the state but becoming significantly wider on the western half of the state. The Fort Valley Plateau is a small subprovince located near the center of the state and it composed of approximately 121,776 ha. The Dougherty Plain is located in southwestern Georgia and includes approximately 671,796 ha. The Tifton Upland is located in south central Georgia and includes approximately 1,525,307 ha. The Vidalia Upland is located in east central Georgia and includes approximately 2,391,554 ha. It is the largest subprovince of the Coastal Plain. The Bacon Terraces is located in the southeastern interior section of the state and it includes approximately 699,912 ha. The Okefenokee Basin is located in the south central section of the

state and includes 518,024 ha. The Barrier Island Sequence includes the sea islands and estuary streams in southeastern Georgia and it includes approximately 1,405,534 ha.

Williams recently presented quantitative and distributional data on 32,601 archaeological sites in the state, which he used to generate a series of state maps showing the distribution of archaeological sites by time period, including the Early, Middle, and Late Archaic periods (Williams 2000:Figures 5, 6, and 7). Of the approximately 33,500 archaeological sites that were recorded in the Georgia site files as of 2000, 1,389 contain Early Archaic components, 2,166 contain Middle Archaic components, 2,629 contain Late Archaic components, and more than 1,710 contain unidentified Archaic components. A total of 15,725 sites were identified by time period and 495 Early Archaic, 300 Middle Archaic, and 1,039 Late Archaic components were listed for the coastal plain. Early Archaic sites occur most frequently in Georgia's Fall Line Hills (n=256), followed by sites in the Vidalia Uplands (n=131).

Of the 1,389 Early Archaic sites in Georgia, 495 are located in the coastal plain. A review of Archaic sites the Georgia site file data in 2000 by Williams (2000:26-27, Figure 5, Table 8) revealed the following distribution by sub-physiographic province is shown in Table 1. Early Archaic sites occur most frequently in Georgia's Fall Line Hills (n=256), followed by sites in the Vidalia Uplands (n=131). The coastal plain contains approximately 36 percent of the Early Archaic sites in Georgia. These statistics may be somewhat deceiving, however, since systematic survey coverage of Georgia's coastal plain is uneven and sporadic, as illustrated in Williams (2000:15, Figure 2). Large sections of the southern part of Georgia have not been studied by archaeologists. This area represents the more unexplored sections of Georgia.

Table 1. Distribution of Archaic Sites in Georgia's Coastal Plain.

Subprovince	Early	Middle	Late	Unspecified	Total
Fall Line Hills	256	204	442	303	1205
Vidalia Upland	131	51	231	96	509
Tifton Upland	46	8	35	30	119
Dougherty Plain	24	19	55	61	159
Barrier Islands	19	7	208	19	253
Bacon Terraces	11	4	42	25	82
Fort Valley Plateau	7	4	12	11	34
Okefenokee Basin	1	3	14	11	29
Total	495	300	1039	556	2390
Percentage Statewide	36	14	40	33	30

(Williams 2000:1-55, Tables 5, 6, and 7).

The full range of variability of Early Archaic sites in the Georgia coastal plain awaits description. Many large sites contain high frequencies of Early Archaic diagnostic tools. These

may represent base camps or semi-permanent settlements. The best data for the Early Archaic period coastal plain adaptations comes from the central Savannah River and Ocmulgee Big Bend regions.

The fabled Theriault site located on Brier Creek in Burke County is one of the sadder stories of Archaic research in the Georgia coastal plain. Important Early, Middle, and Late Archaic components were identified on this site. The site is near, if not directly on, chert outcrops, and chipping debris was abundant. William Edwards of the University of South Carolina conducted excavations in 1966 at the Theriault site in Burke County. Edwards' excavations at Theriault went unreported until years later, when they were reconstructed by Paul Brockington (1971). The University of Georgia's extensive excavations at Theriault, led by Gordon Midgette, remain unreported and survive as southeastern archaeological folklore (Seddon 1972). Purportedly, Midgette's excavations yielded Paleoindian projectile points in deeply buried context (Rebecca Midgette personal communication June 1, 1982).

The Taylor Hill site in Richmond County is one example of this class of site. Taylor Hill (9RI89) is a 100 acre elevated landform in the Savannah River floodplain a short distance southeast Augusta in Richmond County, Georgia (Ferguson and Widmer 1976; Bowen 1978; Ledbetter et al. 1980; Elliott and Doyon 1981; Anderson et al. 1990). Important Early, Middle, and Late Archaic components were excavated at the Taylor Hill site (9RI89) in addition to its more publicized Paleoindian component. Diagnostic artifacts include Big Sandy side notched, Palmer/Kirk corner notched, bifurcates, Morrow Mountain, Savannah River. Rock hearths and pits found associated with the Early Archaic components. The site contained an extensive assemblage of unifacial tools associated with the Paleoindian and Early Archaic components.

Researchers Frankie Snow and Chris Trowell have served as constant beacons guarding the Archaic period resources in south Georgia over the past four decades. Snow's survey of the Ocmulgee Big Bend region of the Alapaha, Altamaha, Ocmulgee, Oconee, Satilla rivers has been an unique ongoing project in south central Georgia. A summary of the survey was compiled by Snow in 1977, but since that time he, and associate Chris Trowell, continued to amass site data and artifact collections from more than 1,000 sites in the region (Snow 1977a, 1977b).

Snow's 1977 survey report contains information on 197 Archaic period sites in a 20 county area. The counties include Appling, Atkinson, Bacon, Ben Hill, Berrien, Coffee, Dodge, Irwin, Jeff Davis, Lanier, Laurens, Montgomery, Pulaski, Telfair, Tift, Toombs, Treutlen, Ware, Wheeler, and Wilcox counties. Fiber tempered pottery components were most common (n=121 components), followed by Early Archaic (n=85), Satilla pottery components (n=33), and Late Archaic (n=21). Plain fiber tempered pottery sites were more common in riverine settings, while Satilla pottery sites were most common in interriverine settings. Early and Late Archaic sites were more common in riverine settings. Unfortunately, most of Snow's survey data that has been compiled since 1977 has not been entered into the state site file inventory at the University of Georgia and many of the collections from these sites have not been analyzed or quantified. Snow maintains a map atlas and site notes and the collections are temporarily curated at South Georgia College where they await study. In the absence of financial resources needed to process and properly curate these collections, Snow is serving as their interim steward (Snow 1977b).

Survey at Sandy Hammock (9PU10) in Pulaski County identified a deeply buried lithic zone where flint was found in quantities suggestive of production beyond local demand. At Mosquito Creek, 5 miles east of Sandy Hammock, Snow recorded 11 sites, including numerous Archaic period lithic sites. A deeply buried Early Archaic site was found at 9TU17, which produced Bolen points, caches of biface blanks, and fiber tempered pottery (Snow 1977b). Lithic resources within Snow's study area are very limited. High quality chert is found only in the outer fringe of his study area. One low grade chert source is reported by Snow from Coffee County, but evidence of its use during the Archaic period is not evidenced. This material is a light gray chalky chert that is very brittle. To the extreme south of his study area, silicified coral outcrops along the Suwanee drainage. Most of the study area, however, does not contain sources of stone.

Snow reported on Nipple point, which he suspects is a Paleoindian side notched type, although related to Bolen, Big Sandy I, and Taylor varieties (Snow 1992b: 42-43). He observed seven examples of this rare type from surface collections in Bulloch, Coffee, Lowndes, and Wheeler counties.

Portions of Snow's more recent work are documented in a several papers on the Feronia locality of Coffee County, Georgia (Snow 1984; Blanton and Snow 1989). Blanton and Snow's survey of the Feronia locality in Coffee County yielded a high density of Early Archaic sites. An area approximately 4 km² produced 16 Paleoindian or Early Archaic sites. They note that the Feronia area does not contain natural deposits of stone nearby, and suggest that the geographic setting near the divide between the Gulf of Mexico and the Atlantic Ocean may have been a factor in the high density of sites in this area. Bole/Palmer type points were found on 7 sites (n=51) and Kirk Stemmed and Kirk Corner Notched points were found on 8 sites (n=32).

Blanton (1979) presented survey data for the Upper Satilla Basin in Pierce and Ware counties where he examined 115 sites, including several sites previously documented by Snow (1977a). Bolen, Kirk, Gary, Citrus, and Savannah River, and Savannah River-like points were observed. A total of 62 Early Archaic, 70 Late Archaic, and 38 Satilla Series (Stallings Island Plain pottery) sites were reported. Soapstone vessels and also was reported.

The most recent study that reexamined Snow's study university was Dwight Kirkland's survey of the Chadderton Springs locality in Coffee County (Kirkland 1994). His study was primarily confined to surface survey of all exposed areas within a 3 mile radius of Chadderton Springs. Chadderton Springs is a steep springs that occurs at a eolian sand dune and flatwoods ecotone. The study included portions of the Seventeen Mile River and Bear, Cat, Otter, and Tiger creeks. Kirkland surveyed 971 ha and examined 99 sites, including 22 previously recorded sites. He identified 11 Early Archaic, 6 Middle Archaic, and 21 Late Archaic sites. The Early Archaic sites included 10 with Bolen points, four with Kirk points, and one that yielded an Edgefield Scraper (9CF7).

Garrow & Associates conducted survey of 3,200 acres on the Warner Robbins AFB on the Ocmulgee River in Houston County, which located 33 sites (Blanton and Reed 1987). Archaic components were well represented by 10 Early Archaic, 2 possible Middle Archaic, 7 Late Archaic, and one general Archaic site. Diagnostic points that were reported included Bolen, Bolen/Palmer, Kirk Corner Notched, Kirk Stemmed, Sumter, Otarre, Gary, Savannah River types. A limonite bannerstone fragment also was reported. Several Archaic sites on the Warner

Robbins AFB have been sampled. Excavation at 9HT40 yielded a deeply buried Archaic deposit that included Bolen, Palmer/Kirk, Kirk Stemmed, MacCorkle, Morrow Mountain, and Savannah River points and Satilla Plain pottery. One Transitional Paleoindian or Early Archaic feature was identified, but it was not excavated because it was suspected as a possible human burial. This oval feature (Feature 3) contained stone tools that were interpreted as possible grave goods. No bone was observed (Stanyard and Fryman 1994).

Excavations at 9HT8 on Sandy Run Creek yielded deeply buried Archaic deposits that included Morrow Mountain and large stemmed points, soapstone fragments, and plain and incised fiber tempered pottery (Stanyard and Fryman 1992). Excavations of 12 m² at 9HT7 yielded Savannah River, Gary, and unspecified Late Archaic stemmed points (Blanton and Reed 1987). Minor excavations at 9HT37 identified a Late Archaic component that included fiber tempered pottery and Savannah River points. The deposits extended more than one meter below surface on this site (Stanyard and Fryman 1992).

One of the most extensively surveyed sections of Georgia's coastal plain is at the U.S. Army's Fort Benning Military Reservation in Chattahoochee and Muscogee counties, Georgia and Russell County, Alabama. Fort Benning covers more than 182,000 acres and includes expansive sections of the Chattahoochee floodplain, as well as, extensive interriverine sections. The extreme northern edge of Fort Benning in Muscogee County contains piedmont geology, but the vast majority is Fall Line Hills. Other comparable datasets have been assembled at Fort Gordon near Augusta and at the Fort Stewart Reservation in southeast Georgia.

The story of Fort Benning's archaeological program began with the work of David Chase who made collections and recorded more than 100 archeological sites in the 1950s and 1960s (Chase 1955, 1962, 1963). Major surveys of the base have been conducted since 1977. Research has been conducted by numerous CRM firms. Their studies, which include descriptions of many dozen Archaic sites, are detailed in numerous contract reports. Examples of this work include: Kohler and others (1980), Thomas and others (1983), Benson (1993), Dickinson and Wayne (1985), Poplin and Goodwin (1988a, 1988b), and Elliott (1992).

A recent overview of this research is being prepared (Elliott et al. 1995). They examined the spatial distribution of Archaic period sites at Fort Benning using systematically gathered survey data from 1977 to 1994. Since then the archaeological database at Fort Benning has nearly tripled and most of the 182,000 acres have been inventoried for sites. Unfortunately, no synthesis of this more recent work has been attempted.

As of 1993, more than 800 archaeological sites had been recorded at Fort Benning, including: 39 Early Archaic, 27 Middle Archaic, 37 Late Archaic, and 48 Terminal Archaic/Gulf Formational, and 55 general Archaic sites. Elevation was an important factor affecting settlement locations over time on Fort Benning. Most Early and Late Archaic sites were located below 101 m, while most Middle Archaic sites were located above that elevation. Early Archaic sites were more common on eastern facing slopes; Middle and Late Archaic sites showed a slight preference for northern facing slopes; and Transitional Archaic Gulf Formational sites exhibit a slight preference for northeast facing slopes. Twenty-six percent (n=10) of Early Archaic sites were near early (eighteenth or nineteenth century) roads. For Middle Archaic sites the percentage decreased slightly to 19 percent (n=5). In Late Archaic times, however, 41 percent of the sites

(n=15) are focused near early roads. During the subsequent Archaic to Woodland transitional periods, including the Gulf Formational, this trend reversed. Early Archaic sites were most common on Upatoi Creek, but also were well represented on the Chattahoochee River. Middle and Late Archaic sites were most common on Ochillee and Upatoi creeks, but were infrequent on the Chattahoochee River. Transitional Archaic to Woodland and Gulf Formational period sites were most frequent on the Chattahoochee River and Ochillee and Upatoi creeks. Deeply buried sites are widely distributed across Fort Benning in a variety of environments. Sites with artifacts preserved below the plow disturbed soil zone, were defined as those that contain artifacts more than 50 cm below ground surface. A total of 104 sites on Fort Benning meet these criteria. These sites range in elevation from 59 to 171 m, and they are equally distributed above and below 100 m. The most frequently occurring aspect is to the southwest (n=22). These sites are located both immediately adjacent to permanent water and more than 1.3 km from a permanent water source. Deeply buried sites were most frequently encountered on Ochillee Creek, followed by Upatoi Creek and the Chattahoochee River (n=49, 25, and 18, respectively). Forty of these sites contain Paleoindian or Archaic components, while 60 contain aboriginal ceramic components.

Worth (1988) conducted a reconnaissance survey within the middle Flint River region resulting in the location of 113 archeological sites. Early Archaic components (Bolen, Palmer, and Kirk) were common. Morrow Mountain projectile points were present, but uncommon. Late Archaic components were extremely common and diagnostics include Savannah River points, soapstone bowl fragments, and Stallings Island Plain and Stallings Island Punctate fiber-tempered pottery. Soapstone atlatl weights also were reported. Worth observed that soapstone bowls and fiber tempered pottery often were found on the same sites and both were well represented in his study area.

Survey of a portion of Okefenokee Swamp in Clinch, Charlton, and Ware counties examined the west central area of the swamp near the effluence of the Suwannee River, the Pocket, Jones Island, and Mixons Hammock. Surface examination of 26.8 km of roads yielded 48 sites; 11.5 km of firebreaks yielded 27 sites; 3 plowed fields totalling 96 acres yielded 9 sites, upland pastures yielded 90 sites, and an unspecified amount of pine plantations yielded three sites. Most of the sites consisted of isolated debitage scatters. Few details on Archaic components were provided, but fiber tempered pottery was found on three sites (Paulk 1980; DePratter 1982). No diagnostic Archaic points were identified.

Aside from Georgia's most obvious non-linear hydrologic feature, the Okefenokee Swamp, there are many freshwater wetland areas likely to contain important archaeological sites. These include springs, Carolina Bays, cypress ponds, and limesinks.

Systematic examination of non-linear hydrologic features in the Coastal Plain need to be conducted to define the associated archaeological potential of these landscape features. Snow notes that a critical feature affecting human settlement near these landforms is size. If the water feature is of sufficient size suitable for a bird rookery, then predators, including humans, would have been attracted to them.

Surveys of chert quarries in Georgia and South Carolina have identified important lithic source areas that were used during the Archaic period (Goard 1979; Goodyear et al. 1984). Despite the obvious importance of chert and other stone resources in the coastal plain of Georgia, only a

minor amount of research has been done to identify and characterize the chert quarries and stone sources in the region. This is quickly apparent when an inventory of chert quarry sites is assembled. Geological data provides us with a general understanding of where quarry sites are expected to occur, but few of these areas have been systematically surveyed. What we know from this review of research is that there are chert-rich areas in the coastal plain and then there are broad expanses that have no chert or any knappable stone. These empty zones have very important implications for archaeologists who monitor the movement of stone across the landscape and attempt to derive social and political meaning from these data. The basic tenet is that the mode of acquiring, manufacturing, using, and discarding stone tools is inextricably linked to the social framework of the people using the tools. Societies at different levels of social complexity produce spatial patterns of tool use that are distinguishable, if the geological variables can be controlled. Comparisons of settlements in chert-rich areas with chert-poor zones may allow archaeologists to observe these social differences. A basic prerequisite for this, however, is a secure understanding of the distribution of stone sources. These data for the Georgia coastal plain are presently inadequate. Survey efforts should be directed to identify, characterize, and delineate areas of useful stone.

The Savannah River watershed contains many chert outcrops that were quarried aboriginally. Burke County is well known as a chert resource area. Stony Bluff contained quarried chert (Jones 1880; Moore 1898). Quarried outcrops have been documented on Brier Creek (Brockington 1971; Goad 1979; Goodyear et al. 1984). Goad (1979:28, 37) collected chert samples from quarry sites in Burke County, as well as samples from Coffee, Colquitt, Dougherty, Laurens, and Sumter Counties. Several tributaries of the Ogeechee River also have yielded chert quarries. Eight quarries were reported by Price and Braley (1995) on Rocky Creek in Burke County. Outcrops, and possibly quarries, also were reported on Rocky and Steiner creeks (Wheaton et al. 1982; Steiner 1900). Chert quarries also are reported in Jefferson County (Wheaton et al. 1982; Steiner 1900).

The Altamaha River watershed also contains numerous chert quarries that were heavily exploited in the Archaic period. Miller (1977) noted a flint outcrop, possibly quarried, in Laurens County, Georgia. Chert quarries are reported in Laurens, Wilcox, and Pulaski counties (Frankie Snow, personal communication, February, 1995; Bloom 1989). Whatley and others reports chert outcrops in Houston County (John Whatley personal communication, March, 1982; George Price personal communication July, 2000). Britt (1993) reports a chert quarry and intensive reduction workshop in Laurens County.

The Apalachicola River watershed probably contains the most extensive deposits of chert in the Georgia coastal plain and numerous quarry sites are reported. Chert quarries, outcrops and major primary workshops have been reported for Decatur, Dooly, Dougherty, Lee, Macon, Miller, Randolph, and Terrell counties (Kelly 1954; Gresham 1984b, 1984b; Rudolph and Gresham 1985; Benson 1992; Rudolph and Barber 1979; Smith 1979; Wright 1980; Elliott et al. 1982; Ganzer 1981; Howry 1978; Morrell and Tesar 1979; Ledbetter 1984; Elliott and Elliott 2002).

Excavations at the Muckafoonee site (9DU37) near Albany in Dougherty County, revealed a deep, dense deposit of Archaic lithics (Elliott et al. 1982). Early, Middle, and Late Archaic lithic components were identified. A total of 14,867 chert debitage, 91 utilized flakes, two bifaces, 39 biface fragments, seven endscrapers, nine graters, 3 perforators, one side scraper, a soapstone

vessel sherd, a hematite hollow cane drill core, and 570 fire cracked rocks was recovered in the hand excavated test unit.

Petrified wood is reported in Effingham County, Georgia and Jasper County, South Carolina, although no quarry sites are reported. Large petrified wood timbers have been reported by hobby divers in the the bottom of the Savannah River at Purysburg (Tommy Charles personal communication, February, 1985). Sources more accessible to aboriginal groups, such as sandbar gravels or petrified trees in minor creeks were likely used. Small cobbles of petrified wood were been observed on sand bars in the Ogeechee River in Effingham County (Carolina Brown, personal communication, March, 1992).

Quartz and quartzite pebbles, quarried by Archaic groups, have been reported in Liberty County (Espenshade 1985). Other researchers have reported split quartz pebbles and cobbles and abnormally high frequencies of quartz and quartzite debris in Effingham, Long, McIntosh, and Twiggs counties, which suggests quarrying activity (Fish 1976; Zurel et al. 1975; Gresham 1984). These pebbles and cobbles are found in coastal gravel deposits, which are not mapped geologically.

Silicified coral outcrops on Toms Creek in Echols County and at other locations in the Suwannee River watershed. This cherty material may have been a significant lithic resource during the Archaic period (Chris Trowell personal communication, February, 1995). Silicified or agatized coral is commonly reported on Florida sites, where higher grade cherts are not available. This lithic resource is not widely reported in the research reports in Georgia that were reviewed for this study, with the exception of Baker's study in Lowndes County (Baker 1991). This absence may be due more to a lack of recognition of the raw material type than its absence from the archaeological record.

Tallahatta quartzite, a commonly identified chipped stone resource in Alabama and Mississippi, outcrops in extreme western Georgia. Many archaeologists in Georgia may not be familiar with this material. Tallahatta quartzite may be geologically related to what researchers in Georgia call orthoquartzite. Orthoquartzite was found in association with Paleoindian and Early Archaic sites in the Lake Oconee vicinity (O'Steen 1983). Quantities of the material, including large reduction flakes, were associated with Early and Middle Archaic sites at Taylor Hill (9RI89), suggesting a possible source nearby (Elliott and Doyon 1981). Outcrops of similar material have been documented on the lower Santee River in South Carolina, but the sources of the Georgia stone is more elusive (Anderson et al. 1982). A collector, Mrs. Ima Tribble, who lives in Putnam County, had significant quantities of orthoquartzite in her collection and she stated that the stone outcropped in Jones County near Gray, Georgia. Attempts to relocate the source have been unsuccessful. Dennis Blanton reports a similar stone outcrop in Appling County. Although sandstone is widely distributed in the coastal plain, geological mapping of orthoquartzite is not available. Quite possibly this material occurs as a localized resource in areas where slightly metamorphosed sandstone beds are exposed.

A number of graduate studies were generated during this period that attempted to make sense of the large amounts of data created by CRM studies. John White's masters thesis examined Late Archaic settlement in the South Carolina piedmont (1983). Dennis Blanton's and Kenneth Sassaman's theses dealt with Middle Archaic settlement in South Carolina (Blanton 1983).

Michael Alterman's dissertation attempted to define the Late Archaic on the upper Savannah River, and he argued against the use of certain projectile point typologies based on his examination of selected projectile point assemblages (1987). Steve Stephen Savage's thesis dealt with Late Archaic landscapes, although well founded criticism of inadequacies of his study can be found in a review by Rafferty (Savage 1989; Rafferty 1992). Savage's study is a good example of the misapplication of GIS technology with archaeological data. Sassaman's recently published dissertation research examines the evolution of early cooking technologies using data from the Savannah River valley and the Georgia and South Carolina coast (1993a). Sassaman's study presents many new avenues for Archaic research.

Early Archaic Material Culture. Lithic assemblages from the Early Archaic period also contain finely flaked unifacial and bifacial tools including graters, side and end scrapers, burins, backed knives, and adzes. Early Archaic groups probably covered large territories, and group size consisted of bands, perhaps combining into macrobands together at certain times of the year. Anderson and others have presented a model of Early Archaic settlement for the South Atlantic slope that involves a single band operating within each of the major river drainage basins. These bands gathered in aggregate camps, possible at fall line locations.

A variety of side notched, corner notched, and bifurcated base projectile point types are the hallmarks of the Early Archaic period. Big Sandy, Bolen Plain and Bolen Beveled, Decatur, Greenbrier, Kirk Corner Notched, Palmer Corner Notched, Taylor, and LeCroy, MacCorkle, St. Albans bifurcate forms (Cambron and Hulse 1983:14-17, 41; Bullen 1975:18, 51-52; Coe 1964:69, 71; Broyles 1971)

Edgefield Scrapers are a rare, but important, diagnostic artifact of the Early Archaic period that is found in the coastal plain (Goodyear et al. 1980). Chris Trowell (1992a:18-19) provided a summary of seven Edgefield Scraper finds in south central Georgia. They include three from 9CF17, and one each from 9CF1, 9DG8, 9TF8, 9TF33, and 9TF38. The example from site 9TF8 was found buried in association with Bolen points. The remaining examples were surface finds. Two sites from the Feronia locality yielded Edgefield Scrapers (n=8), and one of the sites (9CF132) contained seven examples (Blanton and Snow 1989). A recent study of the Roland Steiner collection at the Smithsonian Institution by the author [Elliott], which includes a large assemblage of Archaic period tools from Burke County, Georgia, resulted in the identification of more than 75 Edgefield Scrapers. The function of the Edgefield Scraper and its precise placement in regional chronology remains a subject of debate. Very few examples are reported from excavated context in the Georgia coastal plain, although one was recovered from Early Archaic strata at Brier Creek in Screven County (O'Steen 1986).

Snow also reported on the distribution of six pitted stones, or egg stones in south central Georgia (Snow 1992a:17). Illustrated examples were from 9JD10, 9CF28, and an unidentified site in Bacon County. Other egg stone finds include sites in Brantley, Coffee, and Early counties. Snow notes that Bolen points were more common than Kirk and Palmer types in his study region (Snow 1977b). Egg stones were found on two sites in the Feronia locality (Blanton and Snow 1989). Again, the Roland Steiner collection contains numerous examples of this artifact type from Burke and Columbia counties in eastern Georgia. Although this artifact type may have its origin in the Paleoindian period, it continues in use into the Early Archaic period but was most likely forgotten by the Middle Archaic (Whatley 1986).

Early Archaic Subsistence Patterns. Again our knowledge of Early Archaic subsistence patterns is near zero because of the poor preservation of organic materials. From the assortment of stone tools hunting is clearly indicated, and other stone tools suggest the modification and preparation of vegetal materials. Subsistence data from adjacent states can be used to infer the variety of subsistence activities that may have been practiced in Georgia during the Early Archaic period. Any characterizations beyond that, however, are largely speculative and for the Georgia coastal plain these comparisons to neighboring states are a sizeable stretch.

Early Archaic subsistence was characterized by diversified hunting and gathering, with settlement in seasonally occupied camps. Evidence of occupation is more substantial than for the Paleoindian and Transitional Paleoindian periods and many sites contain multiple projectile points and other parts of a diverse flake tool kit. Side notched and corner notched projectile points are the key diagnostics of the period.

Early Archaic Social and Political Organization. In the 1980s David Anderson and his colleagues presented a model of regional settlement for the Early Archaic period in the south Atlantic slope, which would include the eastern one-half of the study area (Anderson and Hanson 1988). Their model recognized seasonal aggregation sites where normally dispersed groups gather and dispersed camps that were more widely distributed and used the remainder of the year. Their model had these groups organized within major drainage basins as bands with the aggregate camps representing macro-band organization. This was a bold first step at organizing and interpreting Early Archaic settlement data. O'Steen (1983) presented Early Archaic settlement data for the lower piedmont of the Oconee River valley. To date, however, no detailed study of the social and political organization of Early Archaic peoples in the Georgia coastal plain has been attempted. The model presented by Anderson and others cited the Taylor Hill site (9Ri89) as an example of a seasonal base camp, although most of the data used in their model was from South Carolina.

Most archaeologists in the Southeast envision Early Archaic political organization as relatively simple and never developing to the tribal level. The extant archaeological data for the Georgia coastal plain does not contain any patterning that would call this interpretation into question. What is clear from the archaeological data is that the coastal plain contains a vast number of Early Archaic sites. No studies have been attempted that examine the density of these sites and to determine how political organization may be reflected in these data. Current knowledge of the data is too crude to identify any unusual clusters of Early Archaic settlement that possibly may represent a deviation to the band level model.

The Early Archaic/Middle Archaic Transition. The Early Archaic/Middle Archaic transitional period in Georgia is little studied. Stone tools that are diagnostic of this transition, including Kirk Serrated (stemmed) and LeCroy bifurcate variants are represented but are not common (Coe 1964; Broyles 1971). Kirk Serrated points are more common, although some percentage of these points have probably been misidentified as Late Archaic types since they are often difficult to recognize.

Middle Archaic Period

Dating the Middle Archaic. New Deal-era excavations at the Tufts Springs Sites 1 and 2 yielded important Middle and Late Archaic period findings, although more than four decades passed before these excavations were described (Stoutamire et al. 1976). Both sites are located more than 2 km west of the Ocmulgee River in Bibb County. The pottery included Stallings Plain, Stallings Punctate (incised and incised and punctated motifs), and unidentified grit and fiber tempered and sand and fiber tempered pottery. Soapstone vessel sherds and perforated soapstone slabs also were found. Several bannerstones, including a Stanly type, were reported. The projectile points from the site were typed by Stoutamire and his colleagues and included: Abbey, Cotaco Creek, Dalton, Elora, Guilford, LeCroy, Limestone, Morrow Mountain, Pine Tree, Savannah River, Small Appalachian Stemmed, Sugar Creek, and White Springs types. The test units beyond the mound did not contain significant amounts of artifacts, however, which suggest that Archaic settlement focused on the mound and was possibly associated with its construction. The structure of the mound was not described, but it was approximately 100 feet in diameter.

Schnell and Knight's scheme for the Middle Archaic projectile point sequence in western Georgia, which included Florida Archaic Stemmed, Hillsborough, Newnan, Kirk Serrated, Morrow Mountain, and Savannah River (Schnell and Knight 1978).

The diagnostic markers of the Middle Archaic period are a variety of stemmed projectile points including Benton, Elora, Guilford, Morrow Mountain, and Stanly types. In Georgia, the Old Quartz typology, a term coined by Caldwell, includes many Middle Archaic point types, but it may also include earlier and later point types, and therefore is of limited use for dating sites. The use of the term has been discontinued. The diverse tool kit seen with the Early Archaic period is not so evident during Middle Archaic times. A trend has been observed in South Carolina for assemblages from this period to be more expedient and generalized in form. This change in tool morphology has been explained by accompanying changes in natural resource utilization.

In the Georgia piedmont, Middle Archaic sites are dominated by Morrow Mountain type sites. Within the upper coastal plain, however, the Middle Archaic period is not well documented. This has been, in part, a recognition problem since archeologists cannot agree on what stone tools date to the Middle Archaic period in that region. Many stemmed point forms traditionally classified as Late Archaic types, and corner notched forms, traditionally classified as Early Archaic types, may actually date to the Middle Archaic period.

Coe (1964) reports atlatl weights, or bannerstones, as early as the Stanly phase in the North Carolina piedmont. Coe also identifies chipped axes associated with the Guilford phase in the North Carolina piedmont. Many forms of chipped axes, similar to those illustrated by Coe, are found in Georgia in secure Late Archaic contexts. Axes may have been in use even earlier than the Middle Archaic, but they are not commonly found in excavations.

Sassaman and his colleagues proposed three phases for the Middle Archaic period of the Savannah River region, which begin with the Stanly phase (7800-7500 B.P.), followed by the Morrow Mountain phase (7500-6000 B.P.), and the Guilford/Brier Creek/MALA phase (6000-ca.5000 B.P.) (Sassaman et al. 1990).

Elliott and Ledbetter presented a sequence for the Late Middle and Late Archaic periods of the central Savannah River area (Elliott et al. 1994). The Phinizy Swamp phase (ca. 5450-4450 B.P.) was defined with diagnostic markers consisting of Brier Creek, Guilford and MALA projectile point types.

Very few absolute dates are available for Middle Archaic sites in Georgia's coastal plain. A MALA/Brier Creek lanceolate component at the Phinizy Swamp site (9RI178) was dated at 4805 \pm 139 B.P. (UGA-6367D) (Elliott et al. 1993, 1994). The Morrow Mountain component at the Rae's Creek site (9RI327) was securely established by three radiocarbon dates at between 7400 and 6660 B.P. (\pm 90 for both samples, Beta-35185, 35184) (Crook 1990). Radiocarbon dates from generalized Late Middle Archaic strata at two sites on Brier Creek were 5760 and 5740 B.P. (\pm 125 and 90, respectively, Beta 13290, Beta-unspecified) (Blanton 1985; O'Steen 1986; Wise 1986). Most age estimates for Middle Archaic components in the Georgia coastal plain are based on inference from excavations on Middle Archaic sites in adjacent states.

Middle Archaic Settlement Patterns and Site Types. During the Middle Archaic period the territorial range of aboriginal groups probably became more restricted, and it is during this period that we see the first indications of long distance trade or exchange. Middle Archaic shell midden sites on the Tennessee and Ohio River drainages, at sites such as Indian Knoll, Carlson Annis, and Eva, contain burials, often accompanied with grave goods such as marine shell beads, axes, atlatl weights, and exotic chipped stone tools. While Middle Archaic sites in Georgia do not exhibit obvious evidence of a long distance exchange system, the presence of marine conch or whelk shells at sites far into the interior of the continent may have involved groups in Georgia acting as intermediaries in a reciprocal, "down-the-line", exchange network. While the beginnings of horticulture date back to the Middle Archaic period in the Mississippi valley, no evidence of cultigens has been found on Middle Archaic sites in Georgia to date.

Of the 2,166 Middle Archaic sites in Georgia (as of 2000), 300 are located in the coastal plain (2000:26-27, Figure 5, Table 9) (see Table 1). Middle Archaic sites occur most frequently in Georgia's Fall Line Hills (n=204), followed by sites in the Vidalia Uplands (n=51). The coastal plain contains approximately 14 percent of the Middle Archaic sites in Georgia.

The Phinizy Swamp Site 99RI178) is located within Phinizy Swamp in the Savannah River floodplain southeast of Augusta in Richmond County, Georgia (Elliott et al. 1993, 1994) Early, Middle, and Late Archaic components were found. This site yielded the only radiocarbon date for the Guilford and related late Middle Archaic cultures in Georgia. The MALA point, a slightly corner notched, stemmed point was first recognized in stratigraphic sequence as a transitional Middle to Late Archaic point type by Sassaman in his excavations at the Pen Point site (1985). He noted the similarity of this type to late Middle Archaic points forms in Tennessee (eg., White Springs, Sykes, Benton), which has also been identified in similar temporal context at the Phinizy Swamp site. The Brier Creek Lanceolate point and the Connerly point (based on unreported amateur excavations on Brier Creek) were found in Transitional Middle to Late Archaic context at the Phinizy Swamp site (Michie 1968; Cambron and Hulse 1964; Elliott et al. 1993).

The University of Georgia conducted surface survey of portions of the Ebenezer Creek watershed Screven and Effingham for Soil Conservation Service resulting in the location of 108

archaeological sites (Fish 1976b). Fish classified 42 sites as Archaic period, although diagnostic artifact types for only 20 are listed in his Appendix (Fish 1976b: Appendix I). The discrepancy can be accounted for by Fish's liberal use of an Archaic period assignment to unifacial flake tools. Thirty-three Archaic sites were found on Lakeland soils. Fish identified 113 Early Archaic period, 453 Middle Archaic period, and 261 Late Archaic projectile points from survey sites or from local amateur collections. A high frequency of projectile points was attributed to the Middle Archaic period, a pattern is not reflected in other studies in the region, but this can be partially explained by Fish's criteria for Middle Archaic period diagnostic artifacts, which include Kirk and Palmer point types. Most researchers group these types with the Early Archaic period. Early Archaic points (defined by the presence of Dalton or Hardaway points) were reported from four sites. Middle Archaic points (Kirk, Stanly, Morrow Mountain or Palmer point) were reported on 11 sites. Late Archaic points (Savannah River or Halifax types) were reported on 11 sites. Stallings Island pottery was reported from seven sites, including two sites with Stallings Punctate pottery.

The Middle Archaic sites in Snow's (1977) survey of the Ocmulgee Big Bend region included four sites with Morrow Mountain, three with Florida Archaic stemmed, and one with Paris Island stemmed points.

Middle Archaic Material Culture. Diagnostic Middle Archaic projectile point types that are reported from Georgia's coastal plain include Arredondo, Benton Broad Stemmed, Brier Creek Lanceolate (Conerly), Elora; Florida Archaic Stemmed, Guilford, Hamilton (stemmed), Kirk Stemmed and Kirk Serrated, MALA, Morrow Mountain, Newnan, Putnam, Stanly, and Westo (Bullen 1975:29, 31-32, 39; Cambron and Hulse 1983:12, 28; Michie 1968; Coe 1964: 36, 38-40, 71-72; Sassaman 1985). It is often difficult for researchers to differentiate between Middle and Late Archaic stemmed point forms in this region and, consequently, Middle Archaic components are likely under-represented in the site inventory because the tendency has been to classify nearly all stemmed tools as Late Archaic.

Middle Archaic Subsistence Patterns. Middle Archaic subsistence patterns In Georgia's coastal plain are completely unknown. The climate during the Middle Archaic Period has been referred to as the Altithermal, or Hypsothermal, where temperatures were somewhat warmer and drier than modern conditions. Gunn and Wilson (1993) suggests that the temperatures were not all that different than today, but that the drier conditions led to extreme variations, i.e. scorching temperatures during the day followed by freezing temperatures at night. This stressful climatic variation resulted in necessary changes in subsistence strategy, mobility, and social organization that are reflected in the archeological record. By 5,500 B.P., the south Georgia climate had developed into what exists today, and it was at this time that the swamps formed along the rivers of the coastal plain. Although fluctuations in sea level have continued to the present, these variations are not thought to have significantly affected the environment of the upper coastal plain sand hills and fall line regions.

Middle Archaic Social and Political Organization. The social and political organization of Middle Archaic societies in Georgia's coastal plain is undefined. Sassaman's excavations at the Pen Point site in South Carolina suggest that by the Late Middle Archaic period craft specialization was developing for projectile point manufacture. Production of tools on a scale

that probably exceeded local demand was suggested by the manufacturing evidence of MALA projectile points (Sassaman 1985).

The Middle Archaic/Late Archaic Transition. Archaeologists frequently are exasperated by the difficult task of distinguishing between Middle and Late Archaic chipped stone assemblages in Georgia's coastal plain. This is a problem that has not been resolved as of this writing and it remains an important research subject for future research.

The Late Archaic

Dating the Late Archaic. James Stoltman developed a chronological scheme for the Savannah River region based on work at Groton Plantation in South Carolina (Stoltman 1972, 1974; Peterson 1971). Research by James Stoltman at the Groton Plantation in the lower interior coastal plain of South Carolina provides some of the most evocative Archaic data from the Savannah River valley, particularly for the Late Archaic period. Radiocarbon dates from the shell midden at the Rabbit Mount site that were associated with Stallings Island Plain pottery were the earliest returned thus far for North America, and their validity continues to spark discussion in the region. Based on his work at Groton, Stoltman presented a cultural sequence for the Late Archaic period for the Savannah River region. Drexel Peterson elaborated Stoltman's sequence, but Peterson's terminology has been largely ignored by the professional community. Stoltman's scheme begins with Stallings I (5000-4500 B.P.), which was preceramic, followed by Stallings II (4500-3700 B.P.), which was recognized by Stallings Plain pottery, and Stallings III phase (3700-3100 B.P.), when Stallings Punctate pottery was added to the material culture.

Excavations in the Savannah vicinity in the 1930s also yielded important Late Archaic remains, although many of these components were not described until the early 1990s. DePratter's analysis of the WPA excavated material from Chatham County, resulted in a chronology for the northern Georgia coast (DePratter 1990). It begins with the Late Archaic period and begins with the St. Simons I phase (4150-3650 B.P.), followed by the St. Simons II phase (3650-3050 B.P.), and Refuge phase (3050-2650 B.P.).

Schnell and Knight advanced a chronological scheme for the Late Archaic projectile point sequence in western Georgia, which included Lafayette, Florida Archaic Stemmed, Clay, Culbreath, and Westo. They also defined the Orange Phase (2500 to 1250 B.C.) projectile point sequence in western Georgia, which included Citrus, Hernando, Lafayette, and Florida Archaic Stemmed (Schnell and Knight 1978).

Sassaman and his colleagues proposed three phases for the Late Archaic period of the Savannah River region, which begins with Stallings I (5000-4500 B.P.), followed by Stallings II/III (4500-3100 B.P.) and Thoms Creek phase (4000-3000 B.P.) (Sassaman et al. 1990).

Elliott and his colleagues (1995) proposed four phases for the Late Archaic and Terminal Archaic periods of the central Savannah River valley. These include the Paris Island, Mill Branch, Lovers Lane, and Dickens phases. The Paris Island phase (4450-4150 B.P.) is marked by the presence of Paris Island stemmed, soapstone slabs, and bannerstones. The Mill Branch phase (4150-3800 B.P.) is marked by the presence of Savannah River points, Stallings Plain pottery, winged bannerstones, and soapstone slabs. The Lovers Lane phase (3800-3300 B.P.) is marked by the

presence of Kiokee Creek points, Stallings Plain and Punctate and Thoms Creek pottery, and soapstone slabs. The Dickens phase (3300-2850 B.P.) is marked by the presence of soapstone bowls and unspecified stemmed points.

Absolute dates for the Late Archaic and Terminal Archaic periods in Georgia's coastal plain are more abundant than for earlier periods. This is particularly true for the ceramic Archaic era. A recent compendium of these dates was presented by Elliott and Sassaman (1995: Appendix I). Most of these dates from sites that are located in Georgia's coastal plain help to fix the age of Stallings Island pottery components. These Stallings dates range from 4260 B.P. at the Kings Bay site (9CAM167) to 3004 B.P. at Mill Branch (9Wr4South) (+/-100 and 89, respectively; UM-1433, UGA-6167). Radiocarbon assays from the preceramic strata at the Stallings Island site (9Cb1) range from 4700 to 4450 B.P. (+/-150 for both; M-1279, M-1277) (Crane and Griffin 1963; Williams 1968; Bullen and Greene 1970). The estimated age for most preceramic Late Archaic components in Georgia's coastal plain are inferred from excavations in neighboring areas.

Webb (1990) and Ledbetter (Ledbetter et al. 1994) reported on excavations at the Tarver site at the Fall Line on Town Creek in Jones County. Webb found Morrow Mountain, Savannah River, and untyped medium stemmed projectile points. Ledbetter identified a Late Archaic house and he defined the Tufts Spring phase based on his findings at this site and previous findings by WPA excavators at the Tufts Springs sites (Stoutamire et al. n.d.). The Tufts Spring phase has a suggested date range from ca. 2,200 to 1,800 B. P. and is marked by the use of predominantly plain fiber tempered pottery and Savannah River projectile points. Domestic structures also were part with this phase.

Although no soapstone outcrops or quarries are known from the coastal plain, several outcrops are reported from piedmont portions of the Fall Line zone (Elliott and Doyon 1981; Wauchope 1966; Wood et al. 1986; Elliott 1984; James Bates, personal communication 1993; Wood et al. 1986; Appendix I). The soapstone bowl industry may have lasted more than 1,600 years in Georgia. Most of the radiocarbon dates for sites with soapstone bowls are from the Tennessee Valley, where they generally date to after 1,600 B.C. The earliest reported radiometric date for soapstone bowls in the Georgia is about 4200 years ago obtained from a hearth at the Line Creek Site (9FY36) on the upper Flint River drainage (Elliott 1989:93). This single date deviates from the norm, however, and it needs to be corroborated before the antiquity of the stone bowl industry can be firmly established.

Sassaman recently compiled the radiocarbon dates for soapstone vessels (Sassaman 1997:1-20). These efforts were supplemented by a series of AMS radiocarbon dates on soot from soapstone vessel sherds, which have produced even more refined dating of Archaic stone bowl technology. One sooted soapstone vessel sherd in Sassaman's study was from a surface site in Coffee County and it yielded an AMS date of 3460 +/- 60 BP (Beta-84699; Sassaman 1997:7, Table 1). This date was one of the older dates in Sassaman's study but it supports his premise that soapstone vessel tradition was a relatively late addition to Late Archaic culture in Georgia's coastal plain. Sassaman's data is tightly controlled and it calls into question the early date at Line Creek.

Late Archaic Settlement Patterns and Site Types. The Late Archaic period ushers in the beginnings of sedentary life with some sites permanently occupied or occupied most of the year

among native American groups. Large stemmed points and atlatl weights are diagnostic of the Late Archaic period.

Charles C. Jones, Jr., was a world renowned student of history and archaeology and a relic collector. His writings on archaeology include several books and journal articles (Jones 1861, 1873, 1880). Jones conducted surface collections and made extensive excavations at Stallings Island. Despite his publication record, few artifacts or other records pertaining to his specific sites in the Savannah River valley were located. A collection of artifacts collected by Jones found their way into the Smithsonian Institution's collection through direct donation by Jones, indirect donation by way of former Smithsonian curator, Charles Rau, and through purchase following Jones' death (*The American Museum Journal*, Volume 1:1900-1901). Preliminary search of the Smithsonian's current holdings indicate that this collection has greatly dwindled in size through the years. As of 1968, portions of Jones' collection were in possession of the Claflin family in Belmont, Massachusetts (Williams 1977). Other material collected by Jones formerly in the Heye Museum now may be in dead storage in Washington, D.C. The portion of Jones' collection that was examined for this study at the Smithsonian Institution includes Late Archaic pottery, projectile points, soapstone, and shell beads from Stallings Island and Price's Island, both in the piedmont province. The primary contribution of C. C. Jones lies not in the quality of his fieldwork or in provenienced collections but in the attention to the region his work created for subsequent scholars.

Scholarly interest in the Late Archaic of the central Savannah River valley continued into the early twentieth century culminating in the publication on excavations at Stallings Island by William Claflin and the Cosgroves (Claflin 1931; Steiner 1900; Fairbanks 1942).

Of the 2,629 Late Archaic sites in Georgia (as of 2000), 1,039 are located in the coastal plain (2000:26-27, Figure 5, Table 9) (see Table 1). Late Archaic sites occur most frequently in Georgia's Fall Line Hills (n=442), followed by sites in the Vidalia Uplands (n=231). The coastal plain contains approximately 40 percent of the Middle Archaic sites in Georgia.

The Late Archaic period sites in Snow's (1977) survey of the Ocmulgee Big Bend region included 9 Savannah River, one Culbreath, one Lafayette, one Clay, one Wade, and two Tallahassee point sites. Ten fiber-tempered and seven Satilla series pottery sites, as well as two Refuge pottery sites, were included among the Archaic sites. Most researchers have considered the Refuge series and an Early Woodland type, but Snow and others suspect that it may be contemporaneous with the Satilla series pottery. Satilla decorative motifs observed in Kirkland's study area include Satilla Brushed, Satilla Plain, Satilla Simple Stamped, Satilla Slashed, and Willacoochee Check Stamped. Kirkland's study is complemented by Selielstad's (1994) paleo-environmental reconstruction of the region, which was based on a single core sample from the Chatterton Springs peat. The Flat Tub Landing area on the Ocmulgee River produced 24 sites, including several Satilla series sites. Snow considered the Flat Tub vicinity to be the northern limit of the Satilla series distribution, since his surveys to the north did not contain this pottery. Late Archaic (soapstone and fiber tempered pottery) were reported at Bells Ferry Crossing near the Oconee and Ocmulgee rivers confluence. Falling Rock (9AP10), on the Altamaha River in Appling County, produced preceramic Archaic and fiber tempered pottery sites and Davis Field (9AP15) produced plain fiber tempered pottery. The Satilla series extended into the Alapaha drainage to the southwest Snow considers the Satilla series to be at least partially

contemporaneous with the Refuge series of eastern Georgia, and Refuge ceramics were quite rare in his study area (Snow 1977b).

Fish and Rudolph (1978) summarized the distribution of fiber tempered pottery sites (n=99 sites) reported by Snow. In riverine settings, these sites were most common at interfluvial (n=24), terrace (n=16), floodplain (n=16), and bluff sites (n=11). For interior settings, nearly all fiber tempered sites occurred on sand ridge sites (n=13).

One difficulty in assessing Snow's survey data lies in comparing his results with other studies. His methods were largely salvage oriented and the extensiveness of the surveyed areas is not explicitly stated in his report. His technique included repeated visits to sites, a luxury that many CRM researchers are not usually afforded. The end result is a higher yield of diagnostic artifacts and a better understanding of the total components represented at a site. Lastly, Snow's data is limited because it is almost exclusively information gathered by surface collection. This deficiency has been alleviated by recent excavations at some of Snow's sites by later work by Dennis Blanton, Keith Stephenson, and Dwight Kirkland. An estimate of the site density reflected in Snow's data was obtained by examining a representative study area located in a riverine zone. One of Snow's survey tracts, a timber clearcut on the Ocmulgee River located on the Jacksonville and China Hill U.S.G.S. 7.5 minute quadrangle maps, covered approximately 9.5 km². Nineteen archaeological sites were identified within this study tract, indicating a site density of one site per 0.5 km².

While the Stallings Island site had defined the Late Archaic period of Georgia investigations at Late Archaic sites further south revealed other kinds of sites, lacking the freshwater shellfish midden. Probably the best documented example of a non-shell midden site is Lovers Lane Site (9RI86) is located on a point bar deposit next to an oxbow lake known as Cupboard Creek (Ferguson and Widmer 1976; Bowen 1978; Elliott and Doyon; Elliott et al. 1993, 1994). Lovers Lane had no components earlier than the Late Archaic period. Lovers Lane yielded hundreds of Late Archaic features, several house plans, and a wealth of Late Archaic material culture from a 700 year span. Phinizy Swamp contained a stratified Archaic deposit with significant remains from the Middle Archaic and Middle to Late Archaic transition.

Another important Late Archaic excavation was at the Mill Branch site (9WR4), located near the headwaters of Brier Creek in Warren County, Georgia (Ledbetter 1991). Mill Branch was a shallow upland site with features and included a well-preserved Late Archaic semi-subterranean pit house filled with refuse. Mill Branch opened our eyes to the reality of Late Archaic architecture and forced a re-examination of previously excavated data. The artifacts from Ledbetter's excavations were later used to help define the Mill Branch phase of the Late Archaic (Elliott et al. 1994).

David Phelps and Rebecca Burgess conducted excavations at Whites Mound (9RI4)—a Late Archaic midden site below Augusta in Richmond County, but only brief journal articles were written (Phelps 1964; Phelps and Burgess 1965; Olsen 1970).

The Ogeechee River likely holds many more secrets about Georgia's Archaic period, although few excavations are reported in that region. The Rocky Ford site is an important Late Archaic period shell midden site located at the mouth of Horse Creek in Screven County (Bartsch 1981;

Sassaman 1990; Sassaman et al. 1995). While no formal survey has been conducted at this site, it merits discussion as an rare shell midden site. Another Late Archaic shell midden is reported in Jenkins County, Georgia (Elliott 1992:4). Site 9SN1, located between Halcyondale and Stalco in southwestern Screven County, was recorded by Robert Wauchope, based on a 1935 newspaper article about a site, which was described as “a burial ground” (Lufburrow 1935). Later examination of pottery from a site in the same locale by John Cain identified primarily Stallings Island series wares.

Excavations were conducted during the mid 1980s at a series of buried sites along Brier Creek (Garrow 1984; Elliott 1986a; Elliott and O'Steen 1987; Espenshade 1986; Joseph 1985; O'Steen 1985; O'Steen and Espenshade 1985; Wise 1986). These sites were important for defining Middle and Late Archaic chert reduction strategies for the Brier Creek region. This portion of the Brier Creek terrace near its confluence with the Savannah River experienced peak use during the Middle and Late Archaic periods, as evidenced by discarded stone debitage. While none were located on chert quarries, there was considerable reduction debris present. Several Middle and Late Archaic radiocarbon dates were obtained from the sites. The sparseness of features, low frequency of diagnostic artifacts, extensively bioturbated character of the loose sand deposits, and stifling sampling restrictions reduced the value of these excavations somewhat, but they constitute the largest block excavations in the interior coastal plain of Georgia (Elliott and O'Steen 1987).

Excavations at the Brannon Bridge site on Brier Creek yielded Big Sandy (Bolen) side notched, Kirk/Palmer corner notched, MALA corner notched, Brier Creek lanceolate, Late Archaic Stemmed, Contracting Stemmed, soapstone perforated slabs, Stallings Island Plain and Stallings Punctate pottery (Elliott 1985, 1986). The 40-50 cm zone at Brannon Bridge contained Early and Late Archaic artifacts. The 50-70 cm zone produced Early and Middle Archaic artifacts. John Foss examined the soils at Georgia Power Company SN-08. The 70-90 cm zone yielded Early Archaic artifacts (Elliott and O'Steen 1987). At SN-09, a site located immediately west of the Brannon Bridge site, major occupation was manifested during the Late Archaic period with minor use during the Early Archaic and Middle-Late Archaic transition. Diagnostic artifacts include plain fiber tempered pottery, perforated soapstone slabs, hafted bifaces (unspecified Early Archaic side notched, Mack (Late Archaic), stemmed/slightly side notched (Late Archaic, Savannah River stemmed, Mala corner notched), and hafted endscrapers (Blanton 1986; Wise 1986). Part of the Archaic deposits were below the water table and Late Archaic artifacts were found imbedded in bog iron concretions in several test unit.

The Bilbo mound in Chatham County, Georgia was an important Late Archaic site but these excavations are incompletely reported (Dye 1976; Williams 1977; Waring 1977a-d; Ford 1969).

Excavations at the Deptford site in Chatham County by WPA crews yielded a minor amount of St. Simons series pottery (plain and punctated). Excavations in the Deptford village produced a small amount of St. Simons series plain pottery, side notched, corner notched, and stemmed projectile points, bone pins, and a winged bannerstone fragment. Most of the collections from this site, which are voluminous, have not been analyzed (Depratter 1991).

Excavations at 9SU6 on Mill Creek in interriverine Sumter County exposed a total of 129 m² yielding a deeply buried cultural deposit. Archaic components include Big Sandy, Kirk

Stemmed, Arrendondo, Late Archaic stemmed, Stallings Island fiber tempered pottery, and soapstone bowls. The most intensive use of the area was during the Late Archaic period. Gresham's report includes an in-depth discussion of the factors leading to site formation in the coastal plain. Gresham and his colleagues concluded that bioturbation was the most likely cause of the artifact deposition and a rough stratification (Gresham et al. 1989).

Carolina Bays are a curious natural feature of the coastal plain landscape found from Maryland to Florida. These oval wetland features are common in southeastern Georgia. To the west, these co-mingle with limesinks and other water features and are difficult to distinguish. Deeply buried archaeological sites have been reported in association with Carolina Bays, particularly on the southeastern edges of these landforms. Despite the abundance of Carolina Bays and the potential for important sites associated with them, few in Georgia have been excavated. Exceptions include excavations at Sand Pond and Humphries Bay in Effingham County (Manning and Finch 1985; Elliott 1994; Jannie Laubser personal communication, February, 1995).

Studies of submerged Archaic sites in the tidal salt marsh off Skidaway Island and other similar studies in the Savannah River delta and lower coastal plain opens up a whole new universe of Archaic sites for exploration (Howard et al. 1980; Colquhoun 1981; LePionka 1980, 1981, 1983; Brooks et al. 1986; Webb and DePratter 1982). Excavations in the marsh at one site on Skidaway Island yielded a dense deposit of chipped stone artifacts, which was in sharp contrast to the observed frequency of chipped stone from terrestrial sites on the island. These data suggest that most of the pre-Late Archaic period may lie submerged on the Georgia coast. Screened samples from the dredge spoil piles from the bottom of the Cumberland River at the Kings Bay submarine base in Camden County yielded several examples of Archaic period projectile points and chert debitage, while the terrestrial excavations yielded little in the way of Archaic stone tools (Michael Griffin, personal communication, March, 1980). These data contrast sharply with the terrestrially excavated data from the same locality.

Smith (1978) reported on survey for the Kings Bay Submarine Base in Camden County, Georgia where 34 sites were found in 3,608 ha. Twenty-two sites excavated as part of the Kings Bay Project in Camden County have yielded Late Archaic remains. The Archaic period sites were restricted to the St. Simons phase (1,000 B.C. and later). Fiber tempered pottery of the St. Simons series was identified on 15 sites. One site yielded Orange phase pottery. Late Archaic stemmed projectile points were recovered from only two sites. These excavations comprise the largest excavated sample from the coastal zone (Smith et al. 1980; Smith 1984, 1986; Rock 1985, 1986; Adams 1986; Ward and Rock 1986).

The Kings Bay data is remarkable for its low incidence of diagnostic chipped stone tools from the Archaic period. Even debitage is present in low frequency, indicating low reliance on stone tools at these sites. The dearth of pre-Late Archaic components from the excavation data strongly suggests that those landforms were not suited for habitation during most of the Archaic period, either because they were submerged or too distant from the marsh environment.

University of Georgia conducted surface survey along the Big Slough drainage in interriverine Miller and Grady counties for the Soil Conservation Service. This project located 89 prehistoric lithic sites. A total of 26 sites yielded projectile points and nine sites with artifacts classified as site furniture (axes, anvils, or grinding stones). Most (89 of 132, or 94.7%) of the diagnostic

projectile points were classified as Late Archaic (Fish and Mitchell 1976:14). Late Archaic types included Clay, Elora, Savannah River, Wade and unspecified contracting stemmed points.

Nancy White (1981) summarized surveys conducted in Lake Seminole from 1948, 1950, and 1981. Lake Seminole includes 15,176 ha and has 515 km of shoreline and it impounds portions of the Flint and Chattahoochee rivers. A total of 302 prehistoric sites has been recorded within 13,360 ha the reservoir basin that have been systematically surveyed. A wide variety of Archaic projectile point types is reported from the Lake Seminole region with Bolen and Archaic Stemmed the most prevalent. Other Archaic point types include: Big Sandy, Kirk Corner notched, Kirk Stemmed, Morrow Mountain, Elora, Savannah River, Levy, Leon, Lafayette, Cotaco Creek, Putnam, Clay, Wacissa, Little Bear Creek, and Swan Lake/Jackson. Seventeen fiber tempered pottery sites are reported, and three of these also contain soapstone vessel sherds. Two sites contained soapstone vessel sherds, but no fiber tempered ware (White 1981:600; Belovich et al. 1982).

Georgia's Sea Islands has produced substantial archaeological evidence for the Late Archaic and Terminal Archaic periods, but earlier periods are poorly represented. Moore (n.d.) reported 20 sites in approximately 5,000 acres of St. Simon's Island, including four with Late Archaic period artifacts. Site 9GN211 yielded 51 early sherds, including: St. Simons Plain, St. Simons Punctate, and St. Simons Incised, as well as other unidentified fiber and sand tempered pottery and an undescribed projectile point. Oatland Fields Site and the Causeway Site yielded a minor amount of plain fiber tempered pottery. An engraved bone pine from the Sinclair Site indicates a likely Late Archaic component. Extensive excavations of a Late Archaic site at the site of the St. Simons Island Airport by Preston Holder from the 1930s remain unreported.

Simpkins (1975) reported seven sites were found on Sapelo Island from McMichael's survey. Two of these, Sapelo Shell Ring and McKinley's Ring Number II, yielded Late Archaic pottery (St. Simons Plain). Benton and Swindel (1980) surveyed 1,000 acres of Hermitage Island, an interior marsh island in Glynn county, Georgia and identified two sites, one of which was a shell midden site that contained unspecified Late Archaic projectile point. Sheldon (1976) reported on survey of 2,100 acres of Colonel's Island, an interior marsh island in Glynn County, which identified 27 sites. Three Late Archaic shell midden sites were located, based on the presence of plain fiber tempered pottery.

Four sites excavated by the WPA on Wilmington Island yielded Late Archaic remains. Extensive excavation at site 9CH11 produced St. Simons Series (plain, incised, and punctated) and sand and fiber tempered pottery, broad straight base stemmed points, and engraved bone pins indicative of a Late Archaic occupation. Site 9CH16 yielded a minor amount of St. Simons Plain, St. Simons Incised, and St. Simons Punctate pottery. Extensive excavations at the Oemler Site (9CH8) contained St. Simons series pottery (plain, incised, and punctated), perforated soapstone slabs, and Late Archaic stemmed and contracting stemmed points. Excavations at Meldrim (9CH12) yielded minor amounts of St. Simons series pottery (plain, incised, and punctated) and three soapstone vessel sherds. Site 9CH9 produced a minor amount of St. Simons Plain and St. Simons Punctate pottery.

Ehrenhard (1976) conducted reconnaissance survey of Cumberland Island and located 36 sites. Stallings Island pottery was found only one of these sites. Middle Archaic projectile points types

(Culbreath, Alachua-like, and unspecified Middle Archaic stemmed types) were reported, apparently washed out on the beach. Minor amounts of St. Simons Plain pottery were recovered from Dungeness Wharf (9CAM 6) in the lowest excavation level (Level 7). Approximately 4 m² were excavated on this site. Minor amounts of Orange Plain pottery were reported from NPS CAM 14 and minor amounts of Orange Plain, Orange Incised, and St. Simons Plain pottery were unearthed at NPS CAM 15. Both of these sites were located on the eastern edge of the marsh and were described as erosional remnants, and apparently no excavations were conducted on these two sites (Ehrenhard 1981).

The most extensive survey of Skidaway Island was conducted by DePratter (1975, 1976). St. Simons pottery was the earliest reported Archaic component, but it was well represented by his surveys. The St. Simons pottery was associated with shell middens. DePratter's survey did not include any shovel testing. Elliott (1985) surveyed a 100 acre tract of Skidaway Island using systematic shovel tests and several non-shell midden sites were recorded, but he reported only a single fiber tempered sherd. DePratter (1975) reported on testing of eight sites on Skidaway Island. One site had a St. Simons pottery component. Webb and DePratter (1982) reported on testing of 9CH113. This site had a St. Simons pottery component. Testing of a portion of the site that was located beneath the salt marsh yielded a dense chipped stone assemblage. Although the debitage was non-diagnostic, its presence in intact context beneath an active salt marsh strongly suggests that it pre-dates the St. Simons phase occupation.

Late Archaic Structures and Burials. The earliest confirmed archaeological evidence in the Georgia coastal plain of permanent domestic architecture and intentional human burial is witnessed during the Late Archaic period. Sites that have yielded Late Archaic structures are the Mill Branch site (9Wr4) and Lovers Lane (9Ri86).

Late Archaic Material Culture. By the end of this period, pottery is adopted into the material culture. While Late Archaic sites elsewhere in the country have yielded evidence of horticulture, this has not been documented in the Chattahoochee River valley. Many researchers consider the subsequent Terminal Archaic or Gulf Formational Period to be part of the Late Archaic, while others consider the advent of pottery to be *the* distinguishing marker that separates Archaic from Woodland lifeways.

Diagnostic artifacts of the Late Archaic period include Abbeys (Cambron and Hulse 1983:1); Clay (Bullen 1975:27); Florida Archaic stemmed (Bullen 1975:32); Maples (Cambron and Hulse 1983:85); Paris Island (Elliott 1982;Whatley 1985); Savannah River (Coe 1964:42-45); South Prong Creek (Cambron and Hulse 1983:116), and perforated soapstone slabs (Elliott et al. 1994; Sassaman 1994). Diagnostic tools of the Terminal Archaic include Gary (Cambron and Hulse 1983:57); Kiokee Creek (Smith 1974; Elliott et al. 1994); Lafayette (Bullen 1975:26); Savannah River (Coe 1964:42-45); Wade (Cambron and Hulse 1983:122), undifferentiated small stemmed points. Perforated soapstone slabs, soapstone vessels (Elliott 1981; Sassaman 1994) Satilla series (Snow 1977), Stallings Island series (Claflin 1931), St. Simons series (Holder 1938; Waring 1977; DePratter 1990), and Thoms Creek series (Griffin 1948; Phelps 1964).

Late Archaic and Terminal Archaic projectile types that have been recognized from excavated contexts at Fort Benning are: Adena, Savannah River, Wade, Pickwick, Hamilton Stemmed, Lafayette, South Prong Creek, Fairland, Flint stemmed, and undifferentiated Late Archaic

stemmed points and Stallings Island Plain and Stallings Punctate pottery, soapstone vessels, Norwood and Orange pottery (Sources: Jenkins 1959; Gresham 1982; Anonymous n.d.b; Elliott 1992:92-98, 105-108; Ledbetter and Spencer 1987:62, 90-92 Poplin and Goodwin 1988b:150-152; Chase 1955, 1957a, 1957c, 1957g, 1958, 1959a, 1959d, 1959c, 1959e, 1962b:4; Roemer et al. 1993; Kohler et al. 1980; Tyler 1976; Schnell 1982, n.d.a; David Chase personal communication January 1994; McCullough 1982:25-29, 35-41, 1983:37-43; Shogren 1992:82, 87, 112-120; Benson 1993:449-459; Gardner et al. 1994; Caldwell 1958; Bruce and Neumann 1989; Schnell n.d.a; Gresham et al. 1985; McCullough 1982:29-35; McCullough 1983:7-21).

Perforated soapstone slabs were recognized as a distinctive artifact type in the Savannah River valley early on. C. C. Jones illustrates examples that he collected from Late Archaic sites in his 1873 monograph. Long considered to be fishing net weights, or netsinkers, repeated finding of this tool type in cooking features during the past two decades led to a general consensus that these items functioned as cooking stones. Regardless of function, this tool types appears to be a sensitive Late Archaic marker and recent studies by Elliott and Sassaman have recognized the importance of this artifact type in Late Archaic research.

Late Archaic Subsistence Patterns. Caldwell, who was a student of Robert Braidwood and had a keen interest in the evolutionary origins of agriculture worldwide, considered that "Primary Forest Efficiency" had been achieved by Late Archaic times. By this he meant that humans living in the eastern woodlands of North America had "settled in" to their environment, become aware of most of the useful plants, animals, and other natural resources available to them, and had developed an optimal resource use strategy of hunting and gathering that was a state of near homeostasis, or equilibrium. Native American's awareness of their environment probably has greater antiquity, however, and Early Archaic, and possibly Paleoindian groups made more extensive use of botanical resources than was formerly thought. By the Late Archaic period with a more stable environment, however, the scheduling of resource availability probably did reach a peak level of efficiency. The ideal concept of the "noble savage" probably creeps into Caldwell's interpretation of Native American subsistence strategies, since we know that fire, which is not an ecologically beneficial medium in this case, was often used indiscriminately for hunting purposes by Native Americans into historic times. The repeated use of forest fires by man probably led to the spread of loblolly pine dominated forests in some areas.

The Late Archaic/Early Woodland Transition. By 2,000 B.C., Native Americans in Georgia and Alabama had adopted most of the cultural traits that we associate with historic tribes. The stone tool inventory was supplemented by the development of ceramic arts. Sites from this period are identified by the presence of fiber tempered pottery and the use of stone bowls made from soapstone or sandstone. Societies from this period are considered to be egalitarian, probably organized as complex bands, or possibly tribes. Towards the end of this period, Poverty Point, a complex mounded site in central Louisiana, became a significant influence on groups in the Fort Benning region. The Poverty Point culture included long distance trade of exotic stone items, and people living in the Chattahoochee Valley were likely participants in this trade, possibly acting as intermediaries in an incipient tribute exchange system. The influence of Poverty Point on groups living in the eastern woodlands is not well understood, but it is apparent that significant amounts of soapstone bowls formed an element of this exchange. What was received in exchange for these bowls is not clear, it may have been abstract concepts of religion, political organization, or agricultural techniques.

The fiber tempered ware found in western Georgia has been identified variously as Stallings Island, Orange, or Norwood wares. The Orange pottery series, defined in Florida, is not often applied to the interior of Georgia or Alabama. The Norwood series, also defined in Florida, is not widely recognized by modern researchers. Most have identified the fiber tempered wares as Stallings Island series, although a definitive analysis of this pottery has not been conducted. The most in-depth treatment of the fiber tempered pottery was conducted at the Carmouche site (9ME21). Sites from the Gulf Formational period also are marked by the use of stemmed projectile points, often indistinguishable from earlier Late Archaic stemmed point forms.

Fiber tempered pottery in western Georgia includes plain, incised, and punctated vessels. Some of the sherds are entirely fiber tempered, while others, presumably later in the sequence, contain fiber and grit tempering. Chase notes that the sherds with mixed temper tend to be thinner sherds and are more likely to bear design motifs. Important excavated sites of the fiber tempered culture include the Water Tower site (9CE33), Carmouche (9ME21), and Snelling's Pond (9CE20) (Chase n.d.c; Gresham et al. 1984).

Thoms Creek wares, named after a site located in the Santee River system near Columbia, South Carolina, resemble Stallings Island pottery in thickness and decorative treatment, but differ in temper and vessel form. Thoms Creek pottery was defined earlier from sites east of the Savannah River area by James B. Griffin (1945), Eugene Waddell (1963), and Jim Michie (1969), but it was during this period that the ware was recognized in the Savannah River region. Phelps' research expanded the known range of Thoms Creek into the upper coastal plain (1968). David Anderson mapped the distribution of Thoms Creek and Stallings Island pottery in South Carolina in an ambitious attempt to define the horizontal extent of these cultural markers, but his study stopped at the state line (Anderson 1975, 1980).

An Archaic soapstone bowl industry extended the full length of the eastern seaboard from Labrador to Alabama. Aboriginal bowl quarries captured the curiosity of researchers during the latter half of the nineteenth century and there was a flurry of research articles describing quarries in various states. None of these, however, were in the Savannah River valley. Significant studies on soapstone bowls were produced by William Henry Holmes (1897), David Bushnell (1939), and others (Dickens and Carnes 1974; Ferguson 1976; Elliott 1981, 1986). Delineating the age range of the soapstone bowl industry has proven more elusive. Only one radiocarbon date even remotely associated with soapstone bowls has been obtained from the Savannah River valley (Anderson and Joseph 1988), and Elliott has observed that most of the excavated Late Archaic sites, such as Stallings Island, Lake Springs, and others, either did not yield soapstone bowls or yielded them in extremely low frequency and in poor context.

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