Peer Reviewed Article:
Gum Ponds and Cypress Swamps
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Editor's Introduction

by Thomas J. Pluckhahn, University of South Florida

This issue of Early Georgia explores the geographical and temporal diversity of Georgia's rich archaeological heritage with a series of articles synthesizing previous research and reporting on new surveys and excavations. In his peer-reviewed article, Jamie Waggoner takes us to an area and time period that have traditionally been woefully under-studied: the Archaic in Southwest Georgia. Jamie's article illustrates the value of working with conscientious collectors, as well as the need to periodically revisit and revise our assumptions regarding prehistoric settlement.

In the last issue, Mark Williams reprised a paper he had presented in a session organized by Patrick Garrow for the Southeastern Archaeological Conference in Macon, Georgia, in 2000. In this issue, Pat presents a revised and expanded version of his own paper from that session, summarizing the archaeology of the Woodland period in North Georgia. Pat's paper is a testament to the improved understanding of this topic since his 1975 summary for Early Georgia. Together, the two articles also testify to Pat's long and distinguished career in Georgia archaeology.

Another stalwart supporter of Georgia archaeology, Jack Wynn, contributes an article summarizing work at Scull Shoals between 1997 and 2003. The work at Scull Shoals is certainly one of the great public archaeology endeavors in the history of Georgia archaeology, as indicated by the long list of professional and avocational archaeologists who have assisted with this project.

Finally, Ronald Hobgood discusses his recent research into the Removal-era forts of northern Georgia. This research provides new insights into the Removal, and suggests possibilities for future investigations.

This and all issues of Early Georgia under my editorship are produced with the support of the Department of Anthropology at the University of South Florida. I thank Jana Futch and Shannon McVey, graduate students at the University of South Florida, for their editorial assistance with this issue.
PEER-REVIEWED ARTICLE

GUM PONDS AND CYPRESS SWAMPS: LATE ARCHAIC USE OF UPLAND INTER-RIVERINE RESOURCES IN THE DOUGHERTY PLAIN OF SOUTHWEST GEORGIA

By James C. Waggone, Jr., University of Florida

Shifts toward an increasing use of wetland resources during the Late Archaic are well documented in the eastern Woodlands (Brooks et al. 1996; Custer and Bachman 1986; Elliott and Sassaman 1995; Gardner 1978; Jeffries and Butler 1984; Milanich 1994; Phillips and Brown 1983; Price and Brown 1985; White 2003). Wetland environments offer an array of plant and animal resources that were beneficial to local hunter-gatherers. The interior Coastal Plain is home to a diverse assortment of wetland ecosystems that run along its entire expanse, from the lower Southeast, through the mid-Atlantic region, and into the northeastern corner of the North American continent. Archaeologists working in these distinct areas have documented numerous instances of Late Archaic social groups taking advantage of the various food resources available to them. Examples include Custer and Bachman's (1986) endeavors on the Delmarva Peninsula in Delaware, Kirkland's (1994) groundbreaking research in conjunction with intensive emphases on palynological analysis at Chatterton Springs in central-south Georgia (see also Lamoreaux 1999; Seielstad 1994), and Mauer's (1991) focus on Late Archaic utilization of estuarine resources in Chesapeake Bay (see also Dent 1995).

The Dougherty Plain, which is a sub-province of the interior Coastal Plain in southwest Georgia, is also home to unique wetland environments (Figure 1). It is characterized as a broad, relatively flat physiographic district with level to gently rolling topography and a northwest heading geophysical orientation (Murray 1961). Topographic relief in the Dougherty Plain is greatest near the Fall Line Hills, which stands as its northern boundary, at roughly 76 m above sea level. The lowest relief, at 23 m above sea level, occurs in the southern expanses of the Dougherty Plain Seminole County (Figure 2), at the boundary with the Fall Line Hills and Tifton Uplands. Karst topography, formed on the older Ocala and Suwanee Limestones, underlies the plain and has contributed to the formation of numerous sinkholes in the district. Gum ponds and cypress swamps are common hydrologic features of this landscape. Cypress swamps are easily recognized by their rounded outline with the tallest trees occurring in the center and smaller trees moving out toward the edges. Gum ponds are marked by the lack of cypress trees, which are supplanted by swamp black gum and other lowland tree species (Wharton 1998:79). Both types of ponds are categorized as "depressed surface hydric features," characterized by their shallow depths that may or may not contain water, a result of overall precipitation and/or their degree of closeness to the underlying limestone bedrock (Wharton 1998). Periodic natural fires that occur during periods of relative dryness and low water levels serve to regenerate ponds and increase their biotic potential (Wharton 1998:74). The approximate origins of these small bodies of water are not entirely known,
Figure 1. The Dougherty Plain in relation to southwestern Georgia. This and following illustrations by the author.
Figure 2. Location of the project area.
though some have been attributed to sea-level rise during the Pleistocene and subsequent higher water levels in the Coastal Plain by the mid-Holocene (Gaiser et al. 2001; Hoyt 1968; Hoyt and Hails 1967; Murray 1961; Wharton 1998:81).

Cypress swamps and gum ponds are home to an array of plant and animal species. Numerous insects, amphibians, reptiles, birds, and mammals depend on the ponds as sources of water and breeding areas. The ecotonal zones or edge habitats that surround the ponds also attract wild life and are an integral hub for the surrounding pine flat lands of the Coastal Plain (Wharton 1998:82).

Due primarily to their common occurrence across the expanse of the Dougherty Plain, many gum ponds and cypress swamps have been adversely impacted by expansive farming practices in the region, with some being ditched, dredged, or removed entirely in order to accommodate planted row crops or pine trees. Based on the underlying limestone bedrock, which is part of the greater Floridian Aquifer, many of the ponds are attributed to sinkhole activity. Others have been compared, at least ecologically, to Carolina Bays which have received a great deal of attention from archaeologists working in South Carolina (Brooks et al. 1996, Brooks et al. 2001; Wharton 1998:80). Similar karstic features have also been studied in Florida (Bullen et al. 1974; Bullen and Dolan 1959; Neill 1964; Wharton et al. 1981).

During the summer field season of 2003 an artifact collection and site discovery survey was initiated in Early County, located in southwestern Georgia (see Figure 1), in conjunction with the Chickasawatchee Archaeological Survey. Much of the site data presented here are attributed to Marvin Singletary, a peanut farmer and avocational archaeologist from Albany, Georgia with deep familial roots in southwestern Georgia. The sites described here were all recorded on Singletary Farms, an 11,000-acre tract located just outside of Blakely. Roughly 9,000 years of prehistory were noted during the collection portion of the survey. For the purpose of this paper only the Late Archaic will be emphasized because stone tools associated with this time period are well-represented in the Singletary collection and are believed to have the potential to contribute to previously-developed models of Late Archaic land use. The primary focus here is based on an analysis of site distribution from the Singletary Farms Survey using geographic information systems combined with data from the Georgia State Archaeological Site File. Initial emphasis will begin with the Singletary Farm sites and expand to a broader focus on Early County and further to a surrounding area encompassing Baker, Calhoun, Clay, and Miller Counties.

Results of the 2003 survey support the earlier findings of Fish and Fish (1976:12) who not only recognized a high frequency of Late Archaic sites in the region, but also documented many Late Archaic sites in the vicinity of upland ponds and other depressional wetlands. Similar observations regarding high numbers of Late Archaic sites were also made by Fish and Mitchell (1976) during their survey of the Big Slough watershed. Steinen (1976) also reported a high frequency of Late Archaic sites in upland areas located between creeks and lowlands.

Aside from the broad-scale survey of Early County by Steinen (1976), many of the earlier archaeological findings in southwestern Georgia have been associated with the construction of large hydroelectric facilities or otherwise focused directly on the Chattahoochee and Flint Rivers or their associated tributarie (Boyd 1958; Bullen 1950, 1958; Caldwell 1978; Fish and Fish 1976: Fish and Mitchell 1976; Kelly 1950; McCluskey 1976).

Other projects have focused on specific sites considered to be culturally significant (Fairbanks 1940; Pluckhahn 2003; Sears 1956; Steinen 1989). More recent projects, like this one, have concentrated on examining private collections and surveying and excavating in upland localities (Elliott 2004; Elliott and Dean 2006; Joseph 2008).

Research designs associated with the earlier reservoir projects were not conducive to finding small Late Archaic sites and tended to focus on large sites with later period ceramics (Fish and Fish 1976:3). The findings presented here offer a unique opportunity to evaluate local Late Archaic patterns of land use in upland areas far removed from river-
ine settings that have not been fully addressed in previous studies. They may also further provide a comparative body for other geographic localities in Georgia and across the greater Southeast. That Late Archaic groups in the interior Coastal Plain of the lower Southeast made extensive use of aquatic resources is well established. It is proposed here that like, in other well studied areas of the Coastal Plain such as the Savannah River Valley (Sassaman et al. 1990), Late Archaic groups inhabiting the area of the lower Flint and Chattahoochee river drainages also relied on upland wetland resources (Fish and Fish 1976; Fish and Mitchell 1976; White 2003). In this case, people were able to access the resource-rich and commonly occurring gum ponds and cypress swamps. However, many of the models developed to account for Late Archaic land use in the interior Coastal Plain of southern Georgia have tended to emphasize a reliance on riverine and flood plain resources such as edge swamps (Fish and Fish 1976:12; Stoltman 1974; Turnbaugh 1975). How the common occurrence of wetland resources affected overall land use is not known at this time. Nor is it understood whether such locally abundant resources impacted seasonal group aggregation or dispersion, as has been suggested elsewhere. It is hoped that this research will expand on previous observations of Late Archaic land use in the Dougherty Plain, while also illuminating the need to incorporate the importance of upland resources into existing models of land use in the interior Coastal Plain.

**LATE ARCHAIC SETTLEMENT MODELS**

Although a great deal of archaeological work coincided with the already mentioned hydroelectric projects, very few Late Archaic sites were reported. With the exceptions of Fish and Fish (1976) and Fish and Mitchell (1976), little information was generated to aid in the development of models related to Late Archaic land use. As a consequence, the region has been cited as having a relative paucity of Late Archaic sites (Anderson 1996:170), though it may be argued that this interpretation stems from the insufficient survey strategies stated above. Late Archaic sites occur widely across much of the Southeast. Interpretations of the dense site distribution tend to have an ecological slant, often implying that much of the landscape had “filled in” and that overall group ranges had decreased (Amick and Carr 1996:45; Anderson 1996:165). Land-use patterns during the Late Archaic in the interior are characterized by a shift from a system of residential mobility, as utilized by groups during the previous Early and Middle Archaic, to one marked by restricted or entrenched logistical mobility (Amick and Carr 1996:15; Sassaman et al. 1988:90).

Interpretations of Archaic Period land use in the eastern woodlands have been influenced heavily by Binford's (1980) entrenched logistical or residential mobility settlement model. Briefly, Binford argued for the importance of understanding culturally-prescribed systems of hunter-gatherer land use, along with the various types of landscape cover, in the interpretation of archaeological site distributions (Binford 1980:4). For example, he posited that foraging was a more conducive procurement strategy for people living in regions with little variability in vegetation cover. Camps would be inhabited for a short time before the entire group would move to a new area outside their preexisting foraging zone, where they would establish a new camp. Because foragers were believed to pursue resources on an “encounter” basis they were not expected to leave behind functionally-specific sites (Binford 1980:5-10). This type of land use was predicted to result in a somewhat continuous spatial distribution of similar sites (Binford 1980:7). Binford contrasted his foraging model with logistical collector land use, which was expected to leave behind clustered distributions of both base camps and stations.

From a technological perspective, distinctive tools were assumed to be associated with each type of land-use strategy, and thus could be considered reflective of their respective systems (Binford 1980; Shott 1986). Forager tool assemblages were hypothesized to lack internal variability, compared to the more diverse tool kits produced by collectors. Sassaman et al. (1990) illustrate this point in
their discussion of sites in the Middle Savannah River valley of the Southeast. They posited that collector technology should be formal, portable, efficient, anticipatory, and oriented toward specific tasks. This contrasts with the more situational and generalized strategies of foragers (Sassaman et al. 1990:221-222). Sites left by collectors should reflect this diversity, with residential bases, locations, field camps, stations, and caches being spatially arranged relative to diverse landscape patches (Binford 1980:12).

With regard to the material residues created by the activities of both foragers and collectors, Binford (1980:12) was quick to point out that the resource procurement strategies were not necessarily mutually exclusive, but rather represented points on a spectrum of land use ranging from simple to complex. A good example of this type of diversity is highlighted by Anderson and Hanson's (1988) model of Early Archaic land use, in which they argued that both strategies were used interchangeably by the same people based on both seasonality and geographic locality.

Logistical mobility during the Late Archaic has largely been predicated on the production of formalized stone tools, in contrast to the proposed expedient technology of foragers (Claggett and Cable 1982). A temporal trend of constricitive territorial ranges through the Archaic Period has also been argued based on the distribution of lithic raw materials in South Carolina (Sassaman et al. 1988). Groups are also believed to have addressed the reduction in territory by diversifying their resource base and exploiting previously-underutilized areas.

The utility and accuracy of this "Middle Coastal Plain Flood Plain Swamp Model," developed in the 1970s to address the patterning of Late Archaic archaeological sites, has been tested by subsequent surveys and excavations at several locales in the Coastal Plain (Elliott and Sassaman 1995:142). A potential drawback of the model is the lack of emphasis placed on upland locales, though such areas are now receiving greater attention. Research conducted by archaeologists working in the Coastal Plain of South Carolina has contributed a great deal to this area of interest. It is now generally accepted that riverine-based settlement was augmented by movement away from rivers and into inter-riverine areas on a seasonal basis, such that periods of group aggregation in the lowlands would be followed by dispersion into the uplands (Anderson and Joseph 1988; Anderson 1996:170; Goodyear et al. 1979; Sassaman et al. 1990:311). Late Archaic sites are now known to be located in a diverse array of settings, including upland tributaries and riverine terraces. Differences between these sites are attributed to function, length of occupation, size of co-resident group, and degree of habitation (Ledbetter 1995:76; Sassaman 1993:75). A primary component of this line of thinking is the dispersion and temporary aggregation of social groups over the course of a seasonal round. A focus on seasonal dispersion and aggregation is emphasized here due to the ubiquitous occurrence of upland wetland resources like gum ponds and cypress swamps. These wetlands may have indirectly facilitated greater dispersion or aggregation (or both), given the larger range of resources they afforded.

Williams (2000:14) has suggested that the apparent low settlement density in southern Georgia may be the product of a relative lack of flowing water. However, the opposite may be true; the numerous small water bodies such as gum ponds and cypress swamps may have drawn people to inter-riverine areas, and away from the larger flowing rivers. Similarly, Chamblee (2004) has argued that the common occurrence of wetland resources in southwest Georgia allowed for a pattern of smaller dispersed settlements in the Mississippian period, in contrast to the pattern of larger centers in riverine settings as is more common elsewhere.

The research potential of similar hydric features, like Carolina Bays, is readily apparent in other areas of the Coastal Plain. In South Carolina for example, many of the Carolina Bays are attributed to strong directional winds during the Pleistocene. Ecological data derived from these bays have been used to illustrate past climatic activity and demonstrate a reliance on upland resources by Archaic groups (Brooks et al. 1996:482).
Unfortunately, numerous ponds in the project area have been dramatically altered in recent years due to the expansion of agricultural and timber practices (Figure 3). The resulting ditching and drainage have inflicted irreparable damage to these important natural features. Some ponds are mere shadows of their former appearance and have been virtually erased from the landscape. Vestiges of impacted ponds still remain in the form of residual cypress trees that continue to grow, despite the fact that their environs have been cleared for planting pine trees or bisected by road construction (Figure 4). This is an important factor to consider when addressing prehistoric land-use issues in the region. Archaeological sites may have been associated with standing ponds that no longer exist. For example, three of the sites recorded on Singletary Farms at first glance appeared to be located far from any hydric features; further inspection revealed as association with relict ponds.

The disturbances to these ponds are not recent phenomena. Many were initially impacted during the early twentieth century as people sought out various means to combat the bollweevil (Marvin Singletary, personal communication, 2008). Some were later cleared outright and leveled as more expansive forms of industrial-based agriculture began to be practiced in the area during the 1960s.

**FIELD METHODS AND RESULTS OF SURVEY**

Field methods for this project consisted of a general survey of collections kept by artifact collectors and avocational archaeologists, followed by site visitation when possible. All of the artifacts recorded during this portion of the survey have been collected and provenienced by Marvin Singletary since the 1960s (Figures 5 and 6). Singletary was interested in having his collection photographed, in order to keep the images on file at the state site file for research purposes. Upon visiting the sites on Singletary Farms it became apparent that several of the sites were in the general vicinity of cypress swamps. Most of the sites possessed a diverse array of artifacts that spanned a large portion of the prehistoric past. However, Late Archaic materials were better represented than artifacts from other time periods. Many of the hafted bifaces were made from locally-available Oligocene chert, noted by its distinctive translucent to red, brown, or yellow color (Goad 1979:24). Unfortunately, debitage from the production of stone tools was not picked up during Singletary's initial collections. Further, because only finished or broken artifacts were collected, precise site density cannot be determined at this time. Future fieldwork in the area will hopefully address this problem. Debitage was noted during follow-up visits to the sites but was not collected. However, based on the available data at hand it may be stated that Late Archaic groups relied on the extensive wetland resources in the form of gum ponds and cypress swamps within the southwestern portion of the Coastal Plain of Georgia. It is also likely that ponds in other areas outside of the Dougherty

![Figure 3. Impacted cypress swamp within the project area. This and following photographs by the author.](image-url)
Plain were important aspects of land use by Late Archaic social groups.

The sites recorded by Singletary were assigned names based on their association with geographic or architectural features. Their names and corresponding official state site file numbers are listed in Table 1. The locations of the sites are indicated in Figure 7. Most of the sites are represented by flakes and general debitage, diagnostic and non-diagnostic hafted bifaces, and assorted other stone tools. Fiber-tempered pottery and steatite were also represented in small quantities in the materials collected by the Singletary family (Figure 8).

Of the 11 sites recorded on Singletary farms, nine are located adjacent to upland ponds. The Back of Joe Brown (BJB) site, for example, is clearly visible in early aerial photographs taken of the area (Figure 9). The surrounding fields were drastically expanded during the late 1960s following the widespread introduction of circular rotary irrigation systems. Fields were broadened to incorporate the new technology that allowed for greater crop yields (Marvin Singletary, personal communication, 2005). The BJB site stands as one of the best examples of sites situated adjacent to ponds prior to broad scale clearing.

Seventy-one Late Archaic hafted bifaces from the BJB site were observed in the Singletary collection (Figures 10 and 11). Similar pond sites from Singletary Farm that are relevant here are the Airport Circle, Flat Field, Double Gate, and Pecan Orchard sites. All four sites are in direct proximity to ponds, though the pond between the latter two sites has since been drained to accommodate planted pine trees. The Airport Circle area encompasses
three sites that were originally situated around a large pond.

Limited site patterning is also visible at the county level (Figure 12). A single site south of Singletary Farm and a small cluster of sites in the southwestern portion of Early County are also located adjacent to ponds. Similar patterning is also discernible by expanding the unit of analysis to encompass the surrounding counties (Figure 13). In addition to the Singletary Farm cluster in Early County, clusters are also visible in Baker, Calhoun, Clay, and Miller Counties. The Baker County cluster consists of four sites situated adjacent to ponds. Calhoun County is represented by three sites situated next to ponds, while Clay County has five. The Miller County group is comprised of six sites. Based on site file data, all of these sites date to the Late Archaic period, but the assemblages from these sites were not examined for this project.

**IMPLICATIONS AND FUTURE RESEARCH**

The results presented here illustrate that gum ponds and cypress swamps not connected to primary drainages were important components of the land use practices of hunter-gatherers who inhabited the Dougherty Plain of southwestern Georgia during the Late Archaic period. Riverine resources were certainly important, but upland inter-
Figure 6. Artifacts from the Singletary collection (Airport site).

Riverine ponds also factored into broader land-use decisions as well. These wetlands may have been particularly important considering the relatively large distances between bodies of flowing water in the region. These data are consistent with research elsewhere documenting the fact that Late Archaic groups made extensive use of both riverine and inter-riverine aquatic resources (Brooks et al. 1996:500; Sassaman et al. 1990).

Interpretations of Late Archaic settlement patterns have tended to emphasize seasonal periods of aggregation and dispersal. The research presented here suggests an alternative possibility that the ubiquitous wetland resources in the up-

Table 1: Singletary Farm Sites with Corresponding State Site Numbers

<table>
<thead>
<tr>
<th>Singletary Farm Site</th>
<th>State Site #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pecan Orchard (PO)</td>
<td>9ER60</td>
</tr>
<tr>
<td>Double Gate (DG)</td>
<td>9ER66</td>
</tr>
<tr>
<td>BAL, Zan King (Z), Zan King West</td>
<td>9ER67</td>
</tr>
<tr>
<td>Back of Joe Brown</td>
<td>9ER68</td>
</tr>
<tr>
<td>Flat Field (FF), DC</td>
<td>9ER69</td>
</tr>
<tr>
<td>Davis</td>
<td>9ER70</td>
</tr>
<tr>
<td>Air Port (AP), FH</td>
<td>9ER71</td>
</tr>
<tr>
<td>Sparks</td>
<td>9ER73</td>
</tr>
<tr>
<td>Air Port North Circle (APNC)</td>
<td>9ER74</td>
</tr>
<tr>
<td>Air Port, Fox</td>
<td>9ER75</td>
</tr>
<tr>
<td>Mark Adams (MA), FMA</td>
<td>9ER78</td>
</tr>
</tbody>
</table>
lands of southwestern Georgia allowed for either increased dispersion or longer periods of aggregation, or some combination of both. Future research should test these possibilities by focusing on sites associated with ponds. Broad-scale analysis of areas outside of southwestern Georgia should also be undertaken. Additionally, research should be directed beyond the mere resource potential of the ponds, to include consideration of the meaning and importance these places may have held for the people who visited them, as well as the manner in which they have been incorporated into the formation of group identities. This is a particularly interesting point when considering the general trend toward more constricted Late Archaic territorial ranges that has been documented in other areas of the interior Coastal Plain (Sassaman et al 1988).

Following the work of Kirkland (1994) and Seielstad (1994), there is much to be learned from palynological research in the Dougherty Plain. Although many of the ponds in the region are shallow depressions susceptible to drought and forest fires, others are connected to the Floridian aquifer and are thus less vulnerable to drought. Future research should focus on these ponds, where the potential for intact organic remains is higher. A record of long-term temporal changes in local vegetation cover would greatly enhance our knowledge of hunter-gatherer land-use patterns in the interior Coastal Plain. In sum, the continued study of gum ponds and cypress swamps in southwestern Georgia has the potential to make a significant contribution to currently held notions of Late Archaic land use in the lower Southeast.

Acknowledgments

This article would not have been possible without the assistance of Marvin Singletary. His interest in the archaeology and natural history of the Dougherty Plain is unrivaled. Marvin granted me unfettered access to site materials that he spent years documenting and recording. He also graciously allowed me to visit the sites he recorded on Singletary farms. A much earlier version of this paper was presented at the 61st annual Southeastern Archaeological Conference in Charlotte, North Carolina. Thanks must be given to Debby Mullins and Victor Thompson for reading and providing their

Figure 7. Singletary Farm sites in relation to upland ponds.
Figure 8. Fiber-tempered pottery and soapstone from the Singletary collection.
Figure 9. Early aerial photograph of the Singletary Farm. Reproduced courtesy of the Map Room, UGA Science Library, Athens.
Figure 10. Artifacts from the Singletary collection (BJB site, part 1).
Figure 11. Artifacts from the Singletary collection (BJB site, part 2).
Figure 12. Map of Early County demonstrating Late Archaic sites in relation to upland ponds.
Figure 13. Map of Baker (BX), Calhoun (CU), Clay (CY), and Miller (MI) Counties demonstrating Late Archaic site in relation to upland ponds.
thoughts on that previous version. Mark Brooks and an anonymous reviewer provided constructive comments that surely improved the article's readability. Of course, I take full responsibility for the ideas presented here.

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Shott, M.

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Steinen, Karl T.

Turnbaugh, W.A.

Waggoner, James C., Jr.

Wharton, Charles H.

Wharton, Barry R., George R. Ballo, and Mitchell E. Hope.

White, Nancy M.

Williams, Mark
This paper was much easier to write 25 years ago (Garrow 1975). At that time there were less than half a dozen radiocarbon dates reported from Woodland contexts in northern Georgia (Baker 1970; Milanich 1973; Jefferies 1973). Research conducted for the current paper identified 97 radiocarbon assays in Georgia from Woodland contexts north of the fall line and one from the Rocky River site on the South Carolina side of the Richard B. Russell project. These dates provide a chronological framework for understanding the Woodland that was impossible in 1975.

Woodland sites received little attention in Georgia prior to the initiation of legally mandated cultural resource management studies in the late 1970s. Archaeological studies had been undertaken under more restrictive federal mandates prior to that time, but few resources were available to expend on archaeological research. Most of the archaeological research that was conducted prior to the late 1970s focused on Mississippian mounds to the virtual exclusion of all other site types. The most extensive regional information available about the Woodland 25 years ago time came from Wauchope's Depression-era survey of northern Georgia reported in An Archaeological Survey of Northern Georgia (Wauchope 1966) and Caldwell's classic Trend and Tradition in the Prehistory of the Eastern United States (Caldwell 1958). The archaeological investigations within the Allatoona and Buford (Lake Lanier) Reservoirs included research on Woodland sites, and were reported in either manuscript or short article form (Caldwell 1953, 1957, Caldwell et al. 1952; Fairbanks 1954).

The enforcement of cultural resource management laws and regulations in Georgia changed the way archaeological sites were selected for investigation. The significance of archaeological sites began to be assessed based on their potential to yield information that was important to understanding local or regional history or prehistory. It was no longer possible to select sites of a single period to investigate to the exclusion of all other site types, and more and better resources were made available to support those investigations.

Most of the data presented in this paper were taken from contract reports that only exist in manuscript form. Contract reports generally have limited distribution, and are difficult for researchers outside of the cultural resource management community to identify and access. At the same time, those documents provide up-to-date information that cannot be found in most published works given the time lag required before any work reaches print.

The Woodland period in northern Georgia has traditionally been divided into Early, Middle, and Late stages (Garrow 1975). Those divisions will be preserved in this paper, although there is ample evidence that the Woodland is too complex to be comfortably compartmentalized into just three stages.
EARLY WOODLAND

The Early Woodland north of the fall line in Georgia corresponds to what Caldwell (1958) referred to as the “Kellogg Focus.” The Kellogg Focus, more appropriately referred to as the “Kellogg Phase,” began with the transition from the preceding Late Archaic period, and extended to what Caldwell termed the “Post-Kellogg Focus.” The Kellogg Phase was primarily distinguished by the presence of Dunlap or Long Branch Fabric Marked ceramics. It was Caldwell’s (1958:23-25) view that the Kellogg Phase spread into northern Georgia from the north as a result of migration, as opposed to the diffusion of Kellogg traits to resident Late Archaic groups. That question still has not yet been fully resolved in northern Georgia, and awaits future research.

The Kellogg Phase in northern Georgia can be dated between 700 and 200 B.C. based on 22 uncorrected radiocarbon assays from sites in the region (Table 1 and Figure 1). The earliest Kellogg radiocarbon dates are considerably younger than the latest available Late Archaic uncorrected date of 2860+/-40 BP from 9HR116 (William F. Stanyard, personal communication, October, 2000). It is not known at this time if that gap was the result of depopulation of the region or if Archaic sites from that time simply have not been identified, excavated, and dated.

Fabric marked pottery has been found throughout Georgia, but the largest and most complex sites from this time period were concentrated in northwestern Georgia. Wood and Bowen (1995:9) described the Kellogg heartland as:

an approximate 72 km wide zone roughly spanning the area from Rome to Canton and extending from the watershed divide between the Etowah and Chattahoochee Rivers on the south (northern Cobb and Fulton Counties) and the northern limits of the Etowah watershed to the north (southern Gordon and Pickens Counties), that forms what appears to be the most intensive area of pure Kellogg occupation. However, recent testing by Stanyard and Pietak (1997) identified a cluster of 34 sites with Kellogg components in Haralson County along Beach Creek and the Tallapoosa River. Those included large sites with deep middens, extending the “Kellogg Heartland” west of Atlanta to the Georgia/Alabama border.

Ledbetter (1992:231), based on his work on the Pumpkin Pile site (9PO27) in Polk County, has suggested that there were three distinct clusters of Early Woodland sites in northwest Georgia. The Kellogg Phase centered along the Etowah River and paralleled the “Kellogg Heartland” of Wood and Bowen (1995:9). The second cluster was identified as the Cedar Bluff Phase, which extended along the western Coosa River in Georgia into the Lake Weiss area in eastern Alabama. The third cluster, the Pumpkin Pile Complex, was centered along the upper reaches of Big Cedar Creek and south into the Tallapoosa River drainage. He distinguished Cedar Creek from the Kellogg Phase based on pottery temper, and the Pumpkin Pile Complex from the Kellogg Phase based on projectile point/knife types. It is too early to tell if Ledbetter’s scheme has merit due to the incomplete survey coverage area of the region and the small number of well-excavated and reported Early Woodland sites that are available for comparison.

The most diagnostic single artifact of the Early Woodland is fabric marked pottery. Fabric marked pottery was also used in the Middle Woodland, but was clearly dominant in all Early Woodland contexts. Fabric marked pottery was made by wrapping a wooden paddle with fabric and impressing the fabric design into the surface of a still-damp pottery vessel. Paddles were probably used to anneal the coils used to make the vessels. The significance of the use of fabric versus carved paddles is unknown. The fabric marked pottery most commonly found in northern Georgia was tempered with sand or finely-crushed quartz, and is referred to as Dunlap Fabric Marked or Dunlap Fabric Impressed (Caldwell 1957). A second type of fabric marked pottery found in northern Georgia used burned and crushed limestone as a tempering agent, and is referred to as Long Branch Fabric Marked...
Table 1. Early Woodland Uncorrected Radiocarbon Dates.

<table>
<thead>
<tr>
<th>Site</th>
<th>Lab No. &amp; Radiocarbon Age (Years B.P.± 1 S.D.)</th>
<th>Calendric Date</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rush</td>
<td>(Beta-20536) 2610±100 BP</td>
<td>660 BC</td>
<td>Wood &amp; Ledbetter 1990:135</td>
</tr>
<tr>
<td>Mahan</td>
<td>(M-1117) 2580±7 BP</td>
<td>630 BC</td>
<td>Baker 1970:116</td>
</tr>
<tr>
<td>Cagle</td>
<td>(Beta-4352) 2550±60 BP</td>
<td>600 BC</td>
<td>Crook 1985:31</td>
</tr>
<tr>
<td>9HR117</td>
<td>(Beta-96619) 2510±50 BP</td>
<td>560 BC</td>
<td>Stanyard &amp; Pietak 1997:236</td>
</tr>
<tr>
<td>Mahan</td>
<td>(M-1116) 2490±7 BP</td>
<td>540 BC</td>
<td>Baker 1970:116</td>
</tr>
<tr>
<td>Pumpkin Pile</td>
<td>(UGA-6323) 2470±124 BP</td>
<td>520 BC</td>
<td>Ledbetter 1992:67-68</td>
</tr>
<tr>
<td>Pumpkin Pile</td>
<td>(UGA-6328) 2470±124 BP</td>
<td>520 BC</td>
<td>Ledbetter 1992:67-68</td>
</tr>
<tr>
<td>9HR117</td>
<td>(Beta-96618) 2470±60 BP</td>
<td>510 BC</td>
<td>Wood &amp; Ledbetter 1990:135</td>
</tr>
<tr>
<td>Rush</td>
<td>(Beta-20177) 2460±90 BP</td>
<td>480 BC</td>
<td>Wood &amp; Ledbetter 1990:135</td>
</tr>
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<td>Rush</td>
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<td>Wood &amp; Ledbetter 1990:135</td>
</tr>
<tr>
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<td>480 BC</td>
<td>Wood &amp; Ledbetter 1990:135</td>
</tr>
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<td>480 BC</td>
<td>Wood &amp; Ledbetter 1990:135</td>
</tr>
<tr>
<td>Kellogg</td>
<td>(UGA-5545) 2405±85 BP</td>
<td>455 BC</td>
<td>Bowen 1989:146</td>
</tr>
<tr>
<td>9HR70</td>
<td>(Beta-97279) 2380±100 BP</td>
<td>430 BC</td>
<td>Stanyard &amp; Pietak 1997:236</td>
</tr>
<tr>
<td>Garfield</td>
<td>(UGA-245) 2350±60 BP</td>
<td>400 BC</td>
<td>Milamich 1975</td>
</tr>
<tr>
<td>Pumpkin Pile</td>
<td>(UGA-6324) 2331±102 BP</td>
<td>381 BC</td>
<td>Ledbetter 1992:67-68</td>
</tr>
<tr>
<td>Kellogg</td>
<td>(UGA-5544) 2320±100 BP</td>
<td>370 BC</td>
<td>Bowen 1989:146</td>
</tr>
<tr>
<td>Kellogg</td>
<td>(UGA-5543) 2245±200 BP</td>
<td>295 BC</td>
<td>Bowen 1989:146</td>
</tr>
<tr>
<td>9CK130</td>
<td>(UGA-2389) 2195±120 BP</td>
<td>245 BC</td>
<td>Bowen 1980:51; 1989:145</td>
</tr>
<tr>
<td>Kellogg</td>
<td>(UGA-5546) 2150±180 BP</td>
<td>200 BC</td>
<td>Bowen 1989:146</td>
</tr>
</tbody>
</table>

(Haag 1939). Fabric marked pottery with coarse grit or crushed quartz tempering occurs on some sites, and is referred to as Watts Bar Fabric Marked (Lewis and Kneburg 1941:33, 1957:7). Limestone tempering generally increases in frequency closer to the Tennessee border to the north, and along the Coosa River close to the Alabama border to the west.

The pottery vessel forms from the Pumpkin Pile site, which is the most completely explored and reported Early Woodland site in the literature, included both jars and bowls (Ledbetter 1992:75-79). The rim types from that site included rounded, flattened, tapered, and flattened and notched examples. Conical jars were described from the Rush site (9FL164) in Floyd County, and bowls were inferred from the rim forms (Wood and Ledbetter 1990:72-74). Podal supports, which are common in the following Middle Woodland, appear to be extremely rare in the Early Woodland. Single examples of podal supports were found at Pumpkin Pile (Ledbetter 1992:73) and Rush (Wood and Ledbetter 1990:74). The vessel forms from Pumpkin Pile and Rush are similar to those illustrated and described by Caldwell (1957:Figures 30 and 49, 1958:38), which he termed barrel-shaped jars with conoidal bases and hemispherical bowls.

Diagnostic chipped stone artifacts from the Early Woodland are less well understood than the ceramics. Named types attributed to the Early/Middle Woodland from the Rush site included Nolichucky/Copena, Copena Triangular, Baden, and Large Triangular types (Wood and Ledbetter 1990:95). Types attributed to the Early Woodland at the Pumpkin Pile site include Coosa Notched, Coosa Stemmed, Copena (which is the same as the Nolichucky/Copena from Rush), Greeneville, Yadkin, Eared Yadkin, Woodland Spike, and Jack's Reef Corner Notched (Ledbetter 1992:109-110, 112, 114, 116, 121). The Jack's Reef Corner Notched point may have belonged to a minor Middle Woodland component on the site, as it is much more common in Middle Woodland contexts elsewhere. Stanyard and Pietak (1997:337, 344)
recovered one Bradley Spike, one Coosa Stemmed, four Woodland Triangulare, and one Gary point from Feature 3 at 9HR117, which had an uncorrected radiocarbon date of 520+/−60 B.C. (Beta-96618). Feature 4 at the same site yielded a Coosa Triangular and a Coosa Stemmed, with an uncorrected radiocarbon date of 560+/−50 B.C. (Beta-96619). It appears that the most common diagnostic projectile point/knife during the Early Woodland was large and either triangular or lanceolate in shape. The smaller stemmed and notched points probably served as spear or atlatl points, while the large triangular or lanceolate forms may have been knives.

The Pumpkin Pile (Ledbetter 1992:195-196) site yielded an array of lithic tool types in addition to projectile points/knives. These included drills, other bifaces, hammerstones, pitted cobbles, grinding stones, metates, pestles, celts, bannerstones, boatstones, rectangular and boat-shaped gorgets, notched weights, ground hematite, and hoes. Soapstone sherd were also found, but may have been associated with a Late Archaic component on the site.
A variety of feature types are commonly found on Early Woodland sites. These include large bell- and cylindrical-shaped pits (Caldwell 1958) that are commonly referred to as storage pits, but in fact may have served as processing pits for acorns. The feature types encountered at Pumpkin Pile included postmolds, midden-filled pits (including both bell-shaped and cylindrical pits), earth ovens, thermal pits with rock fill, rock clusters, and a single ground stone tool cache.

No clear structural outlines were found at Rush (Wood and Ledbetter 1990:144), as the site's excavation blocks are believed to have been between structures. One structure that may have been 10 m across was identified at the Pumpkin Pile site (Ledbetter 1992:163). The shape of that structure was uncertain, but it appears to have had relatively straight sides. The structure appears to have had a large interior hearth filled with fire-cracked rocks, but containing little charcoal. Ledbetter interpreted the structure to be a winter house based on the presence of the interior hearth and substantial wall posts.

At the time of my earlier synthesis (Garrow 1975:20) in 1975, it was believed that a circular structure found by Wauchope (1966:223-231) at Two Run Creek (9BR3) in Bartow County dated to the Early Woodland period. It is now clear that that structure dates to the Middle Woodland, based on the association of Dunlap Fabric Marked and the Cartersville Simple Stamped pottery that Wauchope referred to as "Mossy Oak."

Bowen (1989:176-189) identified an array of plant resources from the Early Woodland components at the Kellogg (9CK102), Garfield (9BR57), and Rush sites, as well as at then-un-named 9CK(DOT)7 (now 9CK130). The nutshells identified at these sites included hickory, acorn, walnut, and hazelnut, while recovered seeds included maygrass, chenopodium, pokeweed, grape, persimmon, serviceberry, passion fruit, and maize. The maize was recovered from Garfield and Rush, and probably dated to later components within those sites. Ledbetter (1992:180-181) reports that 18 of 19 features in the north block at Pumpkin Pile returned hickory shells, as compared to 16 of 19 for acorn, and 4 of 19 for walnut. Maygrass and grape seeds were recovered in minor amounts from two features, while one feature contained sumpweed. Hickory was recovered from 7 of 12 features in the south block at Pumpkin Pile, and acorn from 11 of 12. Ragweed and sumpweed were each recovered from a single feature. Acorn shells occur in lower weights in most Early Woodland contexts than hickory or even walnut in some instances, but contributed far more to the Early Woodland diet than all other nut forms combined, given the high meat yield of acorn versus the other nut types and the factor of differential preservation (Bowen 1989:179).

Potential cultigens have been recovered from Early Woodland sites in northern Georgia, as maygrass, chenopodium, poke, polygonum, and sumpweed were apparently early cultigens in other regions. Bowen (1989:188) suggests that it is unclear if those plants were being grown or simply gathered, but the available evidence points to minor use of Early Woodland cultigens.

Bone preservation has been poor on most of the Early Woodland sites investigated in northern Georgia to date. The best bone preservation was encountered on the Garfield site. The Garfield site yielded the remains of 40 different species, excluding human bone. The mammals recovered included opossum, fox squirrel, gray squirrel, beaver, woodchuck, muskrat, rabbit, domestic dog, gray fox, otter, skunk, mink, raccoon, bear, bobcat, mountain lion, and white-tailed deer. The turtles and tortoises included snapping turtle, pond turtle, pond slider, mud and musk turtle, soft-shelled turtle, chicken turtle, box turtle, and gopher tortoise. Rattlesnake was the only snake represented in the assemblage. The recovered birds included turkey, whooping crane, sandhill crane, turkey, great blue heron, and unidentified bird. Chicken, which was included in the assemblage, must have been intrusive to the site. Recovered fish included catfish, gar, sucker, bass, and fresh water drum. Two types of periwinkles, a type of river snail, and three types of mussels completed the assemblage (Bowen 1989:191-193). The most common mammal in the sample was white-tailed deer, followed in order by
gray fox, raccoon, beaver, opossum, gray squirrel, fox squirrel, skunk, muskrat, and bear. The most common turtles were box turtle, soft-shelled turtle, pond turtle, and mud/musk turtle. The most common fish were sucker, drum, and catfish, while turkey was the most common bird by a considerable margin (Bowen 1989:197).

The subsistence pattern during the Early Woodland was clearly based on hunting and gathering. Some seasonal foods, such as acorns, were probably stored for use throughout the year, while virtually anything edible was gathered or killed and eaten.

**MIDDLE WOODLAND**

Caldwell (1958:45) posited the Post-Kellogg Phase based on his work in the Allatoona reservoir and the Forsyth Phase based on his investigations at Lake Lanier. Both were proposed as transitional phases between Kellogg and the late Cartersville phase. The Post-Kellogg phase was defined by the addition of check stamped ceramics (Cartersville Check Stamped) to the fabric marked wares. The Forsyth phase was defined on basis of the exclusive use of check stamped pottery, and the absence of fabric marked wares. The Post-Kellogg and Forsyth phases have not been found to have utility through research conducted since 1958, and both are now folded into the Cartersville Phase (Wood and Bowen 1995:11).

The available uncorrected radiocarbon dates for Middle Woodland contexts range from 220 B.C. to A.D. 560 (Table 2). The chronological placement of the Middle Woodland, based on those dates, would be ca. 200 B.C. to ca. A.D. 550. In practice it is very difficult to achieve clean dates for the Middle Woodland, as Cartersville Simple Stamped ceramics have been recovered from some Early Woodland contexts (Ledbetter 1992:67-68), while Swift Creek ceramics as distinct components overlap the Middle Woodland dates, but clearly should be considered part of the Late Woodland (see discussion later in the paper). Cartersville Check Stamped ceramics are absent in the dated contexts after A.D. 320. It may be worth mentioning that three of the four Middle Woodland dates in Table 2 from A.D. 440 and later (from Tunacunnhee [9DD26] and 9HY98) were derived from sites and/or features that also contained definite Hopewillian artifacts.

Middle Woodland sites are distributed throughout Georgia. The Cartersville Phase (Caldwell 1957, 1958) is used to define at least a portion of the Middle Woodland in northern Georgia, while the Deptford Phase (Caldwell and Waring 1939) is employed in southern Georgia. Cartersville sites are found in floodplain, terrace, and upland settings.

The Middle Woodland sites of northern Georgia have yielded several distinctive ceramic types. Fabric marked pottery continued as a minority ware from the Early Woodland. The latest dated context producing fabric marked wares has come from the Hickory Log site (9CK9) in Cherokee County, with an uncorrected date of A.D. 320+/−50 (Webb 2000:B-22). Cartersville Check Stamped ceramics tend to co-occur with fabric marked wares. These were also recovered from the same Hickory Log context. Cartersville Simple Stamped ceramics have been recovered from Middle Woodland contexts that date between 220+/−60 B.C. at Hickory Log (Webb 2000:C-14 Summary) and A.D. 560+/−80 at 9HY98 in Henry County (Espenshade et al. 1998:172). Swift Creek Complicated Stamped pottery has been recovered from a number of Middle Woodland sites, normally as a minority ware. The earliest Swift Creek date available is an uncorrected assay of 100+/−110 B.C. from the Little River site (9MG46) in Morgan County (Williams and Shapiro 1990:146). The Little River date appears to be too early to be credible, but does have a large sigma. Williams and Elliott (1998:1) date the earliest Swift Creek in northern Georgia to A.D. 100, which appears to be defensible given the current state of knowledge. Plain ceramics appear to be more common in Middle Woodland contexts than the Early Woodland. Cord marked ceramics are rare constituents of Middle Woodland contexts, as are linear checked stamped vessels. Panola Check Stamped pottery has been identified from sites in Newton, DeKalb, and Henry Counties in association with Cartersville Checked...
Table 2. Middle Woodland Uncorrected Radiocarbon Dates.

<table>
<thead>
<tr>
<th>Site</th>
<th>Lab No. &amp; Radiocarbon Age (Years B.P. ± 1 S.D.)</th>
<th>Calendric Date</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hickory Log</td>
<td>(Beta-124519) 2170±60 BP</td>
<td>220 BC</td>
<td>Webb 2000:C-14 Summary</td>
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<td>Hickory Log</td>
<td>(Beta-94645) 2060±60 BP</td>
<td>110 BC</td>
<td>Webb 2000:B-17</td>
</tr>
<tr>
<td>Lum Moss</td>
<td>(L-4868) 2050±95 BP</td>
<td>100 BC</td>
<td>Baker 1970:115</td>
</tr>
<tr>
<td>Little River</td>
<td>(Beta-13540) 2050±110 BP</td>
<td>100 BC</td>
<td>Williams &amp; Shapiro 1990:146</td>
</tr>
<tr>
<td>Lum Moss</td>
<td>(L-4869) 2005±95 BP</td>
<td>55 BC</td>
<td>Baker 1970:115</td>
</tr>
<tr>
<td>Hickory Log</td>
<td>(Beta-98604) 1900±60 BP</td>
<td>AD 50</td>
<td>Webb 2000:B-9</td>
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<tr>
<td>Rocky River</td>
<td>(Beta-2529) 1900±80 BP</td>
<td>AD 50</td>
<td>Anderson and Joseph 1988:229</td>
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<td>9RO18</td>
<td>(Beta-79139) 1890±60 BP</td>
<td>AD 60</td>
<td>Stanyard 1997:456</td>
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<td>McCalla Bottom</td>
<td>(Beta-2531) 1880±70 BP</td>
<td>AD 70</td>
<td>Anderson and Joseph 1988:230</td>
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<td>(SI-6815) 1870±60 BP</td>
<td>AD 80</td>
<td>Wood 1985:10</td>
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<td>Leake</td>
<td>(NA) 1860±48 BP</td>
<td>AD 90</td>
<td>Wood &amp; Bowen 1995: Appendix</td>
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<td>Little River</td>
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<td>Wood 1985:10</td>
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<tr>
<td>Pumpkin Pile</td>
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<td>Ledbetter 1992:67:68</td>
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<td>Leake</td>
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<td>Wood &amp; Bowen 1995: Appendix</td>
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<td>Tunacunnee (Mound C)</td>
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<td>Jeffries 1976:10</td>
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<tr>
<td>9HY98</td>
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<td>AD 170</td>
<td>Espenshade et al. 1998:167</td>
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<td>9HY222</td>
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<td>AD 120</td>
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<tr>
<td>Miner's Creek</td>
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<td>Chase 1998:54</td>
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<tr>
<td>Cane Island</td>
<td>(SI-6813) 1705±95 BP</td>
<td>AD 245</td>
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</tr>
<tr>
<td>Tunacunnee (Village)</td>
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<tr>
<td>Leake</td>
<td>(NA) 1660±80 BP</td>
<td>AD 240</td>
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<td>Webb 2000:C-14 Summary</td>
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<td>Rucker's Bottom</td>
<td>(DIC-2298) 1580(50 BP)</td>
<td>AD 370</td>
<td>Anderson &amp; Schuldenrein 1985:8</td>
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<td>Tunacunnee (Village)</td>
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<td>AD 440</td>
<td>Jeffries 1976:10</td>
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<td>Hickory Log</td>
<td>(Beta-97899) 1500(80 BP)</td>
<td>AD 450</td>
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<td>9HY98</td>
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<td>AD 520</td>
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<td>9HY98</td>
<td>(Beta-104162) 1390(80 BP)</td>
<td>AD 560</td>
<td>Espenshade et al. 1998:172</td>
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</table>


Middle Woodland ceramics have been identified in various combinations across the region. Sites are present with fabric marked, check stamped and simple stamped ceramics, and there are also examples where fabric marked ceramics occurred in association with check stamped or simple stamped to the exclusion of the other. Swift Creek occurred alone in contexts at Little River, but most often was found in association with some combination of fabric marked, check stamped, and/or simple stamped. A ceramic assemblage composed entirely of plain and simple stamped ceramics was identified in a series of features at the Hickory Log site.
The earliest date derived from those features was an uncorrected radiocarbon assay of A.D. 250+/-70. The same ceramic assemblage was recovered from 9MO389 in Monroe County with an uncorrected date of A.D. 280+/-110 (Smith and Wood 1989:55-59). The latest date attributable to the Middle Woodland for the plain and simple stamped ceramic component at Hickory Log was an uncorrected assay of A.D. 450+/-80. A distinct plain and simple stamped component was recognized in the Richard B. Russell reservoir that dates to the latest stage of the Late Woodland (Anderson and Schuldenrein 1985). The ill-defined Vining Phase of the southern Georgia Piedmont (Elliott and Wynn 1991) also dates to the Late Woodland. Swift Creek continued to be used in the Late Woodland, and the emergence of components in the region that consist of Swift Creek to the practical exclusion of other decorated wares marks the beginning of the Late Woodland in at least some portions of northern Georgia.

The Hickory Log site, located in Cherokee County, is the most completely explored Middle Woodland site in northern Georgia. The site contexts consisted entirely of features, as middens were absent. The site was machine stripped and the features identified and excavated. A report for that site is now under preparation (Webb 2000), but sections of the report were made available for this paper. The Middle Woodland occupation at Hickory Log included early and later components that were spatially separate from each other. The early component was identified in the southern portion of the site, which also contained a Mississippian hamlet or one or more Mississippian homesteads, and an extensive Historic Cherokee occupation. The later Middle Woodland component was found to the north, in the same area as a large Woodstock component and scattered Late Woodland Swift Creek features.

The 140 identifiable vessels from the Middle Woodland component at Hickory Log (Webb 2002:C1-6) are summarized in Table 3. Podal supports were restricted to Cartersville Check Stamped and Simple Stamped vessels. Two bowls exhibited notched rims. The plates enumerated in Table 3 are unusual vessel forms that have thick undulating rims and gently to moderately sloping walls and flat bases. The diameters of the plates ranged from 28 to 40 cm. Some of the plain vessels may have actually had smoothed-over complicated stamped or simple stamped exteriors. The only other decorations represented within the early Middle Woodland ceramics at Hickory Log consisted of 17 punctated, three punctated and incised, and six incised sherds. The early Middle Woodland ceramics from the southern area all exhibit a sandy paste with angular quartz inclusions.

The early Middle Woodland component at Hickory Log returned uncorrected dates that range from 220+/-60 B.C. to A.D. 320+/-50 (Webb 2000:B-17, B-19, B-22; C-14 Summary), but three of the four assays ranged from 220+/-60 B.C. to A.D. 50+/-60. The early Middle Woodland vessel assemblage from Hickory Log may or may not have been typical of Cartersville components from elsewhere in the state, but it does provide an insight into what a vessel assemblage consisted of in at least one area at a restricted moment in time.

The sherd and vessel form counts from the later Middle Woodland component at Hickory Log (Webb 2000:C1-6) are summarized in Table 4. Podal supports were more common on simple stamped than check stamped vessels, which is the opposite of what was observed within the early Middle Woodland sample. The simple stamped rims tended to be stamped or notched, and the stamping is "U" or "V" shaped. Twelve podal supports with simple stamping were found in the northern locus. The plain vessels included four jars and two restricted bowls. The later Middle Woodland ceramics from the northern area included examples tempered with sand, and others with medium coarse angular quartz. Amphibolite inclusions were noted in some sherds.

Diagnostic chipped stone artifacts from the early Middle Woodland component at Hickory Log were dominated by Yadkin points (n=95), Baker's Creek points (n=58), and unclassified medium/small stemmed points (n=56). Copena/Nolichucky (n=12), unclassified Early/Middle Woodland triangular (n=9), Yadkin Eared (n=6), and Bradley
Spike (n=3) occurred in smaller numbers (Webb 2000:E-1-2). Diagnostic chipped stone artifacts from the later Middle Woodland in the northern portion of the site included unclassified medium/small stemmed (n=16), Baker's Creek (n=14), Yadkin (n=11), and Copena/Nolichucky (n=2). The Yadkin Eared, unclassified Early/Middle Woodland triangular, and Bradley Spike types found in the earlier component to the south were absent to the north (Webb 2000:1-1-2). The co-occurrence of large triangular points and smaller stemmed points and spikes may indicate that the diagnostic chipped stone artifacts included both knives and spears or atlatl points, or both.

Other stone artifacts recovered from the southern area of the Hickory Log site included a variety of bifaces and biface fragments. Some of these were probably tools in their own right, while others could represent early stage projectile point/knives. Large bifacially worked tools recovered from the site included 16 probable hoes, three knives, and 14 specimens that were too fragmentary to classify. The remaining chipped stone tools from that area included two unifacial scrapers, a graver, and three drills. Groundstone artifacts from that component included four gorgets or shuttle-shaped stones, three pieces of mica, a fragmentary soapstone pipe, a piece of ground graphite, and a ground schist slab. The pipe, graphite, and schist slab were recovered from burial contexts (Webb 2000:E-3-4).

The later Middle Woodland component from the northern area yielded few chipped stone tools beyond the diagnostic projectile points/knives. The few that were present were thick or thin bifaces. Sixteen groundstone artifacts were recovered from the northern component, of which 10 were from mortuary contexts. The groundstone artifacts from nonmortuary contexts included a possible gorget fragment, an expanded center gorget, two hammerstones/pitted stones, a hammerstone, and a schist pestle. The funerary objects included four definite or possible gorget fragments, one complete and one fragmentary straight-sided bar gorget, three pieces of mica, a fragmentary soapstone pipe, a piece of ground graphite, and a ground schist slab (Webb 2000:1-3-4).

The feature types associated with the early Middle Woodland component to the south (Webb 2000:B-16-18) included postmolds (at least 12 structures), a pit structure, human burials (n=2), earth/ovens or roasting pits (n=13), storage pits (n=2), a single midden-filled hearth, and various unidentified pits (n=94). The earth ovens/roasting pits were identified based on the presence of large quantities of rock and, in a few cases, in situ burn-
ing. Storage pits were rare, but single examples of bell-shaped and cylindrical pits were found. The low occurrence of storage pits contrasts with the Early Woodland Pumpkin Pile site (Ledbetter 1992:137), where they were quite common. The feature types that dated to the later Middle Woodland component to the north (Webb 2000:G-1) included a possible pit structure, human burials (n=18), possible human burials (n=6), refuse-filled pits (n=16), earth ovens or roasting pits (n=8), and post molds (n=28). The refuse-filled pits tended to be round or oval with in-sloping sides and flat bottoms, and most were shallow. The deepest refuse-filled pits were 54 and 70 cm deep, respectively, while the others were less than 40 cm deep.

Little was known about the houses used in the Middle Woodland when the earlier synthesis was published (Garrow 1975). What has been described as an entire village, with 20 to 25 structures, was investigated by Kelly and Meier (1969) in Fulton County. The structures were described as circular with diameters that ranged from 2.1 m to 6.1 m. Some of the structures were described as having semi-subterranean house floors, and hearths composed of clusters of fire-cracked rock. No site plan is known to have survived for this site, and the site has not been reported to the point that the data can be used.

House 6 at the Two Run Creek site in Bartow County clearly dated to the Middle Woodland (Wauchope 1966:223-231). That structure was constructed of single posts, and lacked an interior hearth. It is unclear if larger posts inside the circular post mold pattern that defined the house represented interior supports or belonged to a different building episode. Utilizing the scale on the published map, the structure measured approximately 4.3 m in diameter. The structure was found in association with Dunlap Fabric Marked and Cartersville Simple Stamped ceramics.

Wood (1981:117-18, 1985:8) reports circular or oval structures from the Middle Woodland Cane Island site (9PM209) in Putnam County. However, the site maps only weakly support the structural attributions.

The early Middle Woodland component at the Hickory Log site (Webb 2000:B-2, 8) included numerous structures, of which 12 single post structures could be discerned. A second structure type, represented by a single example, was also found. This structure was defined by a large (2.63-by-2.25-m) pit that extended 90 cm deep.

The single post structures were circular, and ranged from 4.8 to 9.2 m, with an average diameter of 6.5 m. None of the single post structures had hearths, although shallow hearths could have been lost to the erosion and effects of farming that were evident within the site. No interior supports could be isolated for the structures (Webb 2000:B-2-8). It is likely that the southern area of the site once contained two to three times as many structures as could be isolated with certainty during the excavations, given the number of postmolds and partial wall lines that were present.

The single pit structure had in-sloping walls and a flat floor. A large concentration of fire-cracked rock was found in a slight basin in the center of the feature. A few post molds were found scattered around the rim of the pit, but none could be definitely associated with the feature. The large collection of artifacts recovered from this feature securely linked it to the early Middle Woodland component on the site, and an uncorrected radiocarbon assay of A.D. 50+/60 was derived from feature charcoal (Webb 2000:B-8-9).

The pit structure from Hickory Log is at least superficially similar to the structures with semi-subterranean house floors reported by Kelly and Meier (1969) from 9FU14. Those structures also reportedly had hearths composed of fire-cracked rocks that were not placed in prepared pits. Of course, the dearth of information about 9FU14 makes meaningful comparisons impossible.

The pit structure from Hickory Log appears to have served a special function. It is unlikely that it was a winter house, given that the hearth was composed of fire-cracked rocks and evidence of in situ burning was absent. It is more likely that it served as a sweat lodge, and that the fire-cracked rocks had been heated and placed there to generate steam. If that is the case, that feature represents
a rare non-domestic Middle Woodland structure. A second possible nondomestic structure was found below Mound A at the Leake site (Rudolph 1989), but that structure has not been well described in the available literature.

No strong structural patterns were found that could be associated with the late Middle Woodland component in the northern locus at Hickory Log. The absence of well-defined structures in that area could be a reflection of the level of erosion and disturbances related to cultivation that have gone on there, or it could mean that domestic structures were not built there in the first place. The northern locus contained a large number of burial pits that have been clearly linked to the later Middle Woodland component. Those pits are concentrated in a roughly circular area in the southern portion of the southern locus, and included both rectangular and oval pits. A number of the pits contained alternating layers of large cobbles and earthen fill, and both secondary and primary interments were present (Webb 2000:G-13-25). Cut mica and a ground piece of graphite were recovered from the burial. However, there is no evidence these burials were linked to the Hopewell trade network, although the occupation at Hickory Log overlapped with those at Tunacunnhee in Dade County (Jefferies 1976), Miner's Creek (9DA91) in DeKalb County (Chase 1998) and 9HY98 in Henry County (Espenshade et al. 1998), sites that have all produced Hopewellian artifacts.

The nature of Hopewellian influences on Woodland societies in Georgia is still a topic for speculation. The Tunacunnhee site in Dade County is the best example of a Hopewellian center in northern Georgia. The site contained eight mounds constructed of earthen cores covered by limestone slabs, and an associated village. Excavations conducted by the University of Georgia in 1973 focused on the mounds, with minor investigations conducted in the village (Jefferies 1976:3-5).

Excavation of the Tunacunnhee mounds revealed a number of human burials associated with an array of exotic funerary items. Some of the more remarkable items recovered from the site included nine copper panpipes, two of which were silver covered. Fifteen copper bicymbal ear spools were also recovered, in addition to three complete and one fragmentary example recovered by pothunters before the excavations began. Three plates, one pin, and a small adze or celt completed the inventory of copper artifacts from the site. Additional funerary artifacts from the site included: eight pieces or concentrations of mica, including cut pieces; six clay or stone platform pipes; seven complete or fragmentary groundstone celts; one diamond-shaped and one bar gorget; a shell object and shell beads (recovered by pothunters); eight drilled bear canines; two shark vertebrae (not fossilized); two drilled shark teeth (not fossilized); a turtle shell rattle; five bone pins; a perforated or drilled deer antler socket; and seven bone hairpins. Lithics, mainly in the form of debitage, were found under and around the mounds. A possible Greeneville and a possible Copena projectile point/blade were also found. Prismatic blades were found from both the mounds and village, and at least one appeared to be made of flint from Flint Ridge, Ohio. An uncorrected radiocarbon assay of A.D. 150+/95 was derived from Mound C, while an uncorrected assay of A.D. 280+/125 was derived from a village context (Jefferies 1976).

The role the Tunacunnhee site played in the Hopewell trade network in Georgia has been well stated by Anderson (1998:279) in his discussion of the distribution of Swift Creek sites and centers across Georgia and beyond:

The major Middle Woodland settlements along or near the Chattahoochee at Mandeville and Kolomoki in southern Georgia (Sears 1956; B. A. Smith 1979, 1985; Steinen 1998) and at the northwestern part of the state at Shaw near Cartersville (Warren 1945) and Tunacunnhee near the Tennessee border (Jefferies 1976), for example, likely served as way stations along a north-south trading axis leading to the Tennessee River and from there downstream into the heart of the Midwest, perhaps via sites such as Savannah, Pinson, and Mann (Jefferies 1976:49-50). That these possible commu-
communication routes correspond to the locations of major historic Indian trails, which likely had considerable antiquity, has, of course, been noted by a number of authors (Anderson 1994; Goad 1979:244-45; Jefferies 1976:49; Snow and Stephenson 1998).

While the Tunacunnhee site probably served as a way station for a far-flung trade network and lacked Swift Creek ceramics, a number of Swift Creek earthen and rock mound and rock wall sites may have served as shrines for the people of northern Georgia during the early Middle Woodland. Williams and Harris (1998:36-47) have identified 17 sites, including the Swift Creek type site (9BI3) near Macon, as shrine sites, and have noted that they were spaced approximately 29 to 35 km apart in the Oconee River valley. They pointed out that these sites typically contain little midden, and perhaps contained a few burials and cremations. They inferred from the lack of midden that the sites were probably subject to short-term visits, and were not occupied in the normal sense of the word. The early Swift Creek shrine sites may have been very common across northern Georgia, and may serve to explain sites such as Fort Mountain (9MU1), the Rock Eagle sites (9PM80), and even more humble sites such as the stacked stone mounds of eastern Gwinnett County (Garrow and Chase 1988).

It is tempting to try to link Swift Creek to Hopewell as a larger regional expression. However, many sites with early Swift Creek components and the proposed "shrine sites" do not appear to have been involved in the Hopewell trading network in any tangible way. Items that are recognizable as having been redistributed along the Hopewell trade network do co-occur with Swift Creek ceramics at sites like Mandeville (Kellar et al. 1962; Smith 1979), Miner's Creek (Chase 1992, 1994, 1998), and 9HY98 (Espenshade et al. 1998), but those sites were located along Anderson's (1998:179) "north-south trading axis" within the Hopewell trade network. The evidence for the role of Swift Creek in the larger "Hopewell Interaction Sphere" is currently scanty at best. Nevertheless, an interpretation of Swift Creek as representing a localized expression of some sort that was peripherally involved in the Hopewell trading network seems reasonable at this point.

Swift Creek ceramics were made and used for a very long time in northern Georgia. They were minority wares in almost all instances during the Middle Woodland period. Anderson (1998:277) described early Swift Creek as:

Classic Early Swift Creek designs are usually simple curvilinear motifs based on concentric circles and ovals: rims are usually notched or scalloped and tetrapods are common.

Early Swift Creek ceramics often co-occur with Dunlap Fabric Marked, Cartersville Check Stamped, and Cartersville Simple Stamped, as they did at Hickory Log. It is not until later, during the early stages of the Late Woodland, that distinct Swift Creek components can be discerned.

The Hickory Log site has provided excellent insights into the plant resources that were utilized during the early Middle Woodland. A total of 1,406 liters of soil was processed via flotation from the Cartersville features at that site. The processed soil consisted of 92 large samples from 81 features, and easily represents the largest amount of early Middle Woodland feature fill processed through flotation from a single site in northern Georgia (Webb 2000:E-1).

Mast resources were the most common ethno­botanical specimens from the site in both weight and number. Hickory nut was recovered from 96.3 percent of the features, followed by acorn at 72.8 percent, walnut at 35.8 percent, and hazelnut at 4.9 percent. Acorns provided much more useable meat as the hickory nuts, however, given the nut yield and differential preservation factors of the two (Webb 2000:E-1).

Definite cultigens included maize from 22.2 percent of the features, squash from 7.1 percent, and maygrass from 16.6 percent. Other seeds and their percentage of occurrence included service berries (1.2), honey locust (4.9), plum (1.2), grape (16), bittersweet (1.2), chenopodium (7.4), dog-
wood (1.2), hawthorn (1.2), wild bean (1.2), bedstraw (2.5), tulip poplar (1.2), morning glory (1.2), grass (6.2), smartweed (2.5), and buffalo bur (1.2). The ubiquity of maize in the early Middle Woodland features at the Hickory Log reinforces the A.D. 175 date derived for maize at the Ice House Bottom site in Tennessee (Chapman and Crites 1987:352-354).

Forty-five soil samples that totaled 1,080.8 liters of fill from 27 features were processed via flotation from the later Middle Woodland component at Hickory Log. Most of the ethnobotanical material recovered from the later Middle Woodland component was wood charcoal, but a large sample of nut shell and seeds was also recovered (Webb 2000:J-1).

The mast resource recovered from the 27 features and their ubiquity included hickory nut (74.1), acorn (44.4), walnut (18.5), and hazelnut (3.7). The occurrence of hickory nut and acorn by weight from the features, however, was acorn (56.8 percent) and hickory nut (41.7 percent). It is clear that the acorn meat provided far more food by weight than hickory nut meat (Webb 2000:J-2).

Definite cultigens recovered from the later Middle Woodland samples and their ubiquity included squash rind (7.4), sunflower (3.7), sumpweed (7.4), maygrass (18.5) and possible maize (7.4). Additional seeds included maypop (7.4), grape (11.1), ragweed (3.7), chenopodium (14.8), grass (7.4), poke (7.4), polymnia (7.4), and sumac (3.7) (Webb 2000:J-2-3).

The differences observed between the early and later Middle Woodland components could have been a function of the greater permanence of the early Middle Woodland component versus the lower intensity and relative impermanence of the later Middle Woodland occupation. The early Middle Woodland component clearly was from a village that had numerous superimposed domestic structures. The centerpiece of the later Middle Woodland component was a large cluster of burials. No definite later Middle Woodland structure could be distinguished from the post molds that co-occurred with the later Middle Woodland features.

No faunal assemblage comparable to that from the Early Woodland Garfield site (Bowen 1989:190-203) is currently available for the Middle Woodland in northern Georgia. The hunting and gathering strategy of the Middle Woodland was probably similar to that from the Early Woodland, however, as everything that could be killed or caught probably ended up in the cook pot.

**LATE WOODLAND**

The uncorrected end dates for the Middle Woodland (Table 2) and the beginning dates for the Late Woodland (Table 5) have considerable overlap. This is hardly surprising given that archaeological stages tend to be far more rigid than the prehistoric phases that characterize them. However, only four uncorrected Middle Woodland dates are younger than A.D. 400, while only one uncorrected Late Woodland assay predates A.D. 400. The transition from Middle to Late Woodland thus probably occurred over a period of a hundred or more years from ca. A.D. 400 to A.D. 500. A definable beginning date for the Late Woodland, based on uncorrected radiocarbon dates, would be ca. A.D. 450, although A.D. 400 is not out of the question.

The Late Woodland in northern Georgia can be divided into at least four, and perhaps five distinct phases. The first of these was the Swift Creek Phase, characterized by the occurrence of late Swift Creek ceramics. A possible second phase can be designated as the Napier phase. Swift Creek and Napier ceramics co-occurred for a period of time (even within the same sites at times). Woodstock ceramics appear to directly develop out of Napier types. Woodstock is the third phase, and Woodstock period sites occur during the later Late Woodland. An undefined phase, based on the occurrence of plain, simple stamped, and brushed ceramics in the upper Savannah River Valley, also appears to date to the later Late Woodland. The Vining Phase is the fifth phase defined for northern Georgia. The only definable radiocarbon dates that are available for Vining were derived from the Tarver site (9JO6) in Jones County (Pluckhahn 1996, 1997).

Late Woodland sites are distributed across northern Georgia. The settlement pattern for the
Table 5. Late Woodland Uncorrected Radiocarbon Dates.

<table>
<thead>
<tr>
<th>Component/Site</th>
<th>Lab No. &amp; Radiocarbon Age (Years B.P.±1 S.D.)</th>
<th>Calendric Date</th>
<th>Reference</th>
</tr>
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<tbody>
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<td><strong>Swift Creek</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9MO87</td>
<td>(UGA-6261) 1609±48 BP</td>
<td>AD 341</td>
<td>Rogers et al. 1991</td>
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<td>Cold Springs</td>
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<td>AD 400</td>
<td>Wood &amp; Bowen 1995: Appendix</td>
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<td>AD 435</td>
<td>Rogers et al. 1991</td>
</tr>
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<td>AD 445</td>
<td>Wood &amp; Bowen 1995: Appendix</td>
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<td>AD 546</td>
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<td>9FL206</td>
<td>(NA) 1400±70 BP</td>
<td>AD 550</td>
<td>Southerlin et al. 1996:201</td>
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<tr>
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<td>AD 556</td>
<td>Rogers et al. 1991</td>
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<tr>
<td>Chase Site</td>
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<td>AD 590</td>
<td>Stanyard &amp; Stoops 1995:204</td>
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<td>9SP14</td>
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<td>AD 640</td>
<td>Stanyard 1999:178</td>
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<td>AD 655</td>
<td>Rogers et al. 1991</td>
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<td>Southerlin et al. 1996:201</td>
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<td>AD 530</td>
<td>Stanyard 1999:115</td>
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<td>Anewayke</td>
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<td>Dickens 1975</td>
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<td>AD 790</td>
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<td>AD 880</td>
<td>Crook 1984</td>
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<td>Pott’s Tract</td>
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<td>AD 928</td>
<td>Hally 1970</td>
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<td>Stanyard &amp; Baker 1992</td>
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<td>Chestatee</td>
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<td>Tarver</td>
<td>(Beta-95072) 930±60 BP</td>
<td>AD 1020</td>
<td>Pluckhahn 1997:30</td>
</tr>
<tr>
<td><strong>Plain, Simple Stamped, and Brushed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruckers Bottom</td>
<td>(DIC-2299) 1140±110 BP</td>
<td>AD 810</td>
<td>Anderson &amp; Schuldenrein 1985:8</td>
</tr>
<tr>
<td>Ruckers Bottom</td>
<td>(DIC-2297) 1050±85 BP</td>
<td>AD 900</td>
<td>Anderson &amp; Schuldenrein 1985:8</td>
</tr>
<tr>
<td>Rufus Bullard</td>
<td>(UGA-3613) 1000±55 BP</td>
<td>AD 950</td>
<td>Anderson &amp; Schuldenrein 1985:8</td>
</tr>
<tr>
<td>Ruckers Bottom</td>
<td>(DIC-2295) 860±50 BP</td>
<td>AD 1090</td>
<td>Anderson &amp; Schuldenrein 1985:8</td>
</tr>
<tr>
<td>Rufus Bullard</td>
<td>(UGA-3616) 860±55 BP</td>
<td>AD 1090</td>
<td>Anderson &amp; Schuldenrein 1985:8</td>
</tr>
<tr>
<td>Ruckers Bottom</td>
<td>(DIC-2296) 770±45 BP</td>
<td>AD 1180</td>
<td>Anderson &amp; Schuldenrein 1985:8</td>
</tr>
</tbody>
</table>
Late Woodland appears to differ little from that during the Middle Woodland, as floodplains, terraces, and upland settings were all utilized. However, during the later Late Woodland distinct phases appear to have occupied spatially-distinct territories. Woodstock sites are concentrated along the upper Chattahoochee River drainage, along the Etowah River, and into the Ridge and Valley Province (Cobb and Garrow 1996:27). Less is known about the distribution of Vining sites, but they appear to cluster between the Flint and Oconee drainages (Elliott and Wynn 1991; Pluckhahn 1996, 1997; Espenshade et al. 1998). The later Late Woodland phase characterized by the occurrence of plain, impressed, and brushed ceramic is only known from the upper Savannah River in the Richard B. Russell Reservoir (Anderson and Joseph 1988:243). It is not known if that unnamed phase should be combined with the Vining Phase or represents something completely different. The unnamed phase will be discussed separately in this paper, but its nature and affiliation cannot be resolved without additional research.

Swift Creek

The Swift Creek Phase of the Late Woodland in northern Georgia has been identified at a number of sites in the region since 1975. Uncorrected radiocarbon dates for the Swift Creek Phase extend from A.D. 341 +/-48 at 9MO87 in Morgan County (Rogers et al. 1991) to what may be an unacceptable date of A.D. 1030 +/-40 at Hickory Log in Cherokee County (Webb 2000:V-14-17). The remaining 12 dates derived for the Swift Creek Phase in the region range from A.D. 400 +/-65 at Cold Springs (9GE10) in Greene County (Wood and Bowen 1995:Appendix) to A.D. 870 +/-80 from 9FL206 in Floyd County (Southerlin et al. 1996:201), and provide what appears to be a defensible date range for the phase.

The Swift Creek Phase is characterized by the presence of late Swift Creek ceramics. Anderson (1998:277) has defined late Swift Creek Complicated Stamped as:

Late Swift Creek assemblages, postdating circa A.D. 500, are characterized by an increase in the incidence in plain pottery and folded rims, a decline in the incidence of notched and scalloped rims, and (usually) more complex complicated stamped designs with some zoned stamping. Some design motifs and rim treatments have proved to be highly sensitive temporal markers, and some clearly come from specific sites (Snow 1998; Snow and Stephenson 1998). A fine-lined variant of Swift Creek, called B-Complex to differentiate it from classic southern and central Georgia materials, is found in the northern and eastern Georgia Piedmont and appears to be transitional from Swift Creek and Napier (Wood et al. 1986:340-341).

A minor Late Woodland Swift Creek component was identified in the northern locus of the Hickory Log site in Cherokee County. The contents of Feature 7010 from that site are instructive in terms of the ceramics decoration and vessel types and the accompanying lithic artifacts from the late Swift Creek component. Feature 7010 was irregularly shaped with maximum dimensions of 228 cm by 176 cm by 29 cm deep. The feature yielded 298 identifiable sherds, of which there were 199 plain, 7 curvilinear complicated stamped, 7 incised, 5 simple stamped, 1 punctuated and 1 check stamped. The checked stamped sherd was clearly derived from an earlier component on the site, and the five simple stamped sherds may have been derived from the same source. Six vessels were identified from the feature, of which there were one Swift Creek Complicated Stamped jar, one plain beaker, one plain bowl, two incised beakers, and one incised bowl. The diagnostic lithic artifacts from the feature included four small triangular points and one Baker's Creek point. A 6-liter flotation sample yielded hickory, walnut, and acorn nut shell, in addition to maypop, maygrass, and grass seeds. Feature 7010 yielded an uncorrected radiocarbon date of A.D. 850 +/-60 (Webb 2000:V-8).

Four possible Swift Creek burials were found at Hickory Log, all from the northern locus. None of the burials contained associated funerary objects,
but one of the burials contained the remains of what may have been a log tomb above a poorly-preserved primary interment. Logs from the possible log tomb yielded an uncorrected radiocarbon date of A.D. 1060+/−60. The attribution of this burial to the Swift Creek component was based on the recovery of Swift Creek sherds from the pit fill (Webb 2000:V-14-17).

No definite late Swift Creek structures have been identified to date, and many questions remain concerning the nature of late Swift Creek in northern Georgia. Late Swift Creek sites were believed to be rare in northern Georgia 25 years ago (Garrow 1975), but it is now clear that at least small sites were common in the region.

Napier

Napier Complicated Stamped was identified at the Napier type site (9B19) near Macon in the late 1930s (Jennings and Fairbanks 1940:8). The Napier type site remains one of only two known “pure” Napier sites. The other was 9PM201, a poorly reported site from the Oconee Reservoir project. Napier ceramics are found from the Savannah River to the east to the Chattahoochee River to the west, and appear to have mainly been part of small sites that were scattered across the landscape. Rudolph (1991:266-267) suggested that Napier sites were located on floodplain soils, and that that factor accounted for a low incidence of Napier sites in the Oconee reservoir. That settlement pattern has not been upheld in other parts of northern Georgia, however, and it now appears that Napier sites were dispersed across the landscape in much the same way as earlier sites.

The chronological position of Napier, based on the available uncorrected radiocarbon dates, appears to range from ca. A.D. 600 to A.D. 750. There are credible uncorrected radiocarbon dates for Swift Creek that both precede and follow Swift Creek/Napier. Napier appears to develop directly into Woodstock, which accounts for its disappearance around A.D. 750.

Napier Complicated Stamped design motifs generally were rectilinear and composed of very thin lines. Wauchope (1966:58) identified a number of complicated stamped designs found on Napier ceramics in northern Georgia. Those motifs included zig-zagged lines with straight line fillers, rounded nested diamonds, angular nested diamonds, very fine lined “snowshoes”, and a variety of herringbone designs, and combinations of curvilinear and rectilinear designs. Napier has a number of motifs that are similar to the later Woodstock complicated stamped, and indeed Woodstock appears to have developed from Napier on one end and into Etowah on the other.

Sites that contain both late Swift Creek and Napier ceramics appear to be fairly common outside of the Oconee reservoir, and in fact all but one of the radiocarbon dates in Table 3 for Napier came from contexts with both Swift Creek and Napier. The single context in Table 3 under the Swift Creek or Napier label that contained only Napier was Feature 1031 from the southern locus at the Hickory Log site, which had an uncorrected radiocarbon date of A.D. 690+/−50. That feature had maximum dimensions of 94 cm by 97 cm by 48 cm deep. The ceramics from the feature included: 36 plain, 4 rectilinear complicated stamped, 8 check stamped, and 3 simple stamped. The check stamped and simple stamped sherds were probably introduced into the feature as fill constituents from the intensive Middle Woodland component in the southern locus. The vessels represented in the feature included one Napier bowl, one plain bowl, and one plain jar. Two small triangular project points were the only diagnostic lithic artifacts from the feature. A 167-liter flotation sample was processed from the feature and yielded walnut and acorn nut shells, in addition to squash rind and bearfoot and maypop seeds (Webb 2000:V-7-8).

The only Napier structure that has been described in the literature to date was rectangular, and was found on the summit of the Annawakee Mound (9DO2) in Douglas County (Dickens 1975). The Annawakee Mound is also the only known Napier “center” in northern Georgia. The position of the Annawakee Mound in Swift Creek/Napier settlement in northern Georgia is difficult to assess because the site remains poorly reported.
Woodstock

The Woodstock Phase has traditionally been attributed to the Early Mississippian or Emergent Mississippian (Caldwell 1957, 1958; Hally and Rudolph 1986:19-32; Hally and Langford 1988:41-44; Wood and Bowen 1995). Cobb and Garrow (1996) contested that interpretation, and pointed out that Woodstock settlement patterns, subsistence patterns, internal features, and lack of interregional interaction more closely link Woodstock to Woodland than Mississippian lifeways.

Twelve radiocarbon dates are now available from secure Woodstock contexts in northern Georgia (Table 3). These dates, all uncorrected, range from A.D. 700+/-100 at Whitehead Farm I (9FL193) (Stanyard and Baker 1992) to A.D. 1100+/-60 at Hickory Log (Webb 2000:V-6). Cobb and Garrow (1996:22) placed Woodstock within the general period of A.D. 800 to 1000 based on a date range from A.D. 700+/-100 to A.D. 928+/-40 (Hally 1970). A more defensible date range, based on the uncorrected dates for Swift Creek/Napier and Woodstock, now appears closer to ca. A.D. 750 for a beginning date with an end date that could extend past A.D. 1000. It is likely that Swift Creek/Napier sites overlapped in time to a degree, and it is clear there was overlap between Woodstock and Swift Creek. Woodstock probably persisted in some areas after the emergence of Etowah. It is clear that a substantial shift in settlement patterns occurred when the Etowah Phase began and the transition from Woodland and Mississippian occurred (Cobb and Garrow 1996:28).

The Woodstock settlement pattern differed little from that observed during the earlier Woodland phases. Woodstock settlement reached into both floodplain and upland settings, in sharp contrast to the subsequent Mississippian settlement pattern in which sites clustered in the floodplains of major rivers. Known Woodstock site types range from villages to camps and rock shelters (Cobb and Garrow 1996:28). Two Woodstock sites contained elaborate palisades (Caldwell 1957; Webb 2000), and there is indirect evidence of what may have been a palisade from a third (Stanyard and Baker 1992). The overwhelming majority of Woodstock sites were relatively small, and may have represented farmsteads or small hamlets, as well as temporary campsites.

Woodstock ceramic decorations include complicated stamping and fine lined incising. Woodstock complicated stamped motifs have relatively fine lines. Diamond motifs were the most common among the decorations from the 30 sites studied by Wauchope (1966:60), followed by line block and herringbone designs. Diamonds occur in nested motifs, and in combination with lines or bars. Some varieties of diamonds are rounded, while others are angular. The incising found on Woodstock ceramics is very fine, and consists of parallel lines, alternating bands of diagonal and horizontal lines, or in Vs or inverted Vs. Wauchope (1966:62) noted that punctuations were occasionally found with incising.

A large trench feature was excavated at the Whitehead Farm I site in Floyd County that dated to the Woodstock Phase (Stanyard and Baker 1992:37). The trench, designated Feature 2, yielded 663 sherds that were large enough to analyze. The ceramic assemblage from Feature 2 included 605 (91.3 percent) plain, 34 (5.1 percent) Woodstock Complicated Stamped, 21 (3.2 percent) Woodstock Incised, one (0.15 percent) Cartersville Check Stamped, and one (0.15 percent) Dunlap Fabric marked sherds. The Cartersville and Dunlap sherds clearly had been introduced into the feature from an earlier site component, but the high percentage of plain to complicated stamped sherds underscores the importance of plain ceramics on some Woodstock sites.

The ceramic vessel reconstructions from the Hickory Log site reflect a higher relative frequency of complicated stamping than the results from Whitehead Farm I. Fourteen Woodstock Complicated Stamped vessels, all jars, were recognized at Hickory Log, as well as four incised and 11 plain examples. The incised vessels included three large jars or beakers and one smaller jar. One of these vessels exhibited a cord impressed lip. The plain vessels included three bowls, five beakers, and three jars. The uncorrected radiocarbon dates from Whitehead Farm I tended to be earlier than those.
from Hickory Log, although there was considerable overlap (see Table 3), and part of the difference between the ceramic assemblages at the two sites could have been chronological (Webb 2000:V-41-45).

Diagnostic chipped stone artifacts from Woodstock sites consist of small triangular projectile points that are often described as “Hamilton” points. Feature 2 at the Whitehead Farm I site yielded six “Hamilton” points and a single Archaic point that clearly was not part of the Woodstock assemblage. Other chipped stone artifacts from that feature included one non-diagnostic hafted biface, biface fragments, altered flakes, cores, and cobble tools (Stanyard and Baker 1992:50). The pattern of possible atlatl or spear points and larger diagnostic bifaces that could have been used as knives that was recognized for the Early and Middle Woodland was absent at Whitehead Farm I.

The chipped stone assemblage from the Woodstock component at Hickory Log was very similar to that found at Whitehead Farm I. Ninety-five small triangular points were recovered from Hickory Log, of which 83, or 87.4 percent were recognizable as Hamiltons. The lithic raw material of choice at Hickory Log, which is located in the Piedmont, was Ridge and Valley chert. Ridge and Valley chert dominates all reported Woodstock sites in both the Piedmont and Ridge and Valley province. One unusual chipped stone artifact was a large (6.54 cm long) pentagonal hafted knife that was recovered from a burial as a funerary object. The remainder of the chipped lithic assemblage from Hickory Log was similar to that from Whitehead Farm I, with the exception of a possible slate hoe from Hickory Log (Webb 2000:V-49-51).

Sixteen groundstone artifacts were recovered from Hickory Log, including three funerary objects. The funerary objects included two slate pendants, of which one was drilled and incised. The third funerary object was a tubular piece of schist of unknown function. The remaining ground stone artifacts included three unidentified fragments, one hammerstone, one hammerstone/pitted stone, one disk, one gorget fragment, three pitted stones, one possible metate/pitted stone, one slab, and one celt fragment (Webb 2000:V-52).

The feature types associated with Woodstock sites have included ditch or ditch-like features from the Woodstock Fort (9CK2) (Caldwell 1957), Whitehead Farm I (Stanyard and Baker 1992) and Hickory Log (Webb 2000). The possible ditch features at Hickory Log were shallow and disconnected, and may not have been directly associated with the site's fortification line as was the case at the Woodstock Fort site. The relationship of the Whitehead Farm I site ditch to a fortification line could not be determined, as excavations could not be conducted outside of a narrow project corridor that included the trench. Other feature types known from Hickory Log included post molds, midden-filled pits, and human burials (Webb 2000:V-4-20). The earth ovens, large roasting pits, and storage pits present on earlier Woodland sites appear to be absent on Woodstock sites.

Two palisaded Woodstock sites have been excavated to date in northern Georgia. The palisade at Woodstock Fort is described as a double row of posts set 1.5 m apart except at the southern side where they spread to form a bastion or entranceway. The posts were 15 to 23 cm in diameter. Two square and one round bastion were found along the palisade. The square towers were spaced 30.5 m apart, with the round tower 15 m beyond the easternmost square tower. The posts in all three bastions were set in wall trenches, while the palisade was built of individually set posts. The palisade was circular, and enclosed an area about 90 m in diameter. The palisade appears to have been nearly encircled by a ditch, which had a break that corresponded to the entranceway. The ditch was described as “5 feet [1.5 m] across, 2 ½ to 3 feet [76 to 91 cm] deep, and uniformly 5 feet [1.5 m] distant from the outer curtain.” Lack of time and the rising waters of Lake Allatoona prevented excavation within the palisade, and nothing is known about the interior of the “Woodstock Fort” (Caldwell 1957:119-126).

Hickory Log is the second palisaded Woodstock site that has been investigated to this point. The Hickory Log palisade was roughly oval
and set along the military crest of the elevation that contains the northern portion of the site. The maximum dimensions of the palisade were approximately 142 m by 100 m, with the long axis following the long axis of the elevated area. Three to four parallel rows of posts defined the palisade or series of palisades, and the posts were spaced 35 cm to 55 cm apart. The palisade line split along the northwestern side of the site into two lines that are 10 to 12 m apart. The inner line consisted of one to four parallel rows of posts, while the outer contained three parallel rows. The lines apparently rejoined in an unexcavated area of the site. The palisade at Hickory Log exhibited what may have been several rebuilding or replacement episodes. Square-to-oval groupings of posts along the palisade line could represent bastions, but that is unclear. The Hickory Log site lacked the encircling ditch observed at the Woodstock Fort, but small remnants of trench-like features were noted in one area (Webb 2000:V-4-5).

Numerous post molds were identified and mapped inside the palisaded area at Hickory Log, but strong post patterns are absent. Partial patterns formed arcs in that area, but rectangular structures and wall trenches are totally absent (Webb 2000:V-6). The arcs of posts noted at Hickory Log may have been parts of small semi-circular shelters like those described for the nearby Hobgood site (9CK131) (Smith 1985). The presence of what may have been temporary structures could indicate that the Hickory Log palisades enclosed a temporary point of refuge such as a hilltop fort that was used when the population of the surrounding area was threatened by intruders. The temporary nature of the Woodstock occupation at Hickory Log was underscored by a near total lack of surface artifacts across the site and the relative paucity of major trash-filled features.

A circular post structure located outside of the palisade may date to the Woodstock component. That structure, composed of single posts, was approximately 8 m in diameter. No interior hearth was found, but the absence of that type of feature may have been a product of the damage caused to the site by cultivation and erosion. Charcoal recovered from a wall post associated with the structure returned an uncorrected radiocarbon date of A.D. 1100, which is the latest possible Woodstock date from the site (Webb 2000:V-6).

Five burials, all primary interments, were definitely linked to the Woodstock component at Hickory Log. Two of those burials contained funerary objects, including a possible bone tool from Burial 16 and five Hamilton points, a hafted knife, and a groundstone schist abrader from Burial 21. The Woodstock burial pits were oval to nearly circular, and bone preservation was poor in all cases. Thirteen other burials recovered from 12 pits excavated in the northern locus of Hickory Log were attributed to the Late Woodland occupation, but could have been Swift Creek or Woodstock. The pit with the double interment contained a primary burial and a cremation. The remaining burials were all primary interments. One of the unassigned burials contained funerary objects, while definite funerary objects were recovered from two other graves. The possible funerary objects were a Hamilton point and a thick biface recovered from Burial 11. Burial 24 yielded an undrilled greenstone pendant preform, two Hamilton points, three chert core fragments, three chert flakes, and one quartz flake. Burial 23 yielded the only artifacts from the site that obviously arrived as a result of long-distance trade or transport, in the form of four fragmentary whelk columella beads (Webb 2000:V-20-29). Study of the fill constituents of the unattributed burials indicates that most were probably Woodstock.

A total of 613 liters of feature fill removed in 22 flotation samples from 17 pit features yielded an impressive assemblage of Late Woodland ethno-botanical remains from Hickory Log. Those materials, associated with the Swift Creek, Napier, Woodstock, and unattributed Late Woodland components, provide excellent insights into the subsistence practices of the period. Mast crops predominated in the Late Woodland Hickory Log sample just as they had throughout the rest of the Woodland. Hickory nut shell was recovered from 94.7 percent of the sampled features, and dominated Swift Creek, Napier, and Woodstock contexts.
Hickory nut shell was recovered from 94.1 percent of the features, and amounted to 60.5 percent of the nutshell by weight. Acorn shells were recovered from 88.2 percent of the sampled features, followed by walnut at 35.3 percent, and chestnut at 5.9 percent. The acorn shells represented far more meat than the hickory nuts, and acorn was clearly the most important mast crop (Webb 2000:V-54-55).

Cultigens recovered from Late Woodland contexts at Hickory Log included squash (rind), possible sunflower, bottle gourd (rind), maygrass, bean (Phaseolus vulgaris?), and maize. Squash rind was recovered from two contexts, for a ubiquity value of 11.8 percent. One of the contexts that yielded squash rind was the single Napier feature, while the other was Woodstock. A single possible sunflower seed came from a Woodstock feature, as did the single bottle gourd rind. Maygrass had a ubiquity value of 41.2 percent, and 90% of the total maygrass seeds recovered from the site came from a single Woodstock feature. Maygrass was found in Swift Creek, Woodstock, and unidentified Late Woodland features. Eight bean seeds from a Woodstock and an unidentified Late Woodland feature were identified as possible cultivated beans. Maize, in the form of both cob/cupule and kernel fragments was recovered from 41.2 percent of the features. Fifty percent of the sampled Woodstock features yielded maize (Webb 2000:V-55-56).

The remainder of the ethnobotanical sample from the Hickory Log Late Woodland contexts included fleshy fruits, grains and weeds, and fuel or construction materials. Fleshy fruits recovered from the Late Woodland sample and their associated ubiquity values included: grape (25), maypop (17.7), persimmon (11.8), with single (5.9) occurrences of service berry, honey locust, yellow passion flower, and elderberry. The grains and weeds included grass (17.7), bedstraw (11.8), and single (5.9) occurrences of chenopodium and bear’s foot. The fuel or construction materials included mainly pine and oak with lesser amounts of hickory. Charcoal picked from palisade posts indicates there was a marked preference for oak with lesser amounts of other hardwoods (Webb 2000:V-57-58).

The Whitehead Farm I site yielded a good sample of ethnobotanical material that was similar to that from Hickory Log. Whitehead Farm I produced much less nutshell than Hickory Log, but also produced cultigens like squash (rind), sunflower, maygrass, and maize. No cultivated bean was recognized at Whitehead Farm I, although wild bean was present (Stanyard and Baker 1992:51).

The best Woodstock faunal collection known to this point in northern Georgia was recovered from Whitehead Farm I (Stanyard and Baker 1992:52-57). That collection was derived from Feature 2.03, which was recognized as a discrete cluster of shell and bone within a much larger trench feature. Feature 2.03 was interpreted to have been a single deposition episode, and may indeed have been the contents of one very large pot. The contents of the feature included bones derived from three deer (including fetal deer) and single specimens of raccoon, mink, gray fox, gray squirrel, squirrel, and unspecified fox. The faunal assemblage from Feature 2.03 also included unspecified bird, and single individuals of toad, turtle, mud turtle, lizard, non-poisonous snake, and pit viper. Fish represented in the assemblage included two bass and single individuals of golden redhorse and minnow. Invertebrate fauna from Feature 2.03 included freshwater gastropods, terrestrial gastropods, and freshwater mussels. Ethnobotanical specimens from the feature included maize, squash, maygrass, chenopodium, wild bean, grass, cocklebur, grape, pine seed, and wild strawberry. The feature contained ethnobotanical materials from plants that matured in the late summer and fall, but the presence of the fetal deer indicates that the feature was deposited in the spring. Stanyard and Baker (1992:57) interpreted Feature 2.03 to reflect the diet of a Woodstock group during "a stressful economic period or seasonal transition in subsistence." They attributed the presence of maize and squash as reflective of dwindling food reserves. Their interpretation appears to be reasonable, and Feature 2.03 was probably deposited in early spring when food resources would have been scarce.
The only mound center that has been associated with the Woodstock Phase was on the Summerour site (9FO16) that was excavated by Caldwell (1953) in Forsyth County on the upper Chattahoochee River. The mound was a single stage platform mound that had a rectangular, wall trench structure on the top. The excavations yielded both plain and complicated stamped Woodstock ceramics (Hally and Rudolph 1986:30).

**Undefined Simple Stamped and Brushed Phase**

A poorly understood Late Woodland phase that is reflected by a ceramic assemblage of simple stamped, plain, and brushed ceramics may ultimately be defined in the upper Savannah River drainage. Six uncorrected radiocarbon dates from the Ruckers Bottom (9EB91) and Rufus Bullard (9EB76) sites for this undefined phase range from A.D. 810+/~110 to A.D. 1180+/~AO5 (Anderson and Joseph 1988:243; Anderson and Schuldenrein 1985:8). Little more is known of that potential phase at this time, and clearly more research on that time period in the upper Savannah River is needed.

**Vining**

The chronological position of Mossy Oak Simple Stamped ceramics was an unresolved question when the original synthesis was published in 1975 (Garrow 1975:20). It was believed at that time that Mossy Oak dated to the Early Woodland, although the uncertain nature of that attribution was recognized. It is now recognized that what was then called Mossy Oak ceramics actually dates to the Late Woodland. Mossy Oak ceramics have since been renamed Vining Simple Stamped (Williams and Thompson 1999:82).

Vining Simple Stamped was originally named by Kelly (1938) from a site in Putnam County. Kelly obscured the chronological position of Vining by asserting that it predated Swift Creek. The term Mossy Oak gained general use, while Kelly's Vining did not, until it was reintroduced to the literature by Elliott and Wynn (1991) and assigned to the Late Woodland. Vining sites have been recognized along the Oconee and Flint drainage in the central and southern Piedmont. Vining settlement patterns are not well understood at present, but probably paralleled those of Woodstock, which were centered further to the north and west.

The only credible radiocarbon dates that are currently available for the Vining Phase were derived from two features at the Tarver site in Jones County (Pluckhahn 1997:30). Those uncorrected dates were A.D. 960+/~60 and A.D. 1020+/~60, both within the expected date range for Vining. The chronological range of Vining cannot be determined at this time, but it probably parallels Woodstock. The relationship, if any, of Vining to the unnamed Late Woodland phase characterized by plain, simple stamped, and brushed ceramics from the upper Savannah River has not been determined.

The best information that is currently available about the Vining Phase came from the two dated features on the Tarver site and a third, late feature that contained disturbed fill from one of the dated pits. Feature 92 was over 1 m in diameter and more than 90 cm deep. The feature had straight sides and a flat bottom. A partially cremated secondary burial was recovered from the bottom of the feature, although the feature was interpreted to have been a storage, not burial, feature. Feature 277 was the second Vining feature, and was cylindrical and a meter in diameter. The top of that feature had been disturbed by a basin-shaped Creek feature, but it extended 81 cm deep. Feature 277 was also straight sided with a flat bottom. Recognizable Vining ceramics were recovered from the overlying Creek Feature, Feature 252 (Pluckhahn 1997:26-31).

The 175 ceramic sherds recovered from the Tarver features were primarily Vining Simple Stamped (58.2 percent), followed by plain (32 percent), cord marked (10.3 percent), rectilinear complicated stamped (0.6 percent), and incised (0.6 percent). Fifteen vessels, all bowls, were recognized in the sample. Four flaring rim bowls decorated with Vining Simple Stamped also exhibited single or double incised lines at their necks. Cord marking was represented by a single rounded bowl.
The Tarver collection was compared to a Vining Phase collection from the Raccoon Ridge site (9MG271) in the Oconee River Valley, and found to be very similar (Worth 1996:53). The only diagnostic chipped stone artifact recovered from the Tarver Vining features was referred to as a "small Mississippian triangular projectile point" (Pluckhahn 1997:44). That term has a long history of use in Georgia archaeology, but in fact the small triangular points of the Late Woodland are often indistinguishable from those that were used in the Mississippian. In this instance, the example from Tarver was probably the equivalent of the Woodstock small triangular points that are common to the north and west at the same time.

No structures could clearly be associated with the Vining features at Tarver. A circular structure that measured 10 m across was noted north of Feature 92, but Pluckhahn (1997:46) noted that this structure was over twice the size of the only known Vining structure, which was described from the Raccoon Ridge site (Worth 1996).

The dated Tarver features yielded a modest sample of subsistence remains. Mast crops represented in the sample included walnut and hickory shells. The recovered seeds included honey locust, persimmon, chenopodium, and maize. Wood charcoal recovered from the features included ash, pine, oak, and hickory. The Tarver features yielded little food bone, and the bones that were present were fragmentary and had been burned. No bone from the Tarver features could be identified beyond unidentified mammal and unidentified bone (Pluckhahn 1997:45).

The Vining Phase remains poorly defined, but the available evidence concerning settlement patterns and the small amount of information concerning subsistence suggests that Vining is best assigned to the Late Woodland. Vining should be considered to be the terminal Late Woodland phase within its geographic range.

**DISCUSSION**

The Woodland period lasted for approximately 1,700 years, from ca. 700 B.C. to A.D. 1000. The transition from the Late Archaic to Early Woodland in northern Georgia appears to have been quite abrupt, and may have followed a gap of 200-300 years. The "heartland" of the Early Woodland societies in northern Georgia appears to have been restricted to the northwestern part of the state, from the Atlanta metropolitan area north. The largest village sites with the most extensive middens are concentrated in that area. This may indicate that, as Caldwell (1958:23-25) stated, the bearers of Early Woodland material culture migrated to northern Georgia from points north and northwest.

The subsistence base during the Early Woodland was firmly anchored in collecting and processing mast crops such as walnuts, acorns, hickory nuts, and hazelnuts. Acorns probably provided the largest amount of food among the mast crops, and large storage/processing pits were common. There is some evidence of cultigens during the Early Woodland, as maygrass and sumpweed have been recovered from some Early Woodland contexts. Maize may have been cultivated as early as that period, although the earliest firm evidence for maize is from early Middle Woodland features. The faunal species exploited during the Early Woodland probably included virtually everything that could be caught or killed. At the Garfield site, 39 species were included among the food bone, including species such as skunks, sandhill cranes, whooping cranes, and great blue heron that are not generally thought of as potential food today.

The transition from the early to Middle Woodland dates to ca. 200 B.C., and is marked by the introduction of check stamped and perhaps simple stamped pottery. The transition consisted of more than a shift in pottery decorations, however, as large storage/processing features were rarely used in the Middle Woodland, and substantial Middle Woodland sites spread over the entire state. The settlement pattern of the Middle Woodland included dispersed settlements in floodplain, terrace, and upland settings.

The earliest strong evidence of the cultivation of maize dates to the Middle Woodland. Maize was identified from a number of early Middle Woodland features at the Hickory Log site. Other culti-
Cultigens recovered from early Middle Woodland features at the Hickory Log site included squash and maygrass. Cultigens were probably only marginally more important in the Middle Woodland than the Early Woodland, as mast crops such as hickory, acorn, walnut, and hazelnuts continued to dominate ethnobotanical samples from Middle Woodland sites.

The later Middle Woodland is distinguished by distinct components with plain and simple stamped ceramics on some sites. At Hickory Log, these components yielded uncorrected radiocarbon dates that ranged from A.D. 250+/-70 to A.D. 450+/-80. The dependence on mast crops continued from the early to later Middle Woodland, although the list of cultigens grown may have been expanded to include sunflower and sumpweed.

The transition from the Middle to Late Woodland was arbitrarily dated to ca. A.D. 450 in this paper. The transition was, in fact, probably gradual, and occurred over a hundred year span from ca. A.D. 400 to 500. The earliest Late Woodland phase noted for northern Georgia was Swift Creek, followed by Swift Creek/Napier, and then by Woodstock, Vining, and possibly an undefined phase in the upper Savannah River Valley. The settlement pattern from the Late Woodland differed little, if at all, from that of the Middle Woodland. Northern Georgia contained several distinct phases that occupied different geography during the later Late Woodland that appeared to share similar subsistence practices but can be distinguished from each other based primarily on ceramic differences.

The cultigens represented in the ethnobotanical specimens from the Woodstock component at Hickory Log included squash (rind), possible sunflower, bottle gourd (rind), maygrass, bean, and maize. The bean and bottle gourd were species that have not yet been found from earlier sites in northern Georgia. Domesticates may have been more important to the subsistence base in Woodstock than they had been in earlier times, but the bulk of the food appears to have still been provided by mast crops.

The faunal resources used during the Late Woodland, based on analyses from Whitehead Farm 1, appear to have changed little from the Early Woodland. It appears that once again virtually every species that could be caught or killed became food.

The transition from the Late Woodland to the Mississippian included large-scale changes in social organization, settlement patterns, and subsistence. The dispersed settlements of the Late Woodland with their few evident ties beyond their local area gave way to larger settlements tightly clustered in floodplains with, at most, closely associated farmsteads and hamlets. The dependence on mast crops that had been successful since the Archaic gave way to intensive agriculture with major emphasis on maize, beans, and squash.

The changes from the late Woodland to the Mississippian were fundamental and far-reaching, and are difficult to explain just in terms of population increases or increased social complexity. The reason for the change may be traced to the introduction of the bow and arrow between ca. A.D. 700 and 800, as reflected by the appearance of small triangular points. The bow and arrow was the first weapon in northern Georgia that could be used for killing people from a distance. It is probably no coincidence that the earliest palisaded settlements appear around the same time the bow and arrow was introduced. Warfare was probably introduced at an unprecedented scale when the bow and arrow became available, and Late Woodland societies in northern Georgia appear to have reacted by reducing or cutting their regional trade ties and fragmenting into a number of groups recognizable as distinct archaeological phases.

The transition from Late Woodland to Mississippian probably resulted from changes in strategy by one or more groups to deal with external pressures. It is much easier to protect a population that is aggregated into a small number of larger settlements than it is to protect small groups dispersed across the landscape. It is also easier to organize the military power of a group that is already aggregated into large settlements. Mast crops would have been an unacceptable food supply for groups aggregated into larger settlements in response to the threat of warfare, as it would no longer have been safe to
disperse through the uplands to gather nuts during the fall. Agriculture, using familiar cultigens, probably supplanted the subsistence base focused on hunting and gathering. It is impossible to determine at this point if the increased social complexity evident in the Mississippian was a cause or an effect of the need to aggregate into larger settlements.

Note
1 The radiocarbon dates presented in this paper represent the radiocarbon age with a plus or minus factor of one standard deviation. The calendric date presented is the radiocarbon age expressed as a calendar date calculated from A.D. 1950. Uncorrected dates are used in this paper to avoid confusion and allow other researchers to use the dates to calculate corrected dates using whatever calculation formula they might desire.

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PASSPORT IN TIME AT SCULL SHOALS, 1997-2003

By Jack T. Wynn, Friends of Scull Shoals, Inc.

This paper covers limited archaeological test excavations and other investigations conducted on the nineteenth-century Scull Shoals Mill Village (9GE222) on the Oconee River in Greene County, Georgia (Figures 1 and 2). These investigations were conducted by volunteers from the Passport In Time (PIT) archaeology program, directed by U.S. Forest Service (USFS) archaeologists Rebecca E. Bruce, Jill K. Harrell, and Jack T. Wynn. It was an exercise in public participation in archaeological and historical research, and as such was quite successful in involving many people outside of these professions in the projects over an extended period of time. Table 1 lists the professional and avocational archaeologists who devoted their time to the project. A previous paper in Early Georgia (Wynn and Kratzer 2004) presents the results of the work in the first three summers. This article summarizes additional work at the site between 1997 and 2003.

The testing plans for the village were to locate buildings and other features shown on an 1875 plat map (described below), and to determine construction dates, functions, and other aspects of each feature. No extensive excavations were intended. This was a preliminary search for subsurface remains and conditions, as a basis for resource planning and site management.

The former mill town of Scull Shoals is on the Oconee National Forest, near the intersection of Greene, Oconee, and Oglethorpe Counties, about 15 miles south of Athens, Georgia. The western part of the former town is across the Oconee River, and has not been surveyed, although the 1875 plat map shows buildings and activity areas there. Since 1936, the east side of the village has been in federal management (land acquisition records, Tract No. R-50-b, Ralph P. Brightwell, 1936, on file at USFS Supervisor’s Office [USFSSO], Gainesville, Georgia).

Weekend field and laboratory work was conducted by the PIT volunteers (Figure 3) periodically from November 1999 through May 2003, on 21 non-consecutive weekends. Additional laboratory analysis was done at other times to keep up with field production. The author, also a volunteer after September 2000, was responsible for the project as Principal Investigator.

This paper is primarily focused on the century of historic occupation of the Scull Shoals Mill Village. However, the location was occupied for several thousand years before the arrival of Americans of European and African descent. Test excavations routinely produced both historic and prehistoric period artifacts in abundance. After the first few tests, it came as no surprise to us to find 6000-year-old spear points, Lamar period pottery, decorated glazed ware, cut and wire nails, and twentieth-century shell casings and coins, all in the same shovelful of earth. This mixture was due to mid-twentieth century landscaping that created a plow zone. Our crews used Cambron and Hulse (1964)
Figure 1. Vicinity map, central Georgia. This and all other photographs and illustrations in this article by the author unless otherwise noted.
Figure 2. Scull Shoals mill village.
Table 1. Passport in Time and Friends of Scull Shoals Volunteers for Scull Shoals, 1999-2008. (P) indicates volunteers who are professional archaeologists.

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and Whatley (2002) to help identify projectile point types, and Wauchope (1966) and Williams and Thompson (1999) for the prehistoric pottery types in the field and lab.

A series of cultural resources management surveys was conducted between 1976 and 2000 on national forest lands prior to planned activities such as timber sales, land exchanges, road building, wildlife openings, controlled burning, and recreation construction. These were reported as they occurred, and have been summarized in the Oconee National Forest Heritage Resources Overviews (Wynn 1982; Wynn et al. 1994). These surveys produced a large database showing a continuity of human occupation and resource use of the Georgia Piedmont Plateau from the Paleoindian period through the present.

**HISTORICAL BACKGROUND ON THE SCULL SHOALS MILL VILLAGE**

Before reviewing the archaeology of Scull Shoals, it is worth reviewing the history of the mill village. The following summary is taken primarily from Hunt (1980), Coulter (1964), Rice and Williams (1961), Wynn (2006), and Skarda (2007).

Scull Shoals began as a frontier settlement in 1782, but may well have been visited by William Bartram in 1776 (Van Doren 1955; Waselkov and Holland 1995). In 1793, after several Creek Indian raids, residents erected Fort Clark (Figure 4). The fort consisted of a two-story fortified long house in an open area surrounded by a stockade wall. It was built by Michael Cupp to specifications from the Governor, later modified by the local military leadership. Raids went both ways for a number of years, with killings and burned settle-
ments on both sides of the Oconee River. Fort Clark was manned by a local militia called "Phinizey's Dragoons" until the Creeks were moved west towards the Ocmulgee River by the Treaties of 1802 and 1805 (Coulter 1964).

Settlers began to expand rapidly across the Oconee River after the treaty of 1802. White settlers and black slaves quickly opened up the land and, following Eli Whitney's 1793 invention of the cotton gin, began to raise cotton in huge quantities. The local villagers began with a gristmill and sawmill, and soon had a cotton gin.

With funds from the Georgia legislature, Zachariah Sims and George Paschal built Georgia's first paper mill at Scull Shoals in 1811 (Rice and Williams 1961:146). Though details are scarce, it is probable that the original paper mill was an addition to the water-powered grist mill already in place (Cindy Bowden, personal communication, 2005). Sims and Paschal planned to expand that mill dramatically with a $3,000 state loan. The paper mill lasted until about 1815 when they went bankrupt shortly after the War of 1812. The property changed hands but the village continued to expand.

Dr. Lindsey Durham, who lived across the river in Clarke (now Oconee) County, was an early Scull Shoals community leader. He had a 13-acre herb garden and developed patent medicines that he and his medical family used to treat their patients. Durham's 600-bed hospital was in cabins scattered around his home, near present Highway 15. It was a major facility for the time (Hunt 1980). His family became the dominant medical dynasty for generations. The village was also home to Georgia Governor Peter Early, who served in office from
1813 to 1815. He was born nearby. Governor Early died in 1817 at the age of 45. He was buried in the area of Scull Shoals, but his remains were later removed to the Greensboro Cemetery.

Under its third owner, Dr. Thomas Poullain, Scull Shoals was home to flourishing mills, boarding houses, stores, a large warehouse and store combination, a distillery, a toll bridge, blacksmith shops and other enterprises. In 1854, Poullain had 2,000 spindles and looms consuming 4,000 bales of cotton valued at $200,000 (White 1854, Raper 1936:15). It was clearly an economically productive enterprise during Poullain's 41-year leadership (1827-1868).

A devastating fire completely destroyed the wooden mill buildings in 1845. Poullain supported his people as they rebuilt the three- and four-story brick buildings of Fontenoy Mills. As the enterprise expanded, more than 600 people were employed to make yarns and cloth.

The Southern Banner of Augusta (published from 1834-1846) provides vignettes of life in Scull Shoals in the middle nineteenth century (Michael Gagnon, personal communication, 2002). An 1834 edition mentions the Scull Shoals Factory and its cotton production at that time. The following year, it noted employment and housing for families with five or more members between 11 and 20 years old. In 1840, the paper noted regular supplies of their cotton products and groceries in Augusta. A flood in June of 1840, as well as the fire in November of 1845, were both duly reported. The paper described the damages and Dr. Poullain's willingness to keep his employees working to rebuild the factory. Requests for bids on rock, brick, and wood work from outside contractors were run in an edition of 1846.

Thomas N. Poullain was a wealthy owner in good financial standing through the 1860s. However, the town suffered severe economic problems after the Civil War. After 1874, the mill town went through a Sheriff’s sale and several later owners.

For a short period (1877-78), Scull Shoals was home to Georgia’s infamous Penitentiary Company No. 3, which operated the cotton fields and mills with convict labor. A hundred years of open-field cotton farming caused erosion that removed nearly a foot of topsoil from the fields, depositing it in the rivers, low places, and covering the shoals. This in turn caused more frequent flooding, continuing to the present. This heavy silt fill cut the “head” of water that powered the mills and even the horizontal turbines, stopping work often (Ferguson 1999).

Droughts and floods created work stoppages from lack of water power or too much water. Water stood for four days in the buildings after the major flood of 1887. The covered bridge floated downstream. Several hundred bales of cotton in the mill and 600 bushels of wheat in the warehouse were ruined, bringing economic chaos to Scull Shoals Mills. It never recovered. By 1900, most people had left, the mills closed for good, and only the store (Figure 5) and a few residents remained. During the World Wars, machinery was scrapped, and most of the brick buildings were dismantled and salvaged (Coulter 1964; Hunt 1980).

Today, only three walls of the brick warehouse-store remain, along with the arched bridge across the raceway into the mills. Stone foundations of the old mill’s power plant and scattered stone and brick chimney bases are found in the village and surrounding woods. Between 1875 and 1930, the town’s land was divided and sold several times. In the 1930s, the tracts were re-assembled by Ralph P. Brightwell of Maxeys, and sold to the government for an experimental forest (land acquisition records, Tract No. R-50-b, Ralph P. Brightwell, 1936, USFSSO) and teaching laboratory for the University of Georgia’s (UGA) School of Forestry. Forestry students mapped the property, showing old fields and fence lines. The Soil Conservation Service and Civilian Conservation Corps terraced eroded hillsides and replanted the forests (Alter 1971) and the government has managed the vegetation and wildlife since then.

Scull Shoals became part of the Oconee National Forest in 1959. The old mill town was marked only by ruins. It was a small picnic area popular for fishing and hunting, but otherwise generally forgotten. During the 1960s, diskig to
smooth out the surfaces and remove some of the old building brick piers cleaned up the picnic area. A 20 cm deep “plow zone” was formed, in which 8,000 years of occupation were homogenized under the grass.

By the early 1970s, a number of old roadways leading into the site had developed into deep gullies and were closed. New roads were built, with a new bridge crossing Sandy Creek. Remnants of the old roadways can still be seen out from Scull Shoals Historic Recreation Area as one approaches Scull Shoals from Macedonia Church Road.

Before 1997, little was done to preserve or investigate the mill village, although an unsuccessful attempt was made to nominate it to the National Register of Historic Places. In 1978, Carolyn Hunt was contracted by Kent Schneider of the USFS to write a history of the Scull Shoals Mill Village. She relied principally on local resources such as people, libraries, and court records for her work (Hunt 1980). A primary object was to suggest what archaeologists should expect to find at the site. Her long document was briefly summarized as a student project by UGA student Jay Womack (1996). The PIT project was intended to follow up on some of Hunt’s suggestions.

The prehistoric Scull Shoals Indian Mounds site (9GE4) two miles north of the mill town was excavated by the UGA archaeology field schools in 1983 and 1985, under the direction of Mark Williams (1984, 1988). Williams and his students mapped the Indian village and noted little pre-Mississippian residential occupation there. The mounds were dated from around A.D. 1250 to 1600. Ceramic analysis allowed Williams to define two new Mississippian sub-periods. The site is thought to have been paired with the Dyar Site, a few miles down-river (Williams and Shapiro 1990). A review of late Mississippian settlements in the area is found in Pluckhahn (1997). The Scull Shoals
mound town was abandoned long before Europeans arrived in the area. Between 1800 and 1983, two meters of flood-borne silt collected over the village plaza. Today the mound town is covered in a dense stand of privet, accessible only by a walking trail.

In 1984, the USFS contracted with Allen Stovall of the UGA School of Environmental Design for a feasibility study of 2,300 acres of the Oconee National Forest around Scull Shoals (Stovall 1984). Stovall produced a planning document for the historic recreation area, including the mill village, Indian mounds, and surrounding area. His plan included staged development of trails, interpretive areas, campgrounds, and other features. Unfortunately, government budget cuts never allowed implementation of the plan, although some of Stovall's ideas were later adopted by the Friends of Scull Shoals, Inc.

In the 1980s and 1990s, Ervan Garrison taught summer field schools in shallow geophysics to UGA students. These classes used proton magnetometers, soil resistivity meters, ground-penetrating radar (GPR), geographical positioning systems, and other non-invasive technologies to map subsurface anomalies. The fact that much of the center of the town was grassy and park-like made it ideal for such courses. The courses were offered in cooperation with Kent Schneider of the USFS, a strong supporter of non-invasive methods.

The geophysics students produced subsurface maps for parts of the village. They also imposed a metric grid over the site to coordinate the locations of their projects. They found anomalies such as wells, building foundations, mill races, the foundation for the huge brick chimney shown in early village photographs, two blacksmith's forges, and thousands of metal objects.

THE PASSPORT IN TIME (PIT) PROGRAM

In 1989, the USFS began a nationwide program of volunteer projects in history, archaeology, and cultural resource management. Called the "Passport In Time," or PIT program, it expanded rapidly from the Great Lakes region. After 14 years, there were over 10,000 volunteers working under professional direction on more than 200 projects each year on national forests across the nation. Volunteers would work on a project in one national forest, and then go on to other national forests, taking along their "passports" (which recorded projects worked and hours donated) along with them. Within ten years, many had worked over 1000 hours in dozens of national forests.

This enthusiastic public participation impressed USFS managers on all levels, especially as allocated funds kept shrinking. Volunteers did library and archival research, recorded oral histories, and participated in the restoration of historic houses, settler cabins, fire lookouts, trails, cemeteries, historic mills, and battlefields. Others excavated historic and prehistoric sites and recorded ancient petroglyphs. The Chattahoochee-Oconee National Forests in Georgia joined the PIT program in 1990. At first, our Georgia PIT projects were done on prehistoric sites on the national forests. In 1997, we shifted the focus to historic archaeology at Scull Shoals.

The PIT projects enjoyed wide appeal among both professional and avocational archaeologists. The former included archaeologists from the Georgia State Historic Preservation Office, Fort Bragg, Georgia State Parks, the Georgia Department of Transportation, the National Park Service, several contracting companies, and various universities. The avocational archaeologists included many school teachers who joined us regularly for continuing education credits. Our volunteers enjoyed the week of working and learning about the past. They also enjoyed the camaraderie of the "summer camp" experience, despite the constant nuisances of heat, humidity, poison ivy, ticks, and chiggers found in middle Georgia summers. In fact, these shared stresses may have contributed to the camaraderie.

PIT AT SCULL SHOALS, 1997-1999

It is worth noting again that the PIT projects at Scull Shoals consisted only of test excavations, and were not intended to be definitive or extensive. Instead, the tests were intended to answer basic questions regarding the location, dates,
and functions of structures. In addition, we hoped to pose questions for future research on social status, functions within the village hierarchy, and the cultural landscape.

For two weeks each summer, 15 PIT volunteers worked with professionals from the USFS and other organizations. Judson Kratzer, then teaching at Armstrong-Atlantic State University in Savannah, served as field director and also did lab analysis and report preparation in 1997, 1998, and 1999. His background was in historic and landscape archaeology. Wynn, then Forest Archaeologist-Heritage Program Manager for the Chattahoochee-Oconee National Forests, had overall supervision. Together we taught evening classes on archaeology for the volunteers as part of their continuing education.

The sheer numbers of participants’ hours were staggering. During the first four seasons at Scull Shoals, over 100 people donated in excess of 6,000 hours. They were mostly Georgians, but also came from Florida, Tennessee, South and North Carolina, Missouri, Nebraska, New Jersey, and New York. They ranged in age from 17 to 79, and were about evenly divided between males and females. The Scull Shoals program was advertised in the PIT Traveler until 1999. After that, a regular cadre of Georgia volunteers, many of them SGA members, eagerly assembled when called. Several volunteers also worked on PIT projects around the country, sending back notes and post cards from Mississippi, Virginia, Texas, and the Great Lakes states.

PIT 1997: The “Two Chimneys” Project

In Kratzer’s (1998) first summer project, we cleared foundation pillars to indicate size and shape of this residence (9GE1212), and a large midden showed the house was razed and trash burned. A small, brick, patio-like area suggested a domestic side stairway. The dwelling had at least three different owner/occupants, based on artifact styles from 1820-1940. These were apparently of three different socio-economic classes: owners, managers, and farmers, from the mill period through the early twentieth century.

The dwelling was located adjacent to the road to Greensboro and faced west, towards the mills and the Oconee River. It had four rooms, each with a fireplace, and a central hall. Interior walls were plastered, and there were abundant glass windows. Porches ran along the front and east sides of the house. Mortar on the chimney suggested a possible hipped roof, and we found two wells nearby. Cut nails were far more numerous than wire nails, suggesting construction ca.1815, with later modifications into the twentieth century, as might be expected with continued occupation. An aerial photograph shows the structure standing in 1942 (Figure 6), indicating that demolition took place after that year.

The building was re-roofed, possibly in the early 1900s. We found sheet metal roofing panels with wire nails on the surface. Thousands of small window glass sherds showed salvage dismantling. Wood screws and many nails in the midden ashes suggested that furniture was burned with the unwanted building materials.

Porcelain and decorated European ceramics and a high percentage of bottle glass suggested probable upper class status for the first occupants. Lack of tobacco pipe fragments also indicated that this was an upper class house, since upper class men of the nineteenth-century plantation culture smoked cigars, whereas the slaves (and possibly lower-class whites) smoked pipes (Joseph 1993). The location-on a prominent hill overlooking and a thousand feet back from the mills also suggests some social status for the first occupants, perhaps as the mill manager and his family. The date of 1877 scratched into the plaster of the chimney wall corresponded with the time when Penitentiary Company No. 3 operated the mills. Mid-level managers may have occupied the house for a few years around this time.

Greene County historian H. Armor told us in a 1997 visit to the excavations that an African-American family, the Frank Barnettts, lived in the house around 1935 (H. Armor, personal communication, 1997). They were providing meals for a crew of hay cutters when Armor visited. We later interviewed Barnett descendants, including two
Figure 6. A 1942 USDA aerial photograph showing standing structures. Reproduced courtesy of the Map Room, UGA Science Library, Athens.
women who had lived in the house until about 1940, Mrs. Nancy Barnett Ward of Athens and Mrs. Nellie Barnett Jones of Michigan (personal communication, 2002).

We found limited evidence for settlement during the Archaic period in our test pit under the front porch near the center of the knoll top. It was sufficient to show intensive occupation of this ridge at that time, but this component was not pursued as it was outside the scope of our project.

PIT 1998: The “Four Chimneys” Project

The 1998 PIT volunteers tested the remains of a larger structure (9GE1800) with four chimneys and a large well or cistern in the back yard (Kratzer 1999). Built around 1818 as a private dwelling, it was expanded later. At first it had two large chimneys on the east end, and plaster interior walls. A western addition nearly doubled the floor plan, though the west end chimneys were slightly off-set from the eastern ones. A lack of plaster suggests wooden interior walls on the addition.

Drip-lines suggest that there was no porch on the front of the building, and the lack of artifacts suggests a swept front yard. The sweeping apparently did not continue to the sides and back of the house, as there were intensive activity areas on the back and east end, though which activities were not clear. A fire destroyed the building about 1880.

The building was apparently built as an upper class residence. This idea is supported, in part, by its size and location on a hilltop alongside the road from Maxeys, over 0.6 km from the noise of the mills. The decorative glass buttons, plaster walls, and pottery sherds also support this idea. The building may have been modified later to serve as a boarding house or hotel, as indicated by the increased size, shape, and number of chimneys. Our early expectation that it was a hotel was not strongly supported archaeologically. While cast iron stove parts and a few large plain serving platter sherds may suggest the hotel use (or a large family), most of the sherds were not heavy serving or cooking wares.

One volunteer spent several days with a five-foot hand probe in an unsuccessful search for trash middens. We noted only a limited sheet midden around the back and sides of the house. The house was located on a knoll top with several deep gullies in front and smaller ones on the north and west sides. Thus, trash dumps may have been washed out years ago or, alternatively, may be buried too deeply for the probe or GPR.

Magnetometer and GPR studies by the UGA shallow geophysics students were interesting, but not entirely effective in either answering questions or posing directions for future work in this vicinity. The students marked hundreds of metal “hits” across the lot, as was expected at the burned house. The equipment indicated intensive use of the east yard, which was investigated the next summer without much success. The students were unable to define either depth or possible function of the large hole in the back yard, any more than our PIT crews could define it with test excavations. It was either a well or cistern for the house, but there were few artifacts around it.

An Early Archaic period component found under the middle of the house was left mostly unexcavated. This appeared to be a near-pristine campsite, in a spot that was not plowed or disturbed other than having the big house fire above it. Our 2-x-2-m test pit was backfilled and left for future investigations. This and the previously noted Archaic site beneath the “Two Chimneys” site should be investigated after work on the historic strata.

Winter 1998 Investigations

In December 1998, volunteers joined the author in a week-long site survey to record and assign USFS site numbers to each of the historic structures in the village area. This was a follow-up of Kratzer’s computer-enhanced version of the 1875 plat map (Figures 7 and 8). His map identified several structures we recognized, and pointed out many more. The winter team of David Hughes, Dick Stone, Pat Pattillo, Ellen Whitaker, Debbie Cosgrove, and the author relied on visual examination for surface remains and a steel probe rod to seek sub-surface features. We checked places where
Figure 7. 1875 Plat, Scull Shoals parcels for sale. Reproduced from Hunt (1980).
Figure 8. Kratzer's computer-enhanced map. Reproduced from Kratzer (2000:Figure 2-3).
structures were indicated on the plat, and took GPS readings at site locations. Most mapped sites had been removed. Of the first six house sites we recorded, five of them had Osage Orange trees nearby, and several had cedars also. Earlier surveys located three of the five houses mapped along the Greensboro Road (to the south out of town). We found brick remains of a fourth chimney in the edges of a gully, but were unable to locate any remnants of the fifth house.

Likewise we sought features marked “L” on the Kratzer map, but without success. A cluster of eight structures (F) is shown east of the warehouse (E). The PIT 1999 crews identified one of these. The rest have not yet been found.

In December, we put a single shovel test into a 30-cm-high terrace in the woods south of Scull Shoals Creek (USFS site 1743). We found only brickbats and a solid layer of ground brick dust 20 cm below the current surface; soils below that were tightly compacted. Finding nothing else there, we backfilled and marked the spot. The L-shaped edge of the terrace, with large-diameter pines and covered with a dense stand of privet plants, strongly suggested the edges of one of the original mill buildings.

PIT 1999: The “Downtown” Projects

The 1999 PIT volunteers tested three elements of Scull Shoals village (Kratzer 2000). These included the possible mill foundations (USFS site 1743; H in Figure 7), building ruins near the warehouse (1739), and an open area with stone chimney ruins north of the warehouse (1727; F in Figure 7). We developed greater insights into the social structures and town planning aspects of village life.

The brick piers at site 1743 appeared to represent supports for the wooden mill, which was destroyed in the fire of 1845. These light brick piers would be appropriate for a wooden building, but not the large brick buildings shown in the watercolor of the site (Figure 9). Unfortunately there were only three artifacts (none of them datable) associated with the piers.

Figure 9. Watercolor from 1800s photograph. Reproduced from Hunt (1980).
The grassy area (USFS site 1739) east of the warehouse was reported by the UGA geophysics students as a "second warehouse," based on the GPR anomalies. It was marked by a shallow depression and large brick and stone push pile. We found no brick foundations in two 2-x-2-m squares there, though there were abundant building and industrial debris. PIT volunteers began to call this the "Heavy Metal Site," since the quantities and weight of iron artifacts were dense in the test squares. When the depression was probed with steel rods, it was found to be filled with bricks and rocks, much like the pile on the surface. No attempt was made to excavate this pit or the brick pile. Ceramic artifacts from the two shallow test units included some of the oldest historic pottery from the site, so Kratzer recommended another look at the area, described herein.

In the central mill village we found remains of two structures under the trees. One structure was represented by an above-ground stone chimney foundation (USFS site 1727A), one buried pier and one surface corner pier. The other structure had subsurface remains of a two-fireplace chimney serving a saddlebag-style house (USFS site 1727B). The two structures occupied much of the same space, so they could not have co-existed. Based on pottery analysis the saddlebag house was the earlier building, probably built 1800-1815 and removed before 1840, as there was a distinct lack of post-1840 ceramics in these squares.

A prehistoric Lamar Period trash pit found beneath the brick chimney provided us with data on the Mississippian occupation. The trash pit included flakes of quartz and chert, small mammal bones (possibly food), several broad-line Lamar Bold Incised sherds, and mussel shells, presumably from the Oconee River shoals. Approximate dating for this feature, based on the sherd types, would be the Iron Horse phase (A.D. 1450-1530) (Williams 1988:123), just before Spanish contact.

The shoals themselves have been covered in silt for many years, so the appearance of mussels was a surprise. Their presence points to changes in land management between prehistoric times, plantation and mill era, and the present. River coring in the late 1970s indicated 2-4 m of silt (averaging 3 m) overlying the stones of the shoals (Kent Schneider, personal communication, 1980).

**The Final PIT Projects, 1999-2003**

The 1999-2003 project goals were to define the limits of the site in time and space and determine what and where major features were located for Scull Shoals Historic Recreation Area planning on the Oconee National Forest. While Wynn remained as Principal Investigator after retiring from the Forest Service in 2000, Forest Archaeologist Jill Kingham Harrell directed many of the weekend field and lab projects in her official capacity. Crews for each test pit consisted of three to five amateur volunteers, supervised by a professional, who in some cases might also be a volunteer. Professionals from other organizations participated for short periods.

We set up a lab in the Oconee National Forest Work Center near Rock Eagle to process the thousands of artifacts. We soon realized that we needed expertise to identify various types of white ware, so Pat Garrow and Brian Thomas of TRC-Garrow Associates, Inc., volunteered to give a weekend workshop on historic ceramics to a dozen PIT volunteers and USFS employees. During the workshop, Pat (personal communication) noted that there were no post-1840 ceramics in the collection from USFS site 1727B. That suggested that the building was removed before 1840, which gave a possible construction date for the stone-chimney structure (USFS site 1727A) after 1840, since the two structures overlapped.

During and after the project, we published a series of public information articles and professional papers to share results of the investigations at Scull Shoals. These included the local newspapers, SGA's newsletter *The Profile* and journal *Early Georgia*, as well as the semi-annual *PIT Traveler* produced by the USFS (Harrell 2002; Wynn 1999, 2000, 2001a, 2001b, 2002a, 2002b; 2003a, 2003b; Wynn and Kratzer 2001, 2004.) Some excavated items were put on temporary loan in an exhibit on Scull Shoals as "Georgia's First Paper Making Village," in the American Museum of Papermaking in
the Institute of Paper Science and Technology at the Georgia Institute of Technology in Atlanta. There they were viewed by thousands of museum visitors. Another major contribution of the PIT project was James Alexander’s (2002) construction of a topographic map of the site that included all the excavations through September 2002 (Figure 10).

USFS Site 1727A

The summer 1999 PIT crew began test excavations here. Naturally, on the last field day the top of a buried brick foundation pier appeared near the stone chimney base, so the team returned in November 1999 to define this feature (Units 6 and 7 in Figure 11). Excavations continued for several seasons on weekends through May 2003 (Figure 12). This site was originally designated USFS site 1727 for the visible stone-based chimney. It was later designated USFS site 1727A to avoid confusion with the remains of a second house represented by the sub-surface brick chimney base (USFS site 1727B, described below).

Units 6, 7, and 7e defined the northern corner of the structure that stood on USFS site 1727A. The corner was oriented northeast-southwest, with a neatly-stacked L-shaped brick pier set in mud mortar. The excavation was in the builder’s trench, so artifacts were mixed. It contained a wide assortment: an Archaic stone drill point, plain prehistoric sherds, cut nails, black glazed stoneware, bottle glass, and two cartridges. Also there were window and bottle glass, ceramics, and many iron tool parts, gear parts, hooks, hinges, a metal wedge, and unidentified metal chunks. Three items of interest were a sherd which was salt-glazed only on the exterior (an early form), a glob of melted glass, and burned whiteware, plus hand-painted whitewares. The burned items in the builder’s trench suggest that the earlier building was burned before this one was constructed.

Test Units 8 and 9 were both shallow and produced only a scatter of metal parts, glass, ceramics and nails. Both could well be representative of the structures on both sites 1727A and 1727B, due to the admixture of surface materials found in each. Both were restricted to the plow zone, and the mixture of materials included two Morrow Mountain projectile points, Lamar pottery, and glazed wares. One 2.3-cm long kaolin pipe stem (Figure 13, right) was found, along with a quantity of melted glass, suggesting that the structure was burned. The pipe stem inside diameter of 5/64 in dates this artifact to between 1750 and 1830 on Noël Hume’s scale (1969:298) (all of the pipe stems from Scull Shoals have the same diameter, indicating use during the early town occupation). Cut and wire nails appeared, as well as hooks, iron rods, bolts and staples.

Unit 11 revealed a brick pier on the southern corner in a builders’ trench close to the surface, indicating the shape and area of the structure on USFS site 1727A. The structure measured 8.5 m (26.3 ft) northeast-southwest by 6.2 m (20.3 ft) northwest-southeast, with the blue granite chimney base extending 50 cm out from the northeastern wall. Any indications of doors or windows were obscured by heavy disturbance. Although this test was shallow, and well within the plow zone, it produced a wide range of artifacts, including a fragment of daub with brush marks where grass was pressed into it. A pressed brass clothing hook (Figure 14) with a stamped buffalo was also found in this unit.

Unit 12, near the expected western corner of structure on site 1727A, found no indication of the corner in the heavily disturbed, very hard soil. Unit 13 was added seeking a corner, but again without success. The heavy disturbances and impact of an old roadway made excavation in the area extremely difficult in the dry season.

The mass of heavy metal parts around site 1727 suggested uses other than for living space, though there was a quantity of early, delicate ceramics and glass. However, these items and melted glass in the builder’s trenches suggested that debris from the structure on USFS site 1727B was swept into the trenches upon completion of laying the brick piers. The overlapping of this structure with the earlier structure caused considerable confusion as to which artifacts related to which structures. The fact that the structure on site 1727A was one of only two structures in the village center not ori-
Figure 10. Alexander's (2002) topographic map of Scull Shoals.
Figure 11. USFS site 1727 test area.

Figure 12. Winter PIT volunteers at USFS site 1727.
Figure 13. Kaolin pipe stems from USFS site 1727.

Figure 14. Stamped brass clothing buckle from USFS site 1727.
ented with the cardinal points makes it of special interest. It may have been a workshop or store, providing or repairing tools for village mill operations.

USFS Site 1727B

We placed Unit 14 outside of the structural remains on USFS site 1727A, in hopes of finding the corner piers of the earlier, saddlebag-style house. The amount of materials retrieved was much greater than in Units 12 and 13. The plow zone had huge quantities of window glass and nearly 400 cut nails. Wire nails were present, along with Albany and alkaline glazed stoneware, blue and green feather-edged and hand-painted wares, bottle glass in a wide variety of colors, burned glass and ceramics, mammal bones, bolts, rods, and unidentified iron pieces. Bottle caps, 22 shells, and shotgun shell bases were also found here. Brickbats appeared, but no formation that could be discerned. Apparently plowing had disturbed the corner. Burned ceramics and glass were found throughout the test, suggesting that one or both of these structures had been burned.

Prehistoric artifacts included pottery (both incised and plain wares) and lithics (chert and quartz flakes, but no tools). The large quantity of prehistoric remains, particularly the Lamar ceramics, seems to tie in with the Lamar pit feature found in Unit 4, reported by Kratzer (2000). From these and other scatters of Lamar pottery and post molds in these tests, there was an intensive occupation here during the fourteenth to sixteenth centuries. People were probably drawn here by resources at the shoals.

Unit 16 was unable to find either a corner for the structure on site 1727A or a side support pier for the structure on site 1727B. The plow zone produced the usual assortment of prehistoric and historic items. Burned ceramics and melted glass also indicated the probable burning of one or both of the structures here. Unit 16 produced salt glazed stoneware, blue feather-edged pearlware, blue and red transfer printing, and a small plate center with the maker’s mark, “Warranted .... shaw & Sons, England”, under a crest with a central circular shield surmounted by a crown with a unicorn on the right side (Figure 15). This was probably by Anthony Shaw & Son, Staffordshire Potteries, dating between 1851 and 1900, as the royal coat of arms was often part of their maker’s marks (Godden 1964:571). There was also a sizable collection of Lamar Incised and plain ware sherds (Figure 16), flakes of quartz and chert, and a soapstone bowl sherd.

Additionally, there were two kaolin pipe stem fragments dating to the 1750-1830 range. Cut nails, staples, and wire nails were present, and sheet metal suggested a metal roof for the second building, probably late in its existence. Early ceramics (pearlware, transfer printed, and salt glazed types) and the pipe stems strongly suggest an early nineteenth-century date for the earliest structure, but the collection does not help much in dating the later one.

At the historic ceramics workshop Pat Garrow (personal communication, 2002) mentioned that nineteenth-century African-American houses often had root cellars for food storage. They might also contain blue glass beads, whereas the cellars of European Americans almost never had blue glass beads. Thus, if blue beads were found beneath Structure 1727B, then it was probably occupied by people of African descent. Squares 20 and 21 (see Figure 11) were placed to seek root cellars.

Square 20 was a 2-x-1.8-m test unit “under” the west room, in front of the hearth. The hand-made brick outline of the hearth support surrounded the earth fill. This construction technique was also noted in the large chimney base at the burned “Boardinghouse” tested in 1998 (Kratzer 1999). The plow zone produced half of a peach pit, Mocha type sherds, salt glaze, Albany slip, polychrome hand painting, and window and bottle glass, the latter ranging from dark green to clear. Cut and wire nails, spikes, iron ore, lead shot, and brass pipe all appeared in this plow zone setting within or below the house. Below the plow zone were both complicated and simple stamped wares,
Figure 15. Sherd marked “Anthony Shaw & Son,” dating from 1851-1900, from USFS site 1727.

Figure 16. Lamar sherds from USFS site 1727.
an unidentified projectile point fragment, a clay pipe fragment, a soapstone chunk, and fire-cracked quartz.

A thin layer of undisturbed soil lay beneath the plow zone and above sterile subsoil. Careful examination by the excavators and the screening teams failed to find beads of any color or material. Soil texture and content did not suggest a pit, and we found no pit outlines.

At the base of Unit 20 we identified two post molds, each ca. 30 cm in diameter and 67 cm below surface. They represent two sturdy posts, possibly 2 m tall. The size and projected heights of these two posts suggest interior house posts. They were 30 cm apart, at an alignment of 30 degrees from north. The post mold fill included prehistoric sherds and flakes, predating the historic occupation.

In Square 21 (east of the chimney), we found the usual mixture of prehistoric and historic artifacts, including a complete Late Archaic period Savannah River or Otarre type projectile point of rhyolite. A stone block pier two tiers high was found in the center of the unit, suggesting a floor support for the middle of the room. Neither beads nor indications of root cellar walls were found. We excavated five post molds in the base of the plow zone. The depths of these features ranged from 38 cm to 62 cm, and diameters ranged from 13 x 6 cm to 18 x 21 cm. The feature fill was water-screened but only one complicated stamped sherd was recovered.

At least 20 post molds were found in units around site 1727 (Figure 17). Not all units were completed below the plow zone, so data are incomplete, but nonetheless interesting. Only one post mold in this cluster (Feature 29) had historic nails in it. Three others had prehistoric potsherds in them (Features 2, 3, and 16). The prehistoric trash pit found in summer of 1999 is marked “PIT” in Figure 18, to show its relationship to the post molds. Several patterns are possible with the post molds. For example, there appears to be an arc of post molds in Units 11 and 14. The larger post mold (12) in Unit 9 could be part of the same arc. A similar, though shorter arc can be seen in Unit 21; post mold 3 had sherds in the fill. These are very close to the trash pit in Unit 4. Together they indicate a Lamar-period house.

Figure 17. Post molds on USFS site 1727.
Outlying Test Units

We extended tests out from the central house site (1727) to seek others shown on the 1875 plat. A “probe team” checked likely spots for 8-10 other structures. They pin-flagged places along old Maxeys road, between USFS site 1727 and the picnic tables, where they hit brick or stone with the probes. Our test units investigated those further.

Square 15 was near Maxeys Road, about 5 m north of the stone chimney base on site 1727A. A camper’s fire pit beneath a thin grass cover had modern pop-tops, a bottle crown cap, and a 1987-D dime. Plain, incised, stamped, and punctated prehistoric sherds, chert and quartz biface fragments and flakes, and a possible polishing stone represented the prehistoric occupation. Salt-glazed stoneware, blue shell-edged pearlware, and cut nails suggest early nineteenth-century occupation, but no architecture appeared in the plow zone.

Square 22 was suggested by the Kratzer map, and aligned with the chimney of the structure on USFS site 1727B. The interval chosen was 12 m (39-40 ft), based on estimated size and spacing between structures and dictated by both maps and trees. Standing saddlebag structures are about 5.5 x 11.0 m (18 x 36 ft), so we expected these would be of similar size. Neither support piers nor chimney base were found there; however, other interesting features did appear.

The plow zone was 25-30 cm deep with the usual mixture of prehistoric and historic items, but prehistoric counts were very high. Over 340 fragments of pottery appeared, including plain, Lamar Stamped and Incised, pipe fragments, handle fragments, and a ceramic disc. We also found quartz and chert flakes and points and point fragments from late Archaic Savannah River/Otarre and Mississippian Triangular types. The ratio of prehistoric to historic ceramics was about 2:1 in the plow zone. Hand-painted polychrome wares, feather edged, and red and blue transfer prints, plus salt-glazed and alkaline-glazed stonewares were frequent, as were cut and wire nails, screws, iron bolts and rods, sheet metal, an eyed needle, and a glass button blank. Below the plow zone was dark brown sandy clay with three features, one of which was a cluster of rocks in a triangular shape (Figure 18). No artifacts or charcoal appeared, so neither age nor function could be assigned to the feature.

A small (23 cm diameter) post mold (Feature 2) in the southeastern corner of the unit extended 68 cm below surface. This feature produced two plain prehistoric sherds. A second, larger post mold is also of interest. It was 25 cm in diameter, and had a surround of 3-5 cm of red clay. For lack of time this feature was not excavated, but was simply recorded and covered. This post mold was similar to the “Fort Clark” post mold in Site 1739, Unit 1, which had a datable potsherd. This post was 43 m (47 yards) from Feature 1 in Unit 1, oriented 8-9 degrees east of north from Feature 1. We don’t know now if these were parts of Fort Clark, but either, both, or neither could have been.

Square 23 was the easternmost test we dug (see Figure 10) in search of one of the eight aligned structures in the early maps. The plow zone was about 35 cm deep here and percentages of prehistoric to historic material were higher here than farther west. For example, plow zone Level 2 had 17 pieces of historic ceramics vs. 108 prehistoric sherds. Historic materials included nineteenth-century ceramic types, including gray transfer prints, scalloped blue feather-edged ware, both container and window glass, cut and wire nails, pieces of iron rod and sheet metal, tool parts, and a four-holed button. Melted glass and burned whitewares indicated a fire. The final few centimeters at the base of Level 4 produced no artifacts, nor were post molds or pits noted. The plow zone was deeper here than elsewhere, mixing remains and removing any shallow post molds that might have remained. Since nearly all the nineteenth-century ceramics are early forms, this area was occupied earlier than the western part of the village.

We put Unit 26 in the Maxeys Road, where the soil was extremely hard with a dense root mat from the overhanging trees. The crew only worked one day on this unit and never re-opened it. The first plow zone level produced mixed contents: prehistoric pottery and chert flakes, cut and wire nails, window and bottle glass, salt-glazed stoneware, and a .22 shell casing.
The Big Pit

We tested this large depression (Figure 19) 14 m west (in front of) the corner of the warehouse-store (USFS site 1733). It was at the edge of the old Greensboro Road as it crossed the village from the southeast towards the toll bridge. We laid out a 1-m wide trench across the depression. Separate crews opened the north (Square 24) and south (Square 25) units, but neither were completed due to the pressures of time and the large quantities of materials found. Since both units lay at the depression edges, they contained slope wash that partly refilled the pit.

The depression was probably a storage cellar, and apparently used as a dump after the structure above it was removed. The ca. 1900 photograph of the front of the warehouse-store building shows nothing but a dark spot here. This feature was probably not related to the store or the houses, so it was assigned its own USFS site number (1746).

Square 24 (1 x 2 m) was the north unit of the trench. The first two levels had mostly red clay from digging the hole. In Levels 3 and 4 the quantity of materials increased dramatically. The prehistoric collection was quite small, with only a few flakes, a biface, plain and incised body sherds. These may have been raked into the pit during the landscaping mentioned earlier. The historic materials included plain and decorated, colored and clear bottle glass, window glass, a blue glass bead, alkaline glazed stone ware, Albany slip, and pieces of heavy hotel ware. There were cut and wire nails, iron tool fragments, wire and fence fragments, fence staples, a .22 cartridge, nuts and bolts, chain, metal tool parts and unidentified iron chunks. A belt buckle, clothing snaps, door hinges, shotgun shells, sprockets, and a mower guard were found. Brick-bats and chunks of mortar were noted but not preserved. The items most noted in this unit, however, were the farm implements: barrel hoops, gears
and geared shafts, iron rods, plow or mower points, and other farm machinery parts. Apparently, the pit last functioned as a dump for farm tools and junk. This unit was backfilled at the end of the day, and not re-opened. Since the base of the pit was not reached, no indications of its primary use can be offered. It certainly was used secondarily as a trash dump, but dug for another purpose.

Square 25 (1 x 2 m) on the south end had more materials, and the range of artifacts was dense and varied, from the mid-nineteenth century into the late twentieth century. The upper levels were mostly fill: nineteenth-century glass, ceramics, and metal; stoneware, pearlware, transfer prints, clear and colored bottle glass, cut and wire nails, iron slabs, sheet metal, machinery parts, horse gear and a four-tined pitchfork. These tests were intended to define function and possible use dates of this feature. Unfortunately, none of the questions were answered in two test days. Our interpretation was that a cellar dug in the late nineteenth century was used as a twentieth-century agricultural dump.

USFS Site 1731 (Power Plant Raceway Arch)

Our PIT teams did very little work on the power plant foundation (USFS site 1731). It was not in the project design, and was frequently either under water or had standing water from rains. Scull Shoals flooded five times in 2003, and the foundations held water for a long time. However, during preceding dry periods, the crews cleared vegetation so that the foundations could be seen from the village. We removed alluvium from the stone foundation wall and the northern corners of the structure next to the brick raceway bridge. Plans to make measured drawings of the building dimensions were stymied by floods. Twice the tailrace was cleared to drain water from the foundations, lowering the water level inside, but it was quickly re-filled.
The mill was run entirely by water power, even though it had a boiler for heat in the mills (Figure 9). At first, there was probably a vertical water wheel (Ferguson 1999), but the mill was powered by a horizontal turbine in later stages. Similar metal turbines were found in mills elsewhere from this time period. GPR and metal detector investigations by UGA students during an earlier dry spell showed a very large metal mass about 2 m below the silt in the power plant foundations. Since it is well protected by the depth of the silt that floods several times each year, it was not considered feasible to excavate the turbine. Treatment and preservation of the turbine were also considered, but finances made excavation impractical.

In October, 2001, a PIT crew cleared soil around the archway (Figure 20) that let water from the raceway turn the turbine. They exposed the arch and made photographs and drawings, adding details on the foundation construction.

Arch excavations began on the east (outside) and west (inside) faces, to clear the shape and width of the arch, and expose the opening. Excavations extended about 75 cm out from each face, for visibility. Then an extension was made southward, following the line of the foundation wall and the south side of the arch. A trapezoidal flat stone, part of the foundation wall, was found 75 cm below the surface and excavation stopped.

The crew measured and photographed the arch while it was cleared. The foundation wall was 99 cm wide, and the arch 45 cm thick, top to bottom. The arch was 3.5 m wide at 66 cm below the top of the keystone, though this may not have been the full width. The key stone measured 99 cm by 45 cm; the top was 43 cm wide and bottom was 33 cm. More details were to be recorded the following weekend, but flooding prevented later access.

USFS Site 1739 (The "Fort Clark" Area)

The return to this area (Figure 21) was a follow-up of a message from Judson Kratzer in fall 1999. Kratzer indicated that artifacts from Units 1 and 2 were the oldest historic artifacts from Scull Shoals village, and he saw a diagonal line across Unit 2 in a photograph which was not seen in the field. He recommended further testing there. The original tests expected a "second warehouse" (Site 1739) immediately east of the warehouse, based on prior GPR projects, but no foundations were found there. There was a large brick and stone pile and a grassed-over depression just east of the warehouse. No other features could be seen.

We reopened Squares 1 and 2 in November and began Level 3 in each unit. The diagonal line in Unit 2 was quickly identified as the subsurface edge of the brick pile southeast of the unit. Test crews worked in them concurrently, and two
clusters appeared to relate to different historic structures. Squares 1, 3, 5, and 6 form the North Cluster, related to the barely discernable “second warehouse,” while Squares 2, 4, and 10 form the South Cluster, pertaining to the alleyway and back of the original warehouse. This is not to say that they are unrelated, but clustering allows us to examine more closely related features. Prehistoric features also showed in each cluster.

In the North Cluster, Square 1 (Figures 3 and 21) produced a high density of plow zone artifacts, as it had in the first two levels. The contents included two Early Archaic bevel-edge quartz points and a crude rhyolite point of a similar shape, prehistoric pottery, blue- and green-edged whitewares, transfer prints, mortar and brickbats, heavy iron tool parts, cut and wire nails, screws, bolts, and buttons.

At the base of Level 3 in Square 1, we noted three dark features: two were determined to be tree roots, while the third, Feature 1, was a large post mold. It was cleared, sketched, photographed, and cross-sectioned (Figure 22). A brick was lying on top of the stain, and smaller brickbats were found near the top, as was a painted whiteware sherd. Around the edges of the 25 cm diameter dark organic stain was a semi-circle of bright red-orange clay, such as might be packed around a post to hold it in place. When cross-sectioned, the stain had parallel sides and a flat bottom.

Few artifacts were found in the post mold itself, but one was in the compacted red clay around the edges. This item was an annular ware vessel base. We later determined that the red sherd was a Mocha style decorated sherd from a drinking mug-shaped vessel (Figure 23), then presumed to have been manufactured for a short time between 1780 and 1820. It initially appeared to be a good time marker for Fort Clark, built in 1793. This was later found to be incorrect, as Carpentier and Rickard (2001:125) show the Mocha style continued for 150 years, until 1939.

The post mold was 25 cm in diameter, and extended 76 cm below surface. This compared well with the description of Fort Clark in the construction contract. According to contract documents, the fort was to be 19 x 29 yards. It was actually built smaller, the wall totaling 64 yards. It was to have a palisade 3.4 m (11 ft) high sunk 60 cm (2 ft) into the ground, but the wall was built to a height of only 3.2 m (10.5 ft). While a 2-ft-depth for an 11-foot pole seems unstable today, perhaps it was considered sufficient since construction was done under threat of imminent attacks by the Indians across the river. The poles were to be well overlapped, which may have granted more strength than individual poles. Our measurements at the Fort Clark post in Square 1 indicated that it was buried about 76 cm (2.5 ft) in the ground. Further investigation of this post mold and the one on USFS site 1727 is recommended, though these two points do not seem to be parts of the original stockade, as spacing is longer than the fort’s wall length, as described in the contract.

Squares 3, 5, and 6 form a 2-x-6-meter line, following the approximate western edge of the “second” building. While corner stones were not found, at least one and possibly two stone piers of the building were identified and left in place (see Figure 21). Post molds were rare in these test units. Two of the posts were square, 6 x 6 in, not aligned with each other, but were sharpened and driven into the ground, as there was no post hole stain around them.

Square 3 appeared to have been in a large organic midden as the deep plow zone here included a number of cut mammal bones and many small mammal bones and teeth, possibly from rodents frequenting the dump. There were also prehistoric plain and Lamar Bold Incised wares, Morrow Mountain points, and various buttons. Screening went slowly in this cluster due to the prodigious amounts of historic pottery, window glass, and colored and clear bottle glass (including medicine bottle necks and rims and a small whole bottle), cut and wire nails, iron implements and parts, and a molded clay pipe bowl with a star shape on the side. A thin (39-46 cm deep) cultural layer lay beneath the plow zone, over red sandy clay subsoil. This layer contained prehistoric quartz and chert flakes and bifaces, a prehistoric plain sherd, a cut nail and a brown glazed stoneware sherd.

Square 5, directly south of Unit 3, contained two flat slabs of the local blue granite on the
Figure 21. USFS site 1739 test units and features.
Figure 22. Unit 1, post mold with Mocha sherd, on USFS site 1739.

Figure 23. Mocha style sherd from USFS site 1739.
surface, barely visible in the grass. They were left in place as the unit was excavated, and were found to be lying atop other slabs, forming a possible building pier. As the excavations progressed downward, the amounts of artifacts were impressive, with Mocha-patterned, transfer printed, and a wide range of other pottery wares (Figure 24). We also found a clay pipe bowl base fragment and a stem fragment with a date range between 1750 and 1830 (Noël Hume 1969:298). All of this was from the plow zone.

This unit also had a hook-and-eye fastener, a metal button labeled "COWHIDE BRAND" (Figure 25), more than 216 nails and fragments, iron gear fragments, and unidentified iron pieces. Most artifacts came from west of the stone pier, suggesting that they were dropped outside the structure. Organic materials extended from the square to the north, and included cut bones, bone fragments, mussel shell fragments, mammal teeth, buttons, and gear parts. Two dark stains (probable post molds) were mapped but not examined further.

We noted a large surface depression resembling a storage cellar. Probing of the depression with a steel rod revealed a number bricks and stones buried beneath the grass. The pit was about 3 x 3 meters (possibly 10 ft square), but depth could not be determined because of the filling material. In-

Figure 24. Decorated sherds from USFS site 1739.
investigation of this feature was outside the scope of the project.

Square 6 south of Square 5 was dug to seek additional building piers. None were found, but the unit was excavated only into Level 2, which was still within the deep plow zone. Prehistoric items included plain stamped and incised wares, and flakes of quartz and chert. Historic ceramics included salt- and alkaline-glazed stonewares, transfer prints, annular ware, blue shell-edge ware, creamware, pearlware, and whitewares. Clear and various colored bottle glass and window glass were also found. The amount of iron and other historic artifacts continued to be impressive. For example, Level 2 contained 445 cut nails and fragments, and over 50 wire nails, staples, and wire fragments. Machinery parts, threaded rods, bolts and unidentified iron objects abounded. We found 10 mammal bone fragments and a mammal tooth, indicating that this area was part of the large organic trash dump noted in units north of this one. The mammal bones included sawed bones of large animals (cows or pigs) and tiny bones from smaller creatures like rodents.

Squares 2, 4 and 10 of the South Cluster form a line from the brick pile west to the back side of the warehouse (see Figure 21). Most of Unit 2 contained debris from the brick pile. Unit 4 was between Unit 2 and the rail fence; it was cut to 2 x 1.8 m so as not to disturb the fencing. Unit 10 was placed between the fence and the back wall of the warehouse. As the excavators worked past the huge quantities of mixed historic and prehistoric artifacts in the plow zone, they began to find post molds of both prehistoric and historic periods. These post molds directed the placement of Units 4 and 10.

The artifacts found in these units do not differ markedly from those found in the North Cluster, except that they contained less organic soil and fewer mammal bones, and much more brick, mortar, and brick dust. Prehistoric stone flakes of chert and quartz were recorded, with plain and decorated pottery; simple stamped, complicated stamped, incised, and pinched wares were noted.

The historic materials included colored and clear bottle glass, window glass, stonewares, pearlwares, creamwares, whitewares, feather-edged, hand painted, transfer printed, and porcelain. There were hundreds of nails, both cut and wire, iron pieces, tool parts, brickbats, stone and mortar chunks and brick powder (apparently, the soft bricks had been ground up from wall destruction and plowing). Each level produced four to six large bags of artifacts, heavy with iron items. Thin plow scars (oriented north-south) were noted near the base of the plow zone, between building remains. Upper portions of the plow zone were thoroughly mixed.

Our units in the South Cluster produced several features. Square 2 had two oval-shaped post molds in the north half. Feature 2 was a historic period stain, 31 cm wide at the top, 20 cm wide at the base, and extending 33 cm below surface. This feature yielded historic artifacts such as charcoal, brick, glass, whiteware and a small mammal tooth. Feature 3 was probably prehistoric. It was oval, 36 cm wide at the top and 23 cm wide at the base, and extended 50 cm deep from the present surface. The charcoal indicated that it may have been burned.

Square 4 also had two post molds, one each of prehistoric and historic origins. Feature 5 was a round post mold, 31 cm in diameter and extending 55 cm below surface. It had a gently rounded bottom and relatively straight sides. It was located precisely at the edge of the gradient between the red-
orange subsoil and the darker midden or plow zone soils. A dark green bottle neck was with the historic items.

Feature 6 in Square 4 was a square post mold 15 cm on a side (Figure 26). Cross-sectioning revealed that it tapered, first slightly and then sharply near the base. It appeared to have been driven into the ground, as there was no indication of a hole dug around it. It ended nearly flat, 30 cm below the floor of this unit, or 72.5 cm below the present ground surface.

Square 10 contained a single square post mold (Feature 20), presumably historic, and two oval ones, presumably prehistoric. Feature 20 was 10 cm on each side at plan view. It diminished to 10 x 7 cm at 40 cm below surface and tapered to an end at 59 cm below surface. No artifacts were directly associated with this post mold, but its square outline strongly suggests that it was milled lumber, driven into the soil. It was not aligned with other features.

To better understand the function of the square posts, we examined the walls of the warehouse. The square post in Unit 4 (Feature 6) was 4.1 m from the back wall of the brick warehouse. The 3-x-10-in holes in the west and east walls of

Figure 26. Feature 6, square post mold, in Square 4 on USFS site 1739.
the warehouse were placed at intervals of 4.1 m. These were understood to be for floor joist supports for the main building. Continuing this 4.1 m interval over the missing portion of the back warehouse wall, we located a point where another 3-x-10-in hole for a floor support should have been. It aligned directly with both the square post mold (marked by the shovel handle in Figure 27) and the 3-x-10-in hole in the front (west) wall of the building (the standing figure in Figure 27). This alignment suggested that there had been a loading dock behind (east) of the warehouse. The second square post mold (Feature 20, Unit 10), did not appear to align with anything else so its function was less obvious.

Features 3 (Square 2) and 5 (Square 4), both round prehistoric post molds, aligned with the other prehistoric post molds in Units 2, 4, or 10. Feature 22 (in Unit 10) was a small, round post mold, surrounded by a yellowish gummy clay circle. The post mold had parallel sides almost to the bottom, where it rounded out slightly. This suggests clay packed into the hole around the post to keep it tight and upright. The post diameter was 13 cm, and it extended to a depth of 95 cm below surface. Feature 24 was a second small, round post mold 2-3 cm south of Feature 22 in Unit 10. The sides of this post mold converged from 22 cm diameter at the top to only 5 cm wide at the base, where it appeared to have been disturbed by a rodent burrow. Overall depth of this post mold was 113 cm below surface. These two narrow posts may have functioned together, or one may have been placed to support the other, most probably during the prehistoric occupation of the site.
Two items of special interest were found in the general plow zone: part of a thread spinner or winder, and a solid iron belt drum roller (Figure 28). These were some of the few examples of presumably identified textile mill parts found in the site's plow zone.

In sum, the heavily disturbed area behind the warehouse retains important data. The thin, undisturbed layer below the plow zone contains posts and other features that have the potential to provide a great deal of significant information regarding prehistoric and historic occupations of the area. At least one post mold seems reliably dated to frontier Fort Clarke. The dense artifacts within the plow zone speak for later uses and relationships between the back of the warehouse, the “alley,” and the “Second Structure” (USFS site 1739). The structure on site 1739 is represented by the stacked stones in Square 5, the brick and stone debris pile (with a brick and threaded-rod mounting block), and the depression partly filled with brick.

The organic plow zone with sawed food bones suggest that this alley was a historic midden (trash dump), and perhaps had little traffic. The alley would have been about 7 m (23 ft) wide, if we assume that Feature 25 represents the structure's edge. Square posts suggest a possible deck was attached to the warehouse, and possibly connected the buildings.

At least two alignments of round post molds appear in Figure 21. Post molds 3 and 5 form a line, and Post molds 22 and 24 might also be included. Post 24 seems intended to support or replace Post 22, as they are paired and adjacent to each other. Since these posts do not align with the rest of the buildings, they probably predate the brick structures, perhaps by centuries. No artifacts were associated with any of these post molds; only a few plain sherds, chert and quartz flakes were found in the plow zone.

The west side of the structure on site 1739 is represented by a single support pier in Unit 5 and possibly a single stone in Unit 3. The two together indicate probable alley width. This was likely a wooden structure that stood on stone and possibly some brick piers. The brick-filled depression and the brick motor mount provide conjectural building size estimates. If the north end of the ware-

Figure 28. Loom part and belt roller drum from USFS site 1739.
house was aligned with the structure on site 1739 and the brick mounting block was on the south end, the building might have measured 9 m x 18 m (30 x 60 ft), if we assume the cellar was centered under the structure. Much of this is obviously conjectural.

The brick-and-mortar motor mount with threaded iron rods located south of the structural remains on site 1739 suggests heavy machinery, perhaps a small grist mill, sawmill, or other equipment. Frank Stovall (personal communication, 1998), an 80 or more year old resident of Watkinsville, told us he had come to Scull Shoals as a boy of around age six to have corn ground into flour. He was unsure where the grist mill was then (1918-1920?), but indicated it was in the general vicinity of this structure. That grist mill may or may not have existed during the nineteenth century.

USFS Site 1744 ("Beca’s House")

This site was located by Whitaker and Wynn in the winter 1998 survey and thought to be a pile of bricks pushed from the parking lot. It was given a site number and marked with flagging tape, but not clearly recognized as a structure and forgotten for some time. In March, 2002, PIT crews clearing privet and vines to make a trail to work on USFS site 1750 also cleared the top of the brick pile near the trail as well. Once the privet was removed, Oconee High School student volunteer Beca Tucker was asked to take a brush and root clippers and clear away the vegetation atop the brick pile. When the supervisor checked on her progress, she discovered portions of a brick wall and angle indicating a chimney base for one or two fireplaces. Experienced crew members David and Pat Hughes went to work with her in clearing the debris. The three soon confirmed it was a two-fireplace chimney base, very similar to that on USFS site 1727B in the center of town. Beca had discovered another saddlebag-style house, so it became known as “Beca’s Bricks” or “Beca’s House.”

Test Unit 29 was laid out over the chimney base and later Unit 31 was established in the northeastern corner of the house, where additional bricks were noted (Figure 29). As it was built on a fairly steep slope, there would have been high piers on the north side of the house, allowing one to walk under the north side, while the south side rested on or close to the surface. The largest Osage Orange tree at Scull Shoals is only ten meters south of this house by the entry road, and smaller ones were close to the house, as were grape vines and cedar trees.

Square 29 (2 x 2 m) allowed sketches and photographs to identify the structure and its contents. The unit was placed at a 45 degree angle from our grid, to include all of the visible parts of the chimney. Most of the first day was spent in clearing the vegetation and debris from the brick pile and surrounding area out to 4.6 m around the chimney base, to locate corners. Once two corners were found, the building was estimated at 5.9 x 11.1 m (19 ft 4 in x 36 ft 4 in). The chimney was heavily disturbed but appears to have been a double hearth. The upper layers of hand-made bricks were cleared in place, but no makers’ marks were noted. The bricks themselves were the highest part of the unit, extending upward in the center of the square. Orientation of the chimney appeared to be 51 degrees. This made the structure unusual in this village, where nearly everything was oriented with the cardinal directions (except for the structure on site 1727A, as previously noted).

Only two cut nail fragments, a piece of maroon and white yellow ware, and a whiteware sherd were found in Unit 29. Charcoal was noted but not collected. This unit was cleaned off but no further investigations were conducted on or around the brick chimney base before the end of the PIT project. Two other units were opened at this site, described below.

Square 31 (2 x 2 m) was marked by brick rubble at the bottom of the slope northeast of the brick chimney base, representing the corner of the building. Dense privet, briars and vines were removed, then a square was laid out over the brick scatter, oriented with the Scull Shoals village site grid. Bricks were scattered in the center of the unit, and on the south and west sides.
Below the brick scatter, a brick house pier appeared, oriented at approximately 45 degrees. This fit well with the 51-degree orientation noted for the chimney. Artifacts included red and blue transfer prints on pearlware, plain whiteware, cream-colored ware (possibly hand-painted blue), colored and clear bottle glass, clear window glass, bricks and brickbats. Also found were cut nails, wire nails, wire, an unidentified iron tool, a can opener key, a .22 caliber shell casing, and 1-1/16-in-long kaolin pipe stem fragment (Figure 13, left).

Three plow points were around this brick pier, one visible at the surface and two more in the soil. A possible shovel blade and a cultivator blade were in the unit wall profiles, and another plow point was imbedded in a nearby tree trunk. Artifacts were denser as the test descended, with salt-glazed and Albany slip stoneware, hand-painted and plain white or cream-colored ware, and pearlware; blue and green feather-edged wares, large quantities of glass (clear and colored bottle glass and window glass), small pieces of unidentified mammal bone, a chain link, more than 200 cut and wire nails and fragments, iron pieces, tools and machine parts, a 12-gauge shotgun shell casing, and a rectangular metal barrette or buckle. This area did not appear to have been plowed.

Square 31 was not completed; all indications point to more cultural material farther down around this brick pier. This may represent a dumping spot under the edge of the house. The structure may have been occupied into the twentieth century, but the majority of the materials are nineteenth-century, and the home appears to have been present fairly early in the life of the mill village.

Unit 33 (2 x 2 m) was started after Unit 31 was underway, and was positioned to define the eastern corner of the house. Re-measurement showed that this unit was actually placed just outside the house outline, and thus not in the correct place to reveal a corner pier if any remained. In fact, surface clearing showed several bricks west of
the unit that probably defined the corner. At the end of the day with the completion of Level 2, this unit was backfilled and not re-opened.

The array of artifacts is consistent with debris from the early nineteenth century: green salt-glazed and alkaline-glazed stoneware, pearlware, blue feather-edged, hand-painted whitewares, a brown ceramic pipe bowl fragment, brown and clear bottle glass, window glass, a domed metal button with loop on back, cut nails and a few wire nails, a hinge, bolts, metal parts, and a possible tool handle. A set of sherds from a small broken plate with red transfer print decoration on the upper surface had a maker's mark on the base in black ink (Figure 30). Volunteer Pat LoRusso learned that it was probably made by D. F. Haynes & Co. of Baltimore between 1881 and 1914 (Kovel 1986:59). This suggests that the plate arrived late in the life of Scull Shoals village, probably just before the flood of 1887.

This saddlebag-style house (USFS site 1744) probably faced the roadway entering the village from Maxeys. The huge Osage Orange tree and large grape vines near the front of the house suggest a very long occupancy. A stone-lined well was found across the modern roadway, about 20 m southeast of the house. UGA landscape architecture students under Professor Alfred Vick's direction cleared a dense stand of privet in November 2005, revealing a road leading north and passing west of site 1744. This could provide vehicular access to the back of this house and to the structure at USFS site 1750.

We did not determine specific dates for structure 1744, but some bracketing can be done, based on the artifacts. Kaolin pipe stem fragments suggest an 1815-1840 range, as do the majority of cut nails, a few "L" nails, feather-edged whitewares, and salt-glazed (some with glaze only outside) and alkaline-glazed stonewares. Both early and later artifacts, like the plow points, suggest that the building lasted well into the twentieth century with modifications. During later years it may have been used for storage.

The saddlebag style of this structure is well known in this area; many such houses are still standing and in use. There were others of this style in Scull Shoals, including the structure on USFS site 1727B. It was probably not occupied by management levels of the social hierarchy, since we have found larger, more ornate housing at greater distances from the mills. This house was probably occupied by a family of the mill or village workers, and probably later by farmers in the area.

USFS Site 1750 ("Ellen's Barn")

This structure was discovered, numbered, and flagged in December 1998. We thought it was a large two-chimney house, based on the observation of two large lumps of bricks and a line of bricks in the woods, but details were obscured by dense vines and privet. We made quick notes on it at that time, but nothing else was done until October.

Figure 30. Hayes makers' mark on sherd from USFS site 1744.
of 2001. It was first called “Ellen’s House” after its discoverer, long-time PIT volunteer and Friend of Scull Shoals Ellen Whitaker. When its function was clarified, we changed the name to “Ellen’s Barn,” so the honor may be somewhat lessened!

Square 27 (2 x 2 m) was placed across the brick line, and excavated one half at a time. Excavation of the first level was begun in October 2001, and finished the next field outing in March of 2002 (Figure 31). The first level had only brick fragments and wire nails. Several bricks were seen near the west side, and others were scattered throughout the unit. An iron horse shoe was found near the south edge of the unit, east of the brick wall line.

Soils were different in color and texture on the east and west halves of the unit. The east half had a red sandy clay soil, typical of much of the disturbed surface soils in the village area. The west half contained a much darker, brown to black organic, loamy soil, as if used as an animal pen. Inside were two pointed wooden implements about 20 cm in length and 24 cm in diameter, hand-sharpened to a point on one end (Figure 32). The other, larger end was rounded, with holes. These were later identified as hand-hewn dibbles.

We did not immediately recognize these as dibbles. Some time after the first ones were found, the author made a trip to The Home Place, a reconstructed living history interpretive farmstead in the Land Between the Lakes National Recreation Area in Tennessee. An interpreter there, when asked if he had seen such pointed sticks used in the nineteenth-century homestead, reported that similarly shaped dibbles were used to transplant tobacco plants from cold frames to the demonstration garden and produced two dibbles from a storage room (Figure 33). While the dibbles from The Home Place don’t have holes in the handles, they otherwise closely resemble the artifacts found at Scull Shoals. During that same year, we found seventeenth-century English-style (lathe-turned) dibbles at the reconstructed living history village of Plimouth Colony, Massachusetts.

Badly rotted wooden planks were found along the east side of the wall in Square 27. These could not be salvaged. A small group of large (3-5 in) wire nails was found in the northwest quadrant of the unit west of the wall. These may have been in a container, but we found no evidence of it. A single cut nail fragment (5 cm long) was also found, along with amber bottle glass and window glass.

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Figure 31. Plan of USFS site 1750.
Figure 32. Dibbles from USFS site 1750.

Figure 33. Dibbles from the Land Between the Lakes National Recreation Area.
We placed Square 28 (2 x 2 m) “inside” the structure, which was still not completely understood. A probe indicated bricks here, so the unit was laid out to include them, more or less in the middle of the unit. Bricks were scattered mostly in the eastern half, with a cluster in the northeastern quadrant, and a possible brick pier in the southeastern quadrant. Only a few wire nails and 17 pieces of baling wire were found in the soil of this level. Privet stumps and roots impeded the excavation of the wet, micaceous silt in the unit. Wire nails, another dibble point, and a small piece of undecorated porcelain were found, along with scattered bricks. The unit was not re-opened in later sessions.

Square 30 (1 x 3 m) was a long, rectangular unit placed over the apparent corner of the brick wall excavated in Unit 27. At this point the wall turned east, and this unit was designed to follow it. There was an earthen lump in the line of the brick wall, from which vegetation extended, obscuring the visibility of the structure. This site did not appear to have been disturbed as the artifacts were close to the surface. The PIT crew excavated the unit in a single level to define the wall’s shape, extent, and associated artifacts. Soils here varied from dark brown clay loam to orange-red, depending on degree of disturbance. The brick feature was difficult to follow, because of tree roots. A single piece of glass appeared on the north side of the wall, and a wide scatter of wire nails was mostly south of the wall at the east end. The unit was left open while the adjacent 1-x-3-m unit was opened to pursue the wall.

Square 32 (1 x 3 m) extended east of Square 30, to continue following the wall and thus determine the width of this building. The intact portion of the brick wall, two bricks wide, was 1.05 m long and 21 cm wide. We found very few artifacts, all from the twentieth century: wire nails, barbed wire, brick fragments, an iron tool handle, sheet metal, blue bottle glass, a rock fishing weight, and two more dibbles.

Structure 1750 was originally thought to be part of the nineteenth-century village. However, only one cut nail was found in the four excavation units. There were, however, plenty of wire nails, barbed wire, and more modern glass fragments. All artifacts found with this structure can be dated to the early to middle twentieth century, with the exception of the dibbles which might date anywhere from the eighteenth through twentieth centuries. Thus it was probably not built until after the mill village had ceased to exist as a community.

The apparent shape of the structure (about 19.8 x 6.1 m), the differing soils inside and outside, and the paucity of artifacts, strongly suggest that this was a barn or storage shed with animals quartered around it. Only a few people lived in the village area in the early twentieth century. The Frank Barnett family or their neighbors may have built it in the 1930s and 1940s.

The 1942 aerial photograph (see Figure 6) shows a long, rectangular structure with an unequal sloped metal roof at the Site 1750 location. It was apparently removed shortly thereafter in accordance with federal policy, to avoid danger to the public. The manager’s house (9GE1212), superintendent’s house (USFS site 1728) and warehouse-store (USFS site 1733) were also shown in ruins, and apparently removed about the same time.

Wheelchair Trail Shovel Tests

At the urging of enthusiastic Friends of Scull Shoals member and Lindsey Durham descendant LaRamon Durham, PIT project directors planned for a downtown loop trial to be handicap-accessible. The design was encouraged by the Oconee District Ranger following the Americans with Disabilities Act (ADA), which requires accessible facilities in any public place.

We laid out the proposed trail to visit the main downtown structures. Crew members staked and measured the trail on the ground and marked it on a large copy of the topographic map. We planned to shovel test the route, to make sure that it would not cross any unseen structure or feature that we might later want to excavate and interpret.

PIT volunteers checked out the route. First, Dick Brunelle walked the route with his metal detector and Sammie Stooksbury placed flags to mark
locations where the metal detector suggested artifacts buried beneath the surface. Other crew members excavated shovel tests at each flagged spot, or at 5 m intervals along the route. Where the silt deposit was particularly deep (in the frequently-flooded parts of the village), longer intervals were used between shovel tests, since the trail would not disturb deeply buried deposits. As the shovel testing progressed, visitors were encouraged to ask questions and to see what was being excavated. We did some in-field washing and sorting, in part to demonstrate to visitors that there is more to archaeology than just digging.

No new features or structures were found in this trail project. Nearly all cultural materials from these 40-x-40-cm screened shovel tests came from the plow zone, which was likely created first by plowing to plant crops in the village area. Most plowing disturbance was from 1960s and 1970s landscaping, to prepare this as a USFS Historic Recreation and Picnic area. The plow zone varied from 25 to 60 cm, so in places it destroyed any features in the red clay subsoil. Cultural materials found in these 55 village-wide shovel tests mirrored collections from test units we conducted over the previous two years, and thus are not listed here. Four whiteware sherds with “Allerton’s England” with a blurred crown seal (Figure 34) were exceptional. Godden (1964:30) indicates that Chas. Allerton & Sons Staffordshire Potteries operated between 1869 and 1942, and that this mark appeared from 1890 until 1912. Thus this plate was brought in very late in the village’s history.

Unfortunately, for several reasons the ADA trail was never built. First, the PIT project was closed in May 2003 following a series of floods. Second, federal funding for natural and cultural resources declined.

ADDITIONAL PIT RESEARCH ACTIVITIES

Friends of Scull Shoals, Inc., was incorporated in December 1996 to study, preserve, and in-

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Figure 34. Allerton potter’s mark on sherd found during survey of wheelchair trail.
interpret the history of this once-important industrial center in the middle Georgia Piedmont. The Friends group is a partner with the US Forest Service in developing educational and interpretive programs for the public. Many Friends members have also participated in PIT archaeology projects.

In addition to the archaeology field and laboratory projects, Friends members individually and in groups conduct research in libraries and the state and federal archives. The research focuses largely on census, tax, and other records associated with early Oconee River settlements, Fort Clark, and the Scull Shoals mill village. The Friends also seek people with first-hand knowledge of the old town and its residents. Newspaper articles and data from census and tax schedules are still being studied; genealogist Elaine Neal is currently following those lines of enquiry, to be published separately. The Friends have located descendants of a number of the families that lived in the village, including the Poullains, Durhams, Wrays, Fambroughs, Mirables, and Barnett.

Michael Gagnon, a founder of the Friends group, researched nineteenth-century newspapers for information on industrial development in Athens for his dissertation (1999). He also reported data on Scull Shoals. Robert Skarda (2007) also searched early newspaper records for his recent history of the village.

PIT volunteer Ellen Whitaker located a 1919 soil map of Greene and Putnam Counties. The map showed old roads, houses, and “Parson School” near extinct Scull Shoals. A search in winter 1998 did not definitively identify the school, although two probable house sites were found in the area. Nellie Barnett Jones (personal communication, 2004), a former student at the school and the daughter of one of its teachers, said the school building resembled a house, so it seems possible that one of these house sites represents the remains of the Parson School.

As PIT volunteers excavated in 1997-99, they became aware that the public was interested in watching and learning with them. Soon, the Friends began to offer village tours. Nineteenth-century folk craft festivals followed, as did interpretive efforts by the non-profit Friends group to teach the public about life in the nineteenth-century mill village. Since the initial formation of the Friends was based on papermaking, we often stressed this aspect of the village’s history. However, we also emphasized textile production and related cabin industries.

In summer 2000, a team of shallow geophysics students from UGA were assigned to cover an area 23 m on a side adjacent to the river, including the location of the blacksmith’s shop and raceway. They mapped the square with soil conductivity, gradiometer, and GPR. Their term paper maps showed two subsurface anomalies around the blacksmith shop. The students realized that the anomalies were probably blacksmith’s forges, but gave them no further attention. However, when the author compared the students’ maps with the scaled topographic map, it became apparent that one of the anomalies was 3-3.5 m outside the northeast corner of the smithy. This anomaly thus appears to represent a hitherto unknown, second forge. It remains to be investigated.

**Historical Commentary**

The gently-sloping area alongside the shoals of the Oconee River provided easy access for gardens and villages for thousands of years, as indicated by the Early through Late Archaic projectile points, and prehistoric pottery types. The frequency of these items suggests that this was a popular hunter-gather campsite which was later used by settled farmers, represented by Mississippian triangular projectile points and Lamar Incised and Stamped pottery. The post molds suggest some permanence, as does the trash pit near the brick chimney base on site 1727. This trash pit and a few other test units produced mussel shells, indicating that the shoals were good collecting places for shellfish and other riverine resources before intensive Euro-American land clearing and farming began to bury the shoals beneath yards of silt.

The Lamar settlement was probably a series of outlying farmsteads, supporting the Mississippian mound town a few kilometers north during the centuries before Hernando de Soto’s arrival in...
spring of 1540. The dispersal of the Indian inhabitants following European departure left the land empty for a long period.

The early European settlers came from the east during and after the American Revolution and began to re-clear the land, opening it up again for farming but on a greater scale than it had ever been before. With the clearing, stimulated by the invention and spread of the cotton gin, came African-American slaves. They were brought in to clear, plow, plant, weed, and harvest the huge fields for the growing of cotton and vegetables, and for use as pasture. Severe effects followed the expansion of European- and African-American settlement on the landscape: deforestation, erosion, and gullying took soil from the land and deposited it in the streams, causing them to fill up and flood out over the low-lying land with each severe rain.

The nineteenth-century mill town of Scull Shoals developed gradually from an initial water-driven grist mill and saw mill settlement through the short-term paper making efforts. That was followed by heavier industry: textile processing from raw cotton to finished cloth, employing thousands of people, both enslaved and free, in the fields, mills, and shops. The town went through many ecological, political, and economic changes. It was terminated by the great flood of 1887, which ended the productivity of the mills and ensured the death of the industrial town as the residents left for more dependable jobs elsewhere. The few remaining families continued subsistence farming as the only available means of making a living. This was done in small parcels until the land was purchased and reassembled in the 1920s and 1930s. After it was sold to the federal government as an experimental forest, the eroded lands were terraced and vegetation was restored. It eventually joined the Oconee National Forest in 1959. Scull Shoals became an historic recreation area in the 1960s.

This project has attempted to investigate the history and inhabitants of the mill village area by testing a series of sites within the village. A great deal more research will be required to provide a complete picture of the village and its residents. However, these efforts surely provide a reasonable starting point for the interpretation of the village, as well as a basis on which to plan further investigation.

The overlapping structures on USFS sites 1727A and 1727B present an opportunity to understand changes that took place during the early history of the mill village. First, there was a two-room house (site 1727B) on the spot, possibly housing early mill workers. Later it was removed, probably burned, and a different type of building (site 1727A), possibly a workshop with a stone chimney, was erected. Further excavations and historical research may provide answers to several outstanding questions regarding this structure. For example, why was the structure set at 45 degrees to the rest of the village? Did it represent a change in orientation of that part of the village to align with the road from Maxeys? What was the function of the structure?

Our investigations in the "Big Pit" were limited, but provide a glimpse into later life in the village. Further investigations may completely change our initial interpretations of this as a storage cellar. The final use of the pit as an agricultural dump is obvious, but the original date and functions were not determined.

The structural remains on site 1739 have seen heavy disturbance, but nevertheless produced prodigious amounts of materials and data on at least three or four occupational periods. An usual density of Archaic and Lamar period stone and pottery was found in each of the test pits, and a number of intriguing patterns of post molds appeared just below the deep plow zone around the two nineteenth-century buildings. There is no reason to doubt that the occupations of these two periods were as dense here as in the village center, around site 1727.

Site 1739 includes the possible post from old Fort Clark. There are ample historic records of the fort, but so far, none provide a specific location. One or two post molds do not a fort make, so additional investigations in the village are needed to define the size, location, and orientation of the fort. Since it was a short-lived structure, it may have been removed after the Treaty of 1802. Find-
ing the first post with its identifying Mocha-ware potsherd was stimulating for all involved.

The nineteenth-century buildings in the area of site 1739 were heavily disturbed; most were completely removed, and the back wall of the warehouse-store has been lost. The PIT excavations indicated a possible loading dock in the alleyway between buildings. Excavations also suggested-on admittedly thin evidence-the general shape and location of the second structure, east of the warehouse-store building. Probing in the area indicated that perhaps a large part of the structural brick had been dumped into the central cellar of the second building.

"Beca's House" (USFS site 1744) was a two-room house perched on a slope along old Maxeys Road. It was possibly part of the cluster of houses shown as forming two rows on the 1875 plat map and the Kratzer map. The structure was built in the early 1800s and survived into the early twentieth century. It may have been maintained as a storage building, based on the frequency of nail forms and the collection of plow points found under the lower edge of the building. With only limited testing, the artifact counts were lower here than in the center. Further investigation will produce more data on changes of occupation and functions through time. PIT crews made an estimate of size and shape, based on the identified corners. This allowed a projection of dimensions for the house on site 1727B, where no corners were found.

"Ellen's Barn" (USFS site 1750) was only partly tested, but enough data was found to show that this was not part of the nineteenth-century mill village. It was built and used for a stable and storage in the early twentieth century. The long, narrow barn stood until at least 1942, when it was documented in an aerial photograph. Future investigations here could expand data on the post-mill town uses of this land.

The ADA trail shovel tests allowed inspection of a broader portion of the village than the 2-x-2-m test pits. However, they added little about activity areas in town, and reinforced the impressions gained from the test pits. Artifact density was fairly consistent across the village. No indications of structures or intense activity areas were found in this trail test.

Our PIT test excavations leave no doubt that the Scull Shoals Mill Village site is eligible for nomination to the National Register of Historic Places, perhaps as a historic district, once an acceptable boundary for the village can be established. It could be nominated on any, or all four significance criteria, and for several points under each. For example, Fort Clark was built there for defense against the Indians in 1793; it was the site of Georgia’s first paper mill; it was also a major textile center from most of the nineteenth century. Adding to this is its association with Phinezy’s Dragoons in its defense; Zachariah Sims and George Paschal in the paper mill industry; Dr. Lindsey Durham in medicine; Dr. Thomas N. Poullain in early southern industrialization; and Governor Early, whose home stood nearby. The brick arched bridge, stone bridge footings, blacksmith shop, turbines, warehouse walls, and general landscaping provide ample remains of the architecture, engineering, and landscape design. There is much left of the historic and prehistoric activities below the surface at this important location.

I conclude this article by noting that it has been a distinct privilege to study Scull Shoals! I first visited and fell in love with the place in 1980 as the new Forest Archaeologist for the Chattahoochee-Oconee National Forests. I have maintained a deep interest in the beauty, peacefulness, history, and archaeology it has to offer. Here at Scull Shoals was an opportunity to do what I had set out to do when I began my archaeology career: to learn something new about the past, and to pass this knowledge on to current and future generations.
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THE FIRST TEARS OF THE TRAIL: ARCHAEOLOGICAL INVESTIGATIONS OF POTENTIAL CHEROKEE REMOVAL FORT SITES IN GEORGIA

By Ronald Hobgood, Engineering & Environment, Inc.

In the spring of 1838, across northwestern Georgia and throughout the rest of the Cherokee Nation, soldiers fanned out in small units and began rounding up Cherokee families. The Cherokee Removal, better known as the Trail of Tears, had commenced. Cherokee men were taken from their fields, women and children were pulled from their homes, and the infirmed were taken from their sickbeds. Once seized, the Cherokee were herded to forts that had been constructed across their nation. The captives remained for a short time at these forts, sometimes just days, before being moved to one of three staging points for their forced migration west. The removal forts, by bringing disparate peoples together where sickness and disease could spread, helped cause many deaths before the trek west.

At least 14 forts were constructed in the state of Georgia. They were initially built to defend the white population from a possible Cherokee uprising, but they were also used to consolidate the Cherokee before their exodus to the West. These forts, marking the beginning of the Trail of Tears, represent much of the only extant physical evidence of the Cherokee Removal.

The dearth of information regarding this system of forts is remarkable. Primary documents from the Removal consist largely of military or government correspondence dealing with more mundane matters of supply and logistics. Historians have traditionally focused on the prominent individuals involved, the political and legal battles fought, and the ultimate journey west. However, the removal fort system has received little attention from historians and until recently almost none from archaeologists; few published works discuss the removal forts in more detail than just a few sentences.

While there is little variety in the available historical documentation, archaeology has the potential to enhance understanding of the Cherokee experience in the removal forts. However, before intensive archaeological research can be conducted, these sites must first be identified. This is challenging because the traditional fort locations are only general locations based on local or oral histories that have never been confirmed archaeologically.

This paper discusses one such effort to locate, through archaeological methods, removal fort sites in Georgia. During this research three potential removal fort sites in North Georgia were investigated. The following text discusses the archaeology and history of the Removal, especially in Georgia, while focusing on the author’s investigations of potential locations for Forts Cumming, Hetzel, and Hoskins.

THE PATH TO REMOVAL

The United States government had long felt that it was a problem having sovereign yet “savage” nations within its borders. These Indian nations were viewed as an impediment to America’s Manifest Destiny. These nations occupied millions
of idle acres that should be cultivated, and they could obstruct the construction of roads and canals needed to connect the growing United States. Worst of all, the Indians could make treaties with America's European rivals, giving Spain, France, and Great Britain strategic influence deep within the borders of the United States. The "civilizing" and absorption of the Indians had often been touted as a solution to these problems. However, this changed with the Louisiana Purchase in 1803, which provided ample room in the West for Indians from the east. In American eyes, forced removal and resettlement seemed to be a logical solution in the best interest of the Indians. However, most Indians felt that they should remain sovereign nations in control of their ancestral lands. This was never really considered a viable option by the majority of American leaders. It is estimated that as many as 100,000 or more Native Americans, mostly from Southeastern tribes, were ultimately moved from their eastern lands during the first half of the nineteenth century (Thornton 1990).

Although other Eastern tribes endured forced emigration, sometimes with more devastating consequences, the Cherokee Removal is the best-known and most-studied (Marks 1998). The Cherokee Removal was not a single, discrete event in American history, but rather a string of incidents that took place over decades culminating in the Trail of Tears. It is possible that the first Cherokee emigration to the West took place soon after the first treaty between South Carolina and the Cherokee in 1721. Around this time a Cherokee named Yunwi-usgaseti, or "dangerous man," recognized the pointlessness of trying to placate the whites and led a group west (Thornton 1990).

As the eighteenth century progressed, war and disease took their toll on the Cherokee. In the eighteenth century the Cherokee suffered through many epidemics of various afflictions, with the worst possibly being a smallpox outbreak in 1738. It is estimated that the ensuing epidemic killed half the population. It was also reported that many Cherokee committed suicide because they were despondent from the disfigurement caused by the smallpox scarring (Hoig 1998). These population losses directly affected the ability of the Cherokee to defend their territory, and they ultimately lost several armed conflicts with British colonists before the American Revolution. Things continued to deteriorate for the Cherokee when they sided with the British during the American Revolution, even though they had been the victims of scorched earth campaigns by the British during the French and Indian War (Calloway 1995). The Cherokee continued to make war against the American colonists after the Revolution. The fighting, while sporadic, was devastating to the Cherokee. Finally, in 1791, a formal peace treaty was negotiated between the Cherokee and Americans. However, the Loyalist stance of the Cherokee would not be soon forgotten by the Americans.

After the Revolutionary War, some Cherokee who had fought for the British applied for permission from the Spanish governor of New Orleans to settle in Spanish territory west of the Mississippi. The request was granted and it is believed by historians that some Cherokee settled in the Arkansas Territory in 1783 (Thornton 1990).

There were also some official government efforts to remove the Cherokee to the West before the Louisiana Purchase, but after 1803 efforts were redoubled. By 1811, almost 2,000 Cherokee had relocated to the western border of Arkansas. Small bands of Cherokee continued to trickle west. Government agents estimated that over 5,000 Cherokee had emigrated to the West by 1818, although the Cherokee believed the number to be closer to 3,500 (Moulton 1978). Cherokee families continued to move west as they began to believe that their situation in the East was futile.

The Treaty of 1828, in addition to paying for improvements to the land, provided the head of each enrolling family with a rifle, kettle, five pounds of tobacco and a blanket for each member of the family (Davis 1979). Although some Cherokee were enticed by offers of land in the west and material goods, the government's Indian Agents typically met with disappointing results when trying to persuade the Cherokee to voluntarily remove.

During these efforts government officials also encountered the logistical and planning night-
mare that the removal of large groups of people could entail. Government agents had many unforeseen delays in 1832 when they were trying to collect and transport several hundred Cherokee emigrants west. Cheap shelters had to be built for the Cherokee waiting for everyone to gather. Another unplanned problem was that the slaves owned by some Cherokee were considered property and not factored into subsistence estimates for the first year in the West (Davis 1979). These problems only exacerbated the poor conditions in which the Cherokee found themselves.

Between the years of 1828 and 1834, 2,802 Cherokee had enrolled for emigration, but by 1834 only 1,171 had actually emigrated. News of sickness in the West dissuaded many Cherokee from actually attempting the journey. Over half of the Cherokee enrolled for emigration under Superintendent Benjamin F. Currey in 1834 changed their minds when they heard reports of cholera among Cherokee in the West. Of the 457 Cherokee that did emigrate in 1834, 50 died of cholera and 31 died of other causes en route to the west. Of the surviving Cherokee that made it to the west, half died within a year (Thornton 1990). Unfortunately it appears that the government did not learn from its logistical mistakes, and the deaths during early government sponsored removal efforts would be a harbinger of what was to come.

GEORGIA VERSUS THE CHEROKEE NATION

This small steady stream of Cherokee emigrating to the West did not satisfy Georgians who were anxious to control Cherokee lands and mineral resources. During the years leading up to the Removal, Georgia took the lead among other states when agitating for the removal of Cherokee. Even as the Cherokee increasingly took on the trappings of white society, the demand for Indian removal continued to gain strength throughout the 1820s and 1830s. In hindsight it appears that the removal of the Cherokee was inevitable, and that the Cherokee were engaged in a fight that they could not win.

The State of Georgia's efforts to remove the Cherokee from its borders can be traced back to 1802, when Georgia made a compact with the federal government. Under this agreement Georgia ceded its western lands that it had claimed since its colonial days for 1.25 million dollars. In exchange, the federal government would also extinguish American Indian title to lands within the new borders of Georgia (Perdue and Green 1995).

In 1828, with the discovery of gold in the Cherokee Nation as a catalyst, the State of Georgia began pressing its claims in earnest. It began passing laws that nullified Cherokee land titles and made it illegal for any Indian to testify in legal matters involving whites (Conser 1978). Many Georgians also believed that linking Georgia's heartland to the Tennessee River by rail was important if the state's agricultural economy was to continue to grow and remain viable. This would be impossible as long as the Cherokee controlled northwestern Georgia (Perdue and Green 1995).

The Georgia legislature had the tacit support of President Andrew Jackson's government in its efforts to remove the Cherokee. During his Indian-fighting days, Jackson's men called him "Old Hickory" because he might bend but he would not break; among Native Americans, however, he was known as "Sharp Knife." While Jackson was an occasional military ally of various American Indian groups, he was always their determined political adversary. Although the Cherokee had fought alongside Andrew Jackson at the Battle of Horsehoe Bend, his first great victory, he was one of their most ardent political enemies. The Creeks who fought against other Creeks for the Americans during the Creek War were rewarded in a similar manner. They were forced to sign a treaty, which ceded approximately twenty-three million acres to the United States, even though Article IX of the Treaty of Ghent stipulated that all lands taken from the Indians after 1811 must be returned (Remini 1988).

Remini, a leading Jackson biographer, believes that Jackson's crusade to remove the Indians to the west stemmed not from his hatred of Indians but rather from his hatred of the British and his nationalist views: "The threat of invasion from Europe into the soft underbelly of the American nation along the Gulf of Mexico could only be
eliminated, to Jackson’s mind, by the removal of the Indian presence in the region” (Remini 1988:47). This belief was strengthened by the British invasion of New Orleans during the War of 1812 and further by European involvement with various Indian tribes during the Creek War and the First Seminole War. Remini believes that Jackson was not bent on the destruction or punishment of Native Americans by removing them, but rather that he felt he had their best interests at heart and was protecting them from white society. So “removal was meant to prevent annihilation, not cause it” (Remini 2001:228). In fairness to Jackson, he did raise an orphaned Creek child named Lyncoya as his own son, making it harder to claim he was an Indian hater. However, whether or not the destruction or near destruction of the Cherokee people was his intent, the cruelty of the “Trail of Tears” has largely become his legacy.

The Cherokee had hoped that Henry Clay, a political ally, would win the presidential election of 1832, but with his loss went any real hope of remaining a sovereign nation in the East. A pro-Removal Treaty party began to form after the defeat of Henry Clay and the failure of Jackson to enforce the Supreme Court’s decision in the case Worcester v. Georgia, which ruled that the State of Georgia’s laws did not apply to the Cherokee Nation (Reed 1979). The Treaty Party was led by John Ridge and his father Major Ridge, as well as Elias Boudinot, the editor of Cherokee language newspaper The Phoenix. These men had all been staunch anti-Removal Cherokee, but they began to believe they were engaged in a futile fight.

Men like the Ridges and Boudinot were part of the more acculturated slave-holding segment of Cherokee society. The acculturation of the Cherokee was relatively rapid, but uneven. The more isolated Cherokee, primarily in the more mountainous areas, did not experience the levels of acculturation that many Cherokee in the more accessible river valleys did. Also, mixed-blooded Cherokee tended to embrace European American culture more so than the full-blooded Cherokee who maintained more of the traditional ways (Perdue 1979a). Because the transition to an agrarian society was not gradual or uniform, Cherokee society became culturally fragmented. This eventually eroded any kind of solidarity, especially within the leading factions, when dealing with state and federal authorities (Perdue 1991; Persico 1979).

While the Cherokee were becoming more fragmented, Georgians were becoming more unified on the subject of Cherokee Removal. The fight over removal became a fight over states’ rights for Southern whites. The argument over removal coincided with issues over protective tariffs; tariffs that in the South were seen as protecting Northern industry to the detriment of the agricultural South (Klunder 1996).

In 1830, Georgia Governor George Gilmer ordered all mining in the Cherokee Nation halted by whites and Cherokee alike. He believed that the mineral resources of the Cherokee Nation belonged to the State of Georgia. In 1832, the State of Georgia sent 550 surveyors to map the Cherokee Nation (Davis 1979). They partitioned the Cherokee Nation into 160 acre land lots and 40 acre gold lots that would be distributed to white citizens in a land lottery in 1832 (Smith 1991 [1838]). The Cherokee Nation, which was referred to as Cherokee County by the State of Georgia, was divided into ten new Georgia counties. Walker County was formed from Murray County in 1833 for a total of 11 counties (Figure 1).

Tension increased between the Cherokee and Georgians as whites who had been granted land within the boundaries of the Cherokee Nation began to press these claims. Some Georgians began moving into the Nation and physically occupying their claims. The ensuing fight over removal was not always fought in the courts, newspapers, or political halls. Violence between encroaching whites and Cherokee trying to maintain possession of their lands was common during the decade before the Removal. In 1830, the Principal Chief of the Cherokee Nation John Ross reportedly organized a raiding party to burn 25 houses that had been occupied by whites. These houses had been abandoned by Cherokee who already moved west (Davis 1979).
Figure 1. Map showing the relationship of modern Georgia counties (gray) to the counties (black) formed from the Cherokee Nation as they appeared at the time of the Removal (adapted from Wilms 1991:Figure 11). This and all other illustrations and photographs in this article by the author unless otherwise noted.
John Ross had been elected Principal Chief in 1828, a position he retained until his death in 1866. While serving as Principal Chief, Ross became the central figure in Cherokee resistance to forced emigration, and all official efforts of the Cherokee Nation to remain in the East seemed to emanate from him. Ross was only one-eighth Cherokee and couldn't speak the Cherokee language, but he always maintained the support of most of the full-blooded Cherokee, who constituted a majority (Conser 1978). Ross used a variety of arguments, both legal and emotional, in an attempt to fight the coming Removal.

Ross was severely hamstrung when a group of Cherokee led by Major Ridge signed the Treaty of New Echota in 1835, ceding the lands of the Cherokee Nation for five million dollars and lands in what is now Oklahoma. The treaty was ratified by Congress and signed into law by Andrew Jackson on May 23, 1836. Henry Clay introduced a bill that would have negated the treaty but it was voted down. The treaty stipulated that the Cherokee would remove within two years of its ratification (King 1979).

The members of the Ridge-Boudinot faction have often been viewed as traitors to the Cherokee people, but in their eyes they were acting in the best interests of their people. Major Ridge and other Treaty Party members had been among the most adamant of anti-Removal Cherokee, but they began to believe that to fight removal was a lost cause. While they legally did not have the right to make treaties for the Cherokee Nation, they felt they were losing time to make an agreement with fair compensation. George Paschal, the white son-in-law of Major Ridge, explained the logic of the Treaty party's actions as such:

...after Georgia had surveyed the Cherokee lands—granted them out to her citizens—after thousands overrun the country—upturning every foot of soil which contained gold—dispossessed the most wealthy Cherokees, particularly those who had taken reservations under former treaties—prostrated the largest forests, organized ten new counties—erected as many flourishing villages—

consigned their Missionaries to the Penitentiary, and in fact completely annihilated their social and political existence; the conditions of the people became intolerable—and the most intelligent minds in the Cherokee country as well as their best friends out of it, began to look round for the means of relief [Perdue 1979b:66].

The majority of the pro-treaty faction of the Cherokee Nation emigrated in 1837. They did not suffer the losses that the Ross faction would endure the next year. Of a group of 365 that departed in October of 1837, 15 died before reaching the Indian Territory. At first glance this figure seems large, but it is dwarfed by the death rates of emigrating parties the next year. There are many factors why the pro-treaty emigrants fared better. They were wealthier, they were able to prepare for months if not years for the impending move, and they had more control of the logistics and planning of the actual move. Many also possessed slaves whose labor significantly aided the establishment of farmsteads.

In a last ditch effort, Ross sent a delegation to Washington in the winter of 1838 bearing a petition signed by 15,665 Cherokee opposed to the Treaty of New Echota. Even though this further demonstrated the illegitimacy of the treaty, it accomplished nothing because the US Congress felt that the issue had been settled (Woodward 1963).

THE 1838 REMOVAL

The Cherokee Removal was an important issue for Americans in the 1830s. However, it was only one of many events that occupied the minds of the American government, military, and citizenry. Events in the Cherokee Nation were overshadowed by the continuing, unpopular war in Florida against the Seminole. The United States had been fighting a relatively small number of Seminoles in the Florida swamps since 1835 with little hope of it ending soon. The large number of escaped slaves and Indians with some African ancestry in the Indian ranks increasingly gave the war the appearance of a slave revolt (Kerber 1975). There was also tension on the Canadian border in
1838, when Canadian rebels supported by American volunteers threatened to invade Canada. Because of British interests in the region, any conflict with the Canadian government would have international implications. While a possible Cherokee uprising was an issue of concern to the government of the United States, the possibilities of war with the British (however remote) or a slave revolt spreading out of Florida were far more disquieting. Because of these issues, there was an impetus for the United States Army to remove the Cherokee as rapidly as feasible and deploy the needed troops to these other areas.

As the time for the Removal deadline approached, military forces began gathering throughout the Cherokee Nation. Federal troops began moving from Florida and posts in the east, while Alabama, Georgia, North Carolina, and Tennessee began mustering and deploying their militias. This military force was officially known as the Army of the Cherokee Nation and was led by General Winfield Scott, also known as "Old Fuss and Feathers." He was known as a stickler to rules and regulations, except when he was breaking or bending them. An example of these paradoxical tendencies occurred in 1839, when Scott challenged Henry Clay to a duel even though he had authored U.S. Army regulations forbidding the practice.

The Army of the Cherokee Nation was comprised of approximately 6,000 to 7,000 troops belonging to two distinct groups. About half were United States Regulars deployed to the Cherokee Nation in 1838, while the rest consisted of state militia. Most of the federal troops were veterans of campaigns against the Seminole in Florida, and came directly from Florida to the Cherokee Nation. The federal troops operated mostly in Tennessee and North Carolina. The Cherokee Removal in Georgia was completed almost solely by state militia while federal troops were still deploying.

Although state militia were typically considered to be of a lower caliber than the federal troops, some were likely veterans of the Second Seminole War and the Creek War of 1836. The militia troops typically consisted of mounted infantry and some regular infantry companies. Because the matter of Cherokee Removal became largely an issue of states’ rights, the state governments viewed their militias as the vanguard forces with federal troops being sent to support them.

We can only speculate about the opinions and attitudes of the common soldiers tasked with removing Cherokee, because information regarding attitudes about duty in the Cherokee Nation was typically recorded by the officer corps. Service in the Cherokee country might have been viewed by some officers as a respite from fighting in Florida, but it seems that most of the officers found that removing the Cherokee was a displeasing duty. Lieutenant Erasmus Keyes, who rose to the rank of General during the Civil War, served as aide-de-camp to Winfield Scott during the Cherokee Removal. He viewed the Army’s role in the matter as “a trespasser, one of a gang of robbers…” (Eisenhower 1997:184). General John E. Wool, who was eventually replaced by General Winfield Scott as general in charge of the Army of the Cherokee Nation largely because Wool was too sympathetic to the plight of the Cherokee, provided this assessment of the situation in the Cherokee Nation:

The whole scene since I have been in this country has been nothing but a heartrending one, and such a one as I would be glad to get rid of as soon as circumstances will permit. Because I am firm and decided, do not believe I would be unjust. If I could, and I could not do them a greater kindness, I would remove every Indian tomorrow beyond the reach of the white men, who, like vultures, are watching, ready to pounce upon their prey and strip them of everything they have or expect from the government of the United States. Yes, sir, nineteen-twentieths, if not ninety-nine out of every hundred, will go penniless to the West [Corn 1978:37].

In 1836, the commander of the East Tennessee militia, General Richard G. Dunlap, was so outraged by the injustice of the Treaty of New Echota and the actions of the Georgians against
the Cherokee that he disbanded his brigade because he did not want to dishonor the state of Tennessee (Conser 1978; Woodward 1963).

These sentiments were shared by some junior officers. Two days after his regiment’s arrival at Fort Butler, North Carolina, Lucien Webster, a young captain with the first artillery regiment, described his misgivings for the upcoming mission:

We are said to be in the thickest settled portion of the Cherokee country, and the least civilized. There are about six thousand in our neighborhood. Their houses are quite thick about us, and they all remain quietly at home at work on their little farms, as though no evil was intended them. They sell us very cheap anything they have to spare, and look upon the regular troops as their friends. My man has just returned with four fine chickens for which he only paid fifty cents. Eggs are but a shilling a dozen and butter the same per pound.

These are the innocent and simple people into whose houses we are to obtrude ourselves, and take off by force. They have no idea of fighting, but submit quietly to being tied and led away. If there is anything that goes against my conscience it is this work, and I would not do it, whatever might be the consequences, did I not know that there are thousands that would, and probably with much less feeling towards the poor creatures [Baker 2000:21-22].

While the soldiers were sometimes frustrated with the actions of the Cherokee they were typically universal in their derision of the local citizens and militias. In a letter to Colonel A. Harris before the Removal, the Superintendent of Emigration, Nathan Smith, expressed concerns over the levying of some units. He found “in many Counties of the Cherokee Country companies are raised who wish to be called into the Service of the U. States” and that “there are many persons among them who exaggerate or even encourage the Indians to show signs of Hostilities for the sake of being called into service” (letter, Nathan Smith to Colonel A. Harris, 30 July 1837, National Archives Microfilm Publication [NAMP] M1475:205-206, Correspondence of the Eastern Division pertaining to Cherokee Removal. Record Group 393, National Archives, Southeast Region, Atlanta).

In the months before the Removal, the U.S. Army had its hands full maintaining order in the Cherokee Nation as whites became increasingly impatient to dispossess the Indians of their lands and take control of property they had received through the lottery. A sense of the frustration with the local whites’ maltreatment of the Cherokee is evident in the following passage from another letter by Superintendent Nathan Smith:

From the best information I can get, there are 4 or 500 families, of the Cherokees, in Tennessee, Georgia, and Alabama (but chiefly in Georgia) that have been turned out of their Houses, and Farms, by the whites, and who are now living in camps, in the woods, and have no place to raise anything to subsist on. Those of them, who make complaint to me, and I find wrongfully turned out (which is in 19 cases out of 20) I repossess, agreeably to the 16th article of the treaty. I am endeavouring to get as many of these, and all others, to come in and receive rations, until I am in readiness to send them off. I have had to put two white men and their families, out of the Tennessee part of the Cherokee Country before I could make them let the Indian alone [letter, Nathan Smith to Colonel A. Harris, 10 May 1837, NAMP M1475:187-188, National Archives, Southeast Region, Atlanta].

Soldiers throughout the nineteenth century were often more sympathetic to the Indians than the local whites. According to Coffman, many of the officers who served in Florida “sympathized with the Seminoles and thought they had been maltreated. On the other hand, they grew to despise many of the local settlers, whom they called 'crackers,' and the volunteers” (Coffman 1986:51). Lt. Charles Fenton Mercer Noland, the Disbursing
Agent for the Removal, kept a diary from October 1834 until April 1836. The diary includes this description of the people moving into Cherokee lands:

The people so far as my observation went are poor and lazy, dirty and slothful, particularly in Georgia. Their only aim is to dispossess the Indians of their lands. Tricks and dishonesty in all its distorted forms is resorted to effect their purpose [Whitmire 1990:13-14].

Winfield Scott looked at the militia as a necessary evil; how necessary is debatable. During the early nineteenth century, he was one of the most outstanding proponents of a standing professional army. He considered the militia unreliable (Johnson 1998) and felt that during the Removal the whites gave him more trouble than did the Cherokee (Coffman 1986). Looking at contemporary accounts of the lack of professionalism within the Georgia Guard, Scott's views were probably strengthened. After his experience dealing with militia during the Cherokee Removal, John Wool stated that he would prefer 500 regulars to 2,000 militia (Skelton 1992).

Despite their distaste for the mission and their misgivings about the militia, the Army undertook their duty with efficiency and thoroughness. Colonel Lindsay, General Wool's interim replacement until General Scott arrived, had overseen the construction and manning of forts throughout the Cherokee Nation. There are 29 posts on Lieutenant Erasmus Keye's map showing posts in the Cherokee Nation (Figures 2 and 3).

General Winfield Scott arrived in the spring of 1838 to oversee the Removal. He immediately began planning and preparing for removal. In a letter he wrote to the Cherokee on May 10, 1838, Scott made his intentions clear with a mixture of admonition and outright threat:

Chiefs, head-men, warriors! Will you then, by resistance, compel us to resort to arms? God forbid! Or will you, by flight, seek to hide yourselves in mountains and forests, and thus oblige us to hunt you down? Remember that, in pursuit, it may be impossible to

Figure 2. Erasmus Keye's (1838) map showing posts and distances in the Cherokee Nation.
Figure 3. Map showing the locations of posts in the Cherokee Nation (adapted from Keyes 1838).
avoid conflicts. The blood of the white man or the blood of the red man may be spilled and, if spilled, however accidentally, it may be impossible for the discreet and humane among you, or among us, to prevent a general war and carnage. Think of this my Cherokee brethren! I am an old warrior, and I have been present at many a scene of slaughter; but spare me, I beseech you, the horror of witnessing the destruction of the Cherokees [Cashin 1994: 137-138].

On May 23, 1838, less than two weeks after Scott wrote the above letter and two years after the ratification of the Treaty of New Echota, the Removal officially commenced. The actual collection of the Cherokee was conducted with such swiftness and thoroughness that it was as merciless as it was efficient. One soldier described the brutal collection of the Cherokee:

Men working in the fields were arrested and driven to the stockades. Women were dragged from their homes by soldiers whose language they could not understand. Children were often separated from their parents and driven into the stockades with the sky for a blanket and the earth for a pillow. And often the old and infirm were prodded with bayonets to hasten them to the stockades.

In one home death had come during the night, a little sad faced child had died and was lying on a bear skin couch and some women were preparing the little body for burial. All were arrested and driven out leaving the child in the cabin. I don't know who buried the body [Burnett 1978 [1890]:183].

The Cherokee were often sent to the camps with only the clothes on their backs. When told to ship his Indian prisoners out, the commander of Fort Gilmer responded by saying the Cherokee in his custody “were collected with such rapidity as to preclude the possibility of bringing in any of their movables which they are permitted to carry with them. I am reluctant to send them off in their present condition...” (letter, Commander of Fort Gilmer to Winfield Scott, May 28, 1838, NAMP M1475:433, National Archives, Southeast Region, Atlanta).

The first waves of Cherokee were quickly removed to the West. The first detachment sent west left Ross's Landing, Tennessee, on June 6, 1838. They traveled by double decked keelboats and one steamboat (Woodward 1963). Two other groups left over the next week and a half; one by boat and one overland. Because of drought, the parties traveling via river had much difficulty in moving west. Low river levels made the preferred method of traveling by boat impossible.

In a letter to Winfield Scott, Nathan Smith expressed his belief that the emigration of the Cherokee should be postponed until September. He had talked to John Drew, an “intelligent Cherokee,” who told him that the Cherokee that emigrated by water in July and August “did not suffer from sickness while on the water, but the sudden change caused them to die in great numbers shortly after their arrival West.” Smith also added that it would be difficult to hire teams for transportation because the teamsters were fearful for their health. He further added that all the doctors he had spoken to felt that emigration should be suspended until September (letter, Nathan Smith to Winfield Scott, June 18, 1838, NAMP M1475:405-406, National Archives, Southeast Region, Atlanta). There was also a concern that it would be hard to have consistent water supplies traveling overland because of the drought.

Because of these concerns it was decided that subsequent groups would remain in the East in the removal forts until cooler weather. They were kept at the larger emigration depots of Fort Cass in Calhoun, Tennessee, Ross's Landing in Chattanooga, and Gunter's Landing in Alabama. When the detachments already en route to the West heard about the temporary halt in emigration they requested to return east until the fall, but this request was denied and they continued their journey (Foreman 1972). In hindsight, it is debatable if living in such squalid conditions through a hot, dry
summer made it worth waiting for autumn to move west.

Although not much is known about the conditions at Georgia’s forts, hundreds of Cherokee are known to have died at the emigration depots during the summer. It is also quite likely that thousands eventually died as result of being exposed to disease in the depots. It is not a surprise that conditions within the forts were appalling considering the amount of people kept there, the lack of planning for a prolonged stay, and the haste in which the forts were constructed. Ultimately, fault for the poor conditions lies with Winfield Scott and his officers, but it is surprising that under the command of Winfield Scott the conditions were not better. Scott was a leading advocate and trendsetter in the modernization of field sanitation in the Army. As a young officer, Scott was present for a time at the disastrous encampment at Terre aux Bouefs, Louisiana in 1809, where hundreds of soldiers died in a peacetime garrison because of poor sanitation, inadequate rations, and a malarial environment (Johnson 1998). As a result of witnessing this avoidable disaster, Scott was always concerned about field sanitation and health. However, it is possible that Scott failed to realize that the standard military encampment might not have been adequate to preserve the health of these Cherokee civilians. Scott was not dealing with relatively fit soldiers. He had the very young and the very old, as well as the very sick. The despair and melancholy that prevailed among the captive Cherokee likely aggravated the situation. Also, Scott was at the Canadian border by the time the suffering in the camps would have been at its peak.

Anthropologist James Mooney believed that the main reason the Cherokee died in the removal forts was because of the food. He maintained that the rations consisted mainly of “flour and other provisions to which they were unaccustomed and which they did not know how to prepare properly” (Mooney 1982 [1891]:133). In the past, the Army Quartermaster’s Department had tried to substitute cornmeal for flour in the southern posts. This was unsuccessful because the soldiers generally did not like the cornmeal, and it was found to be more perishable than flour (Risch 1989).

The diet of the Cherokee held in the emigrating depots would have also been deficient of fresh vegetables, fruits, and meat. During removal efforts in 1832, supplies were provided by private contractors. “The daily ration was one and one-fourth pound of fresh beef or pork (or three-fourths pound of salt pork and three-fourths quart of corn (or corn meal, or one pound of wheat flour) to each person and four quarts of salt for every one hundred persons” (Davis 1979:137). Similar provisions would have been made for the removal efforts of 1838.

Once all his options were exhausted and faced with the growing number of deaths in the camps, John Ross gave up the fight against the Removal and began negotiating for better terms. He pressed for Cherokee oversight of the Removal effort as well as control of the funds. These efforts were eventually rewarded, and the Cherokee were allowed to conduct themselves to the Indian Territory. They went west in separate groups of about 1,000 people each. Some groups went overland, while some went most of the way on steamships. It is typically estimated that one-quarter of the Cherokee population of almost 17,000 people died during of the Trail of Tears. However, it has been estimated that when also considering the deaths attributed to the initial consolidation and to disease and famine after the Removal, the total number of deaths caused by the Cherokee Removal may be as high as 10,000 (Thornton 1990).

A number of Cherokee were able to escape removal, including some who had married whites. Also, about 1,100 Cherokee in North Carolina resisted removal by fleeing into the mountains (Finger 1991). It is estimated that half of these Cherokee died wintering in the mountains (Thornton 1990). The survivors were eventually allowed to remain in the east, forming the core of the Eastern Band of the Cherokee Nation.

After Removal was completed and the perceived danger of a Cherokee uprising had passed, the military troops began leaving the Cherokee
Nation. Most regular units returned to Florida, where the fighting would continue until 1842. Some troops were sent to the Niagara Frontier to help end the “Patriot Wars,” and some were assigned garrison duty (Rodenbaugh and Haskin 1966). The state militias were quickly mustered out and those troops returned home, some to new homes in the lands they had helped clear of the Cherokee.

By September 1838, Governor Gilmer was able to report to the Georgia Senate and House of Representatives that the Cherokee problem was resolved. He initiated his address with this paragraph lauding the successful results of the Removal:

I congratulate you upon the successful removal of the Cherokees from the State; that you will no longer be harassed in your legislative proceedings by the perplexing relations which have hitherto existed between them, the United States, and Georgia; that our citizens are at last in the quiet possession of all their lands; and the State the undisputed sovereign within her own territory [Gilmer 1838].

Many others would have a different view of the Removal and its results. Writing in 1844, William Tecumseh Sherman believed that “if ever a curse could fall upon a people or nation for pure and unalloyed villainy towards a part of God’s creatures, we deserve it for not protecting the Cherokees that lately lived and hunted in peace and plenty through the hills and valleys” [Skelton 1992:315].

**HISTORICAL CHEROKEE ARCHAEOLOGY**

One of the major challenges facing archaeologists studying the Removal is the underdeveloped knowledge of historical Cherokee archaeology. There seems to be less archaeological data available on historic Indian groups than for the proto- and prehistoric periods. This is supported by Smith’s statement that “so little is known about the historic period Indians of northern Georgia, virtually every site can be considered a significant cultural resource” (Smith 1992:84). In her synthesis of archaeology in the Southeast, Bense discusses historic Cherokee archaeology in only one lengthy paragraph comprising less than a page of text (Bense 1994:317-319).

Historical Cherokee archaeology has been a victim of what Lightfoot has referred to as a segregation within the field of archaeology. He cites the two schools of archaeological thought and study in the United States as a problem when studying multiethnic occupations. Traditionally, archaeologists trained as historical archaeologists focused on sites with European architectural remains and artifacts, while archaeologists trained as prehistoric archaeologists worked on prehistoric and protohistoric sites. Lightfoot observed that “the archaeology of pluralism is very much in its infancy” (Lightfoot 1995: 201).

The Cherokee quickly adopted many aspects of European American material culture. When James Needham and Gabriel Arthur, traders from Virginia, traveled in the Tennessee Valley in 1674 they noted that Cherokee were already in possession of many European made objects including about 60 non-English guns and various pots and brass kettles (Smith 1987). By the time of the Removal, the Cherokee had created a society that in many respects closely resembled that of the European Americans in the South. The Cherokee had grist-mills, slave plantations, ferries, roads, and taverns. They had adopted a constitution and a form of government based on the United States, and even had a newspaper that printed articles in the Cherokee language.

By the 1830s, many Cherokee had adopted so many aspects of American society that there is probably little in their material culture or habitations to distinguish a Cherokee homestead from a European American house or an African-American slave cabin. Also, after the forced Removal, whites often moved into abandoned Cherokee homesteads, further confounding interpretation of the archaeological record (Smith 1992). By the time of the Removal, Cherokee settlement patterns also were changing, mimicking those of the more dispersed whites (Pillsbury 1983). Unfortunately,
as a result it is likely that many early nineteenth-century Cherokee sites are not recognized as such by archaeologists (Smith 1992).

In the past, archaeologists studying early nineteenth-century Cherokee sites have concentrated on the Cherokee towns or the dwellings of the Cherokee elite, such as the Chieftains, Major Ridge's home in Rome (Garrow 1974), the Vann House in Spring Place (de Baillou 1957), or the town of New Echota (de Baillou 1955). These sites are not indicative of the typical Cherokee experience in the early nineteenth century, and much of the information gathered at these sites would not be applicable to the average resident of the Cherokee Nation before the Removal.

Archaeologist Brett Riggs (1999) has focused many archaeological investigations on nineteenth-century Cherokee residences in North Carolina. Recovered assemblages show that more traditional households retained more traditional technologies and possessed fewer store bought goods. The assemblages also showed that there is often nothing to distinguish an American house site from a westernized-Cherokee house site, other than a few sherds of vessels used in making hominy and a higher ratio wild game faunal remains (Schroedl 2000). Archaeologists working at the presumed house site of the Cherokee Chief Justice John Martin in Murray County based all of their interpretations on typical Upland South habitations because it was felt that by the 1820s and 1830s there would have been little or no difference between the material culture of a Cherokee like Martin and that of a white plantation owner (Fields and Smith 1995).

Another challenge to studying Cherokee material culture at the time of Removal is that archaeologists tend to lump these Cherokee into one group: the historic period Cherokee (Hally 1986). The historic period can be as long as 300 years depending on interpretation. Cherokee material culture was not static during these years and changed exponentially in the years just prior to the Removal.

Much of what is known about historic period Cherokee material culture has been gathered by ethnohistorical methods. Viewing historic records and contemporary narratives can provide important details of Cherokee material culture in the early nineteenth century. Thomas Nutall gave this description of Cherokee homesteads, while traveling through the Arkansas countryside in 1819:

Both banks of the river, as we proceeded, were lined with the houses and farms of the Cherokees, and though their dress was a mixture of indigenous and European taste, yet in their houses, which were decently furnished, and in their farms, which were well fenced and stocked with cattle, we perceive a happy approach towards civilization. Their numerous families, also, well fed and clothed, argue a propitious progress in their population. Their superior industry, either as hunters or farmers, proves the value of property among them, and they are no longer strangers to avarice, and the distinctions created by wealth; some of them are possessed of property to the amount of many thousands of dollars, have houses handsomely and conveniently furnished, and their tables spread with our dainties and luxuries [Halliburton 1977:41].

If these houses and farms were excavated today without the aid of historic documentation, the artifact assemblage would quite possibly be interpreted as something other than the remains of Cherokee settlers. Unfortunately this problem is transmitted to archaeological studies of any aspect of the Cherokee Removal when trying to attribute artifacts to a specific ethnic group.

**REMOVAL FORT ARCHAEOLOGY**

This research reviewed the records of archaeological investigations conducted on removal forts, internment camps, and other associated military posts in the four states where the Cherokee Removal began. Although this body of work is still in its nascent stages, it is ongoing and continues to provide invaluable information to guide future work at removal fort sites. The Trail of Tears was designated a National Historic Trail in 1987 and interest in documenting and memorializing the Trail of Tears has increased since this federal recog-
nition. Most of the research, especially the archaeological investigation, has been carried out within the last decade.

Tennessee

The State of Tennessee has investigated and catalogued sites associated with the Trail of Tears within its borders. The main focus of Tennessee’s research was retracing and mapping the various routes used by the emigrating Cherokee. Research also included gathering information on Removal sites in the state, including forts and internment areas. These sites had previously been recorded with archaeological site numbers assigned, which are included in the subsequent discussion. There is no record of any artifacts having been collected at these sites or of any archaeological testing having been conducted. These locations were designated based upon archival and cartographic records, primarily from the 1838 Keye’s map, which shows posts across the Cherokee Nation (Figure 2), and the 1838 Prince map, which details the Army and Cherokee camps around Fort Cass (Nance 2001; Prince 1838).

Most of the Removal sites in Tennessee are associated with the Cherokee Agency. “The ‘Agency area’ in which most of the Cherokee were concentrated is actually a four mile by twelve mile area stretching from the Cherokee Agency and Fort Cass, which were located on the Hiwassee River at present day Charleston, southward to Cleveland” (Nance 2001:23). The Cherokee Agency site is designated 40BY36 and is located on the south bank of the Hiwassee River. This site served as the location of the fourth Cherokee Agency, which was occupied from sometime between 1817 and 1821 until 1838 (Nance 2001). The site of Fort Cass (40BY44) is recorded in a location on the south bank of the Hiwassee River immediately east of the Cherokee Agency. Fort Cass served as the headquarters for General Winfield Scott during operations. Several sites in the “Agency area” are situated around Rattlesnake Spring, which is described in the site survey record as an “assembly point and campground for Cherokee awaiting removal during the summer of 1838.” These sites around

Rattlesnake Spring include Fort Foster and Camp Worth, the site of the Fourth Infantry Regiment’s encampment. Located less than a mile southeast of Rattlesnake Spring is Camp Munroe, also known as Camp Konrad, which was the Fourth Artillery Regiment’s encampment site. Situated about 12 miles southwest of Charleston is the site of an internment camp in Cleveland, Tennessee.

The only standing portion of a Cherokee Removal fort is a blockhouse located in Benton, Tennessee. This blockhouse was part of Fort Marr, also known as Fort Morrow during the Removal. This, however, is not the fort’s original location. Fort Marr was built about a mile south of Old Fort, Tennessee as early as 1805 or 1806. Fort Morrow was also built there for the Cherokee Removal, and possibly incorporated portions of the older fort (Nance 2001).

Another Removal site in Tennessee is the Red Clay Council Grounds located on the Georgia-Tennessee border. The Cherokee government moved here when it was forced out of Georgia in 1832. According to the site survey record for 40BY20 (on file at the Division of Archaeology, Tennessee Department of Environment and Conservation [TDEC], Nashville), a body of United States troops encamped here (Cantonment Wool) in order to monitor the Cherokee Council. The exact site of the Army camp has not been confirmed. Two other sites (40HA119 and 40HA120) associated with the Removal are located on the south bank of the Tennessee River near Chattanooga. Site 40HA119 is simply described as “Camp Ross” and 40HA120 is described as an “internment center for Cherokee awaiting Removal in 1836-1838” (site forms on file at the TDEC, Nashville).

Alabama

Cherokee Removal sites in Alabama have probably received the least amount of attention among the four states that contained the final boundaries of the Cherokee Nation. Two of the three Removal fort sites in Alabama have been destroyed. The site of Fort Payne is now occupied by an office building in downtown Fort Payne, Alabama, and the site of Fort Lovell is believed to have
been flooded by the formation of Lake Weiss in Cedar Bluff, Alabama (Thomason and Parker 2003).

The remaining removal fort site in Alabama, Fort Likens, has been identified in Cherokee County, Alabama, by John Lieb. Lieb used historic documentation and government survey records to verify the location of the fort in Broomtown Valley. The fort site has not been excavated, but a cursory surface inspection recovered whiteware fragments and a rosehead iron spike (John Lieb, personal communication, 2005).

North Carolina

North Carolina recently conducted a study which examined "archival evidence, remnant landscapes, and archaeological evidence to document 26 sites associated with the 1838 Cherokee Removal from southwestern North Carolina" (Riggs and Greene 2005:2). Six of these sites investigated are removal fort sites (Fort Butler, Fort Delaney, Fort Hembree, Fort Montgomery, Fort Lindsay, and Camp Scott). During this study an archaeological reconnaissance was conducted at each potential fort site. Because of survey maps produced by the United States Army Corps of Topographical Engineers in 1837 and 1838, North Carolina has more precise geographic documentation of Removal sites than Georgia, Alabama, and Tennessee. Therefore, potential fort sites can be identified with more confidence.

The archaeological reconnaissance of the North Carolina fort sites examined areas of exposed soil for Removal period artifacts. When possible, shovel tests were conducted in areas covered with vegetation. Metal detecting was sometimes conducted in an attempt to identify artifact concentrations. No diagnostic artifacts or artifact concentrations were identified during these investigations.

Archaeological reconnaissance was conducted at the Fort Montgomery and Fort Delaney sites, but no Removal period artifacts were identified. Archaeological reconnaissance at the Fort Butler site identified only one Removal period artifact: a small hand painted whiteware sherd. Shovel testing at the Fort Hembree site recovered Removal period artifacts including glass and stoneware fragments and a cut nail. However, no artifact concentrations were identified. The Fort Lindsay site is eroded and deflated due to fluctuating levels of the Fontana Reservoir. No Removal period artifacts were identified during reconnaissance of this site. However, there is a gravestone approximately 200 meters east-southeast of the Fort Lindsay site. This gravestone is for Private William Constant, who was a soldier stationed at Fort Lindsay in 1838. One other fort site, Camp Scott, is believed to be under Nantahala Lake (Riggs and Greene 2005).

Georgia

As part of a study of the Trail of Tears, the State of Georgia has conducted cursory archaeological assessments of the probable or traditional fort sites within the state. These assessments included recording the coordinates of a potential site using a global positioning system, visually inspecting the site, and appraising the potential for intact archaeological deposits. As part of this research, Hill (2005) has produced a document which synthesizes extensive historical data about the Georgia removal forts.

Very few excavations or subsurface archaeological investigations have been conducted at any of Georgia's removal fort sites, and at the outset of this research all of the sites remained unconfirmed. The only excavations that reportedly yielded diagnostic artifacts from a removal fort were conducted by Marion Hemperley, the former Surveyor-General of the state of Georgia. A copy of a letter that describes his investigations at Fort Campbell (referred to as Camp Gilmer in the letter), is in the Fort Campbell folder in the John Goff File at the Georgia State Archives, Atlanta. In February 1970, Hemperley took a group of people on a "joint expedition" which visited several historical sites in Cherokee and Forsyth Counties, Georgia. The following paragraph briefly describes the goals and results of the investigations:

The primary object of the trip was to locate and explore the site of Camp Gilmer, Forsyth County, a stockade fort erected during the
The location of the artifacts is unknown.

There are ongoing efforts to identify the location of Fort Wool at New Echota in Gordon County. In 1994, an intensive Phase I archaeological survey was conducted in a 36 acre field 250 m south of the Worcester House, adjacent to park property (Larson 1994). Approximately 250 shovel tests and metal detector tests were excavated; 78 yielded cultural materials. A potential subsurface feature was identified and a variety of artifacts were recovered, including nails, bottle glass, and horseshoe fragments, that indicated nineteenth-century activity. However, no artifacts were recovered that conclusively point toward a removal fort (Larson 1994).

In 2004, a geophysical survey was conducted in the same field as the 1994 investigations. This newer research investigated a larger area and employed magnetic gradient, electrical resistance, electromagnetic, and ground penetrating radar survey methods. A variety of anomalies were identified, but these also could not be conclusively attributed to a removal fort (Haley and Johnson 2004).

The most recent archaeological investigations of potential removal fort sites in Georgia were conducted by the University of Mississippi during the summer of 2005 while conducting a study of the historic route of the Federal Road through northern Georgia. During this study the potential sites of Forts Campbell, Newnan, and Gilmer were surveyed. The survey methodology consisted of shovel testing on a 30 meter grid and metal detecting at the Fort Campbell and Fort Gilmer study areas. Only metal detecting was conducted at the Fort Newnan study area. “Ten percent of metal detector hits were dug to confirm accuracy of metal detection and to obtain an artifact sample” (Reynolds et al. 2006:55). The three sites were heavily disturbed and were covered with modern debris. After intensive survey, only modern artifacts and materials were recovered, and the study was not able to confirm the locations of the three forts investigated.

Thus far, the results of archaeological investigations at potential Cherokee Removal sites have been relatively disappointing. As interest in the subject grows and more research, both historical and archaeological, is conducted hopefully there will be future success in conclusively identifying removal fort sites.

**Georgia's Removal Fort System**

Georgia constructed the most extensive system of forts during the Removal. Of the 29 forts used during the Removal, 14 were in the state of Georgia (Figure 4). At this time there is only one historical document known that shows the locations of forts in Georgia. This is Lt. Erasmus Keyes' map (1838) of the posts in the Cherokee Nation (Figure 2). It is a very small-scale map and only general locations for the forts can be determined.

There are more detailed maps of forts in Tennessee and North Carolina. However, due to the minimal presence of federal forces during the Removal efforts in Georgia, the records are not as extensive. No large-scale maps of a Removal fort in Georgia have been identified.

Most historical works only list some of the forts in Georgia. Mooney only listed five in his seminal works *Myths of the Cherokee and Sacred Formulas of the Cherokee* ([1891] 1982). These five forts Mooney listed are “Fort Scudder, on Frogtown Creek, north of Dahlonega, in Lumpkin county; Fort Gilmer, near Ellijay, in Gilmer county; Fort Coosawatee, in Murray county; Fort Talking-rock, near Jasper, in Pickens county; Fort Buffington, near
Figure 4. Map showing Removal forts in Georgia. Potential fort sites investigated archaeologically during this research shown in grey and larger font.
Canton, in Cherokee county [sic]" (Mooney [1891] 1982:221). It is unclear why he only listed these five, or whether these were the only forts in Georgia that he was aware of. Until recently only the book, Cherokee Planters in Georgia: 1832-1838, listed all 14 known forts by name and county (Shadbum 1990). Hill's recent work (2005) lists all the known forts in Georgia and provides extensive documentary material on each post.

Much is assumed about the structure of Georgia's removal forts, but little has been confirmed. The only known description of one of Georgia's removal forts encountered during this research was not a first hand account. This description appeared in a Walker County newspaper in 1915, describing Fort Cumming near LaFayette:

The stockade was a large enclosure of upright logs; the trenches where the logs were placed can still be plainly seen. There was a rifle tower in each corner after the manner of frontier forts, port holes were formed by sawing flared notches in the logs before they were put in the building. On the inside of the tower the port holes were eight or ten inches across, thus allowing room for changing the course of the rifle fire [Stiles 1915].

The forts might have varied some in size, design, and overall construction, but they probably all followed the same basic plan. The officers were probably given basic specifications for the construction of a fort and it was up to them to build it. The militia troops would have had little experience building fortifications, unless they had seen active service in the Creek War of 1836 or the ongoing Seminole War. The main purpose of the forts was to act as an arsenal and rallying point in the case of a Cherokee uprising. Viewing the location of the forts in relationship to Cherokee population indicates that not all the forts were initially intended as consolidation points (Figure 5). The fort at Dahlonega was built when the military was trying to police the gold fields in Georgia before the Removal, so its construction and location were not dictated by the needs of the Removal.

Because of the lack of documentation discussed above, any description of conditions within the Removal forts in Georgia has to rely largely on speculation. There is little documentary evidence for any aspect of the Georgia forts other than their relative location, commanding office, and units assigned. There seems to have been little impetus on the part of the Georgia government to record conditions at the forts, but this may be because of the short time the Cherokee spent at Georgia's forts. Most of what is known about the conditions within the forts is gleaned from the documentation from the emigrating depots, none of which were in Georgia.

INVESTIGATIONS AT THREE POTENTIAL FORT SITES

Three potential removal fort sites were investigated using archaeological techniques during this research. These potential fort sites are associated with Fort Cumming in Walker County, Fort Hetzel in Gilmer County, and Fort Hoskins in Murray County. These three forts, with the exception of Chastain's located at the junction of Georgia, North Carolina, and Tennessee, were the three northernmost posts in Georgia.

This project utilized metal detectors in an attempt to identify artifact concentrations and to recover functionally or chronologically diagnostic artifacts. Recovery of such artifacts could confirm the location of some of Georgia's removal forts. Metal artifacts such as musket balls, uniform buttons, military equipment, and structural remains from the forts are considered the most definitive archaeological markers of fort locations (Olsen 1965).

Targeting the recovery of metal artifacts was anticipated to be the least intrusive excavation method because using metal detectors ensures that no truly "negative" shovel tests are dug. Shovel testing on a grid is a proven method of identifying and delineating most archaeological sites. However, it is believed that shovel testing on an arbitrary grid will probably not identify sites such as a removal fort because they were occupied for a rela-
Figure 5. Map showing the spatial relationship of Georgia's Removal forts with Cherokee population (each dot represents five persons) (adapted from Wilms 1991:Figure 6).
tively short time and are likely to consist only of light artifact scatters, possibly with some subsurface features. Metal detector surveys are often better at delineating light artifact scatters or identifying individual artifacts (Smith 1994). For example, during investigations of the Custer Battlefield in Montana, a hypothesized grid of shovel tests spaced at 5 and 10 m intervals was applied to the artifact map. This overlay demonstrated that less than 1 percent of the metal artifacts identified with metal detectors would have been located using traditional shovel testing strategies (Connor and Scott 1995).

Survey methods for investigations at the potential Cherokee Removal fort sites were modeled on metal detector surveys conducted at the Mexican War battlefield of Palo Alto in Texas (Haecker and Mauck 1997). The widely-spaced reconnaissance transects at Palo Alto were metal detected primarily to find artifact concentrations. This resulted in coverage of about 5 percent.

Most metal detector based projects focus on recovering only metal artifacts. However, during metal detector surveys of potential removal fort sites, when positive signals were encountered, a traditional shovel test was excavated and all of the soil removed was screened. Shovel tests measured approximately 30 by 30 cm and ranged in depth from 30 to 60 cm, depending on conditions. All shovel tests were excavated into sterile subsoils.

By conducting a survey based on the Palo Alto model, with an anticipated coverage of approximately 25 percent, this project expected to verify fort locations through the presence of diagnostic military or structural artifacts. The artifacts recovered would then be used to form the basis of an archaeological signature for this type of site. Once confirmed, these sites could be better protected and then more extensive, systematic investigations could be conducted in the future.

Fort Hoskins
The Fort Hoskins study area is located south of the town of Spring Place, in Murray County. Research conducted by county historian Tim Howard (personal communication, 2001) pointed to the project study area as the likely site of Fort Hoskins. This site possesses natural advantages making it a desirable fort location. It is located between two roads that date to before the Removal and it is near the town of Spring Place, which existed during the Removal. It is also a level area located along a perennial stream. Furthermore, it was felt that if this area had been impacted only by agricultural activities, as was believed, then there was a relatively high potential for the identification of subsurface features and the recovery of diagnostic artifacts.

According to the landowner (Randall Richards, personal communication, 2001), the land had previously been a livestock pasture and before that had been used to grow crops. There was no recollection of any buildings on the parcel, nor is there evidence of any structures on this parcel on historic maps or early aerial photography of the area.

The metal detector survey conducted at the Fort Hoskins site consisted of widely spaced transects with a goal of approximately 25 percent coverage. We initially planned to flag and excavate all positive signals, but the large number of modern metal artifacts spread across the site made this unfeasible. These modern artifacts consisted of nails and fencing wire and staples. The survey strategy was altered to use the discrimination capabilities of the metal detectors to isolate and excavate only those positive signals that were from non-ferrous metals. However, we excavated all strong iron signals because they were typically produced by large nails. Because all positive signals were not excavated, it is impossible to accurately estimate the amount of coverage achieved within the area metal detected.

Thirty-three shovel tests were excavated at the Fort Hoskins study area. A small collection of nineteenth-century artifacts was recovered. This assemblage consisted of six cut iron nails of varying length, the head of what appears to be an iron spike, an unidentified piece of iron, two kettle/pot fragments, part of a barrel band, and what appears to be an iron utensil or tool handle (Figure 6). No artifacts were recovered below the plowzone, no features were identified, and no military artifacts were recovered.
Fort Hetzel

According to the local histories of Gilmer County, Fort Hetzel was located in East Ellijay east of the Cartecay River (Stanley 1977; Gilmer County Heritage Book Committee 1999). With only very general geographic information to go on, this area was investigated because it is adjacent to a (private) historical marker for Fort Hetzel. The study area is situated on a hill above the Cartecay River and appears to be a good location for a fort or encampment. Although this area has been heavily impacted by grading and older maps show structures in this area, it appeared to be the most promising area to investigate in the immediate vicinity. It is also one of the only areas free of standing structures in East Ellijay near the historical marker or the Cartecay River and access was granted to do research.

Fifteen shovel tests were excavated at the Fort Hetzel study area before it was decided that further testing had little potential of yielding diagnostic artifacts. These tests yielded artifacts associated with the modern houses that were previously located there. Artifacts recovered included white ware, modern clear glass, modern nails, marbles, and coins. Several railroad spikes were also recovered. The only artifacts that can possibly be attributed to the Removal period are three pieces of barrel bands found on the surface. They are very similar to barrel bands found at the Fort Hoskins study area. Unfortunately barrel bands are not very diagnostic and display little variance in form.

Figure 6. Removal era artifacts recovered from the Fort Hoskins study area: kettle/pot fragments (a and b); barrel band fragment (c); large nail (d); unidentified iron utensils (e and f); an assortment of nails and spikes (g-l).
Fort Cumming

The Fort Cumming study area is located in Lafayette in Walker County. The study area is located within the Lafayette Water Treatment Facility. This area was investigated because local history places Fort Cumming near Big Spring, which is now part of the water treatment facility (Sartain 1972). It seems more likely from a defensive perspective that the fort would have been located on a hill above Big Spring. However, these areas have been developed and it is believed that the area around the spring would have been an area of high activity for the Cherokee interned at Fort Cumming. This is also the site of the Fort Cumming historical marker (Figure 7).

As discussed above, Fort Cumming is the only removal fort in Georgia with which we have a physical description, although this information was not firsthand knowledge. Reportedly, depressions where the fort walls had been were still visible in 1915 (Stiles 1915), but none were observed during this research.

This location has been the site of Lafayette’s water treatment facility for decades. Before this it was a popular recreation and picnicking area. Therefore, the potential for metal debris deposited after the Removal was high. Disturbances to this site include the construction of buildings, parking lots, and drive ways. Also, the majority of the facility appears to have been graded, and the stream running through the water treatment facility is fairly straight and has probably been channelized.

Seventeen shovel tests were excavated within the water treatment facility’s property. Tra-
ditional transects were not followed; investigations focused on two small areas that appeared to be the least impacted.

A variety of modern artifacts were identified during shovel testing. These included items that were probably associated with the water treatment facility, such as heavy copper wire and pieces of machinery. Other artifacts found in the shovel tests can be attributed to picnickers, included glass marbles and modern bottle glass in a variety of colors. Also, railroad spikes from the nearby railroad were found. No artifacts that could be attributed to the Removal period were recovered.

CONCLUSIONS

Three potential Cherokee Removal fort sites were investigated during this research. No diagnostic artifacts were recovered and no documentation of precise fort locations was identified during archival research. Although it is believed that the artifacts recovered from the Fort Hoskins study area are associated with the removal fort, none of these three study areas can definitely be confirmed as a removal fort site.

The Fort Cumming and Fort Hetzel study areas have been heavily impacted by modern developments. No Removal-era artifacts were recovered from the Fort Cumming study area. The only artifacts recovered from the Fort Hetzel study area that could be classified as Removal-era artifacts are three pieces of a barrel band found on the surface. If the Fort Hetzel study area is the location of the fort, it retains little archaeological integrity or research potential. The Fort Cumming study area, within the water treatment facility, also retains little archaeological integrity.

The Fort Hoskins study area has the most potential for further research. Although all shovel tests were screened, no ceramics, glass, brick, or any other artifacts that might indicate a domestic structure such as a house were found. No associated agricultural implements or tools were recovered that might indicate that the artifacts found are the remains of a barn. Inspection of historic aerial photographs of the study area indicates that there have been no structures in the study area since at least the late 1930s. The landowner also stated that he was unaware of any previous structures within the study area.

Three main broad categories of artifacts might be indicative of a fort site: architectural remains, uniquely military artifacts, and remains of the military supply system. Although no military artifacts were recovered from the Fort Hoskins study area, architectural artifacts and artifacts that could be attributed to communal meals were recovered.

Architectural remains from a fort site might be expected to consist of a larger ratio of heavy duty hardware than might a house or barn. Six nails of various sizes and at least one spike were recovered from the Fort Hoskins study area. Although these types of artifacts would be expected from a removal fort site, this number seems sparse even for a metal detector guided reconnaissance. It is possible that the fort timbers might have been recycled. If this is the case, then the iron hardware such as nails and spikes could have been collected as well. Another explanation is that the forts' builders might have relied more on pegs than nails. This also may be likely given the relatively remote locations of the forts in the Cherokee Nation.

Nails are not always a reliable diagnostic tool and are typically used to supplement chronological data recovered from other types of artifacts. However, there has been some recent progress in developing nail chronologies, most notably the Louisiana Nail Chronology (Wells 1998). When using the Louisiana Nail Chronology it was found that the Fort Hoskins study area nails possessed features (i.e., iron, cut, machine manufactured heads, flat points, side pinched, and tapered on two sides) consistent with types of nails from the first half of the nineteenth century.

The two kettle/pot fragments and a piece of a barrel band or barrel hoop recovered from the Fort Hoskins study area could be interpreted as the remains of military supply-based diets and communal living. Most cooking would have been done among the Cherokee by families and among the soldiers by messmates using camp kettles or pots. At a fort site most food stuffs would have been brought in through the military supply system.
Soldiers and possibly some of the wealthier Cherokees would have supplemented their diet with local agricultural products, but the bulk of their diet would have been brought in by wagon. No faunal remains were recovered, but bone may not be as plentiful as expected if only pre-butchered salted or smoked beef or bacon was being consumed. Records show that Cherokee rations consisted largely of beef rations and flour and corn (Davis 1979). These types of rations leave little trace that could be recovered through survey methods especially when the meat is not “on the hoof”, which there is no indication that it was. Supplies bound for Army operations in Florida in 1838, which would have been similar to those sent to the Army of the Cherokee Nation, consisted of perishable foodstuffs that are not usually identifiable in archaeological sites. These foodstuffs included barrels of flour, hard bread, bacon, vinegar, and potatoes (Risch 1989). Only the barrel hardware would survive in the ground for over a century and a half.

If this is indeed the site of Fort Hoskins, then there is a noticeable absence of military artifacts. Including the short occupation of these fort sites, there are several plausible explanations. This fort was maintained by the Georgia Guard, so other than their weapons and ammunition there might have been few if any typical military articles. The soldiers might have been encamped somewhere else, possibly closer to town or a better water source, and other than the occasional item lost or dropped during guard duty no military artifacts are likely to be found. Another explanation specific to the Fort Hoskins study area is that it is located across the road from a Civil War skirmish site (Murray County Historical Committee 1987). According to local residents the site has been dug by militaria collectors armed with metal detectors; therefore it is conceivable that they could have encroached on the other side of the road keeping military artifacts and discarding nails and iron fragments.

It might be expected that survey excavations at a site that was the scene of hundreds of people encamped, even for a short time, would yield a greater quantity and variety of artifacts. However, research into metal detecting of military sites indicates that many times artifact scatters can be very light even in areas of high activity. An example of how light an artifact scatter can be is the metal detector based investigation of Brawner’s Farm Battlefield, part of the struggle that would become known as Second Manassas (Potter et al. 2000). This investigation included a metal detector survey of a parcel of land approximately one acre in size. The survey achieved 100 percent coverage, but only about 100 Civil War artifacts were recovered. In another example, during metal detector surveys aimed at 25 percent coverage of portions of Antietam Battlefield, artifact recovery was as low as two Civil War artifacts per acre (Sterling and Slaughter 2000).

Given the military nature of the removal forts it is possible that there was active policing of the cantonment areas for refuse and other debris. However, research conducted at the Civil War site, Fort C.F. Smith, indicates that policing of Army encampments became more prominent during the Civil War, when there was a greater emphasis on camp discipline and camp maintenance. Very few Civil War artifacts were recovered during metal detector surveys; however, pre-Civil War artifacts were very common. Camp maintenance at removal forts might affect the amount of artifacts recovered, but this is considered unlikely because there was less focus on camp maintenance in the 1830s than in the Civil War (Balicki 2000). Furthermore, it is unlikely that the Georgia Guard, which had the greatest presence at these forts, would have stringently maintained the cantonment areas.

The paucity of Removal period artifacts at potential removal fort sites could also be due to the nature of the Removal. According to historic documentation, the Cherokee were typically removed with such swiftness that they only took what they could quickly grab. If this is the case, then the scarcity of artifacts in the archaeological record could be viewed as substantiating the historical accounts of a quick and hurried Removal.

Unfortunately the goals of this project were not fully realized. It is believed that the artifacts recovered from the Fort Hoskins study are associated with the removal fort. However, no diagnos-
tic artifacts were recovered during this research to conclusively confirm the location of any removal fort. Because so few artifacts were recovered, no true assemblages were constructed. However, the number and type of artifacts recovered was not wholly surprising and may reveal the future challenges of removal fort research.

The results of these investigations, both archaeological and historical, indicate that these sites have the potential to be large but sparse artifact scatters. However, artifact densities may not be consistent across the site and may consist of a variety of smaller artifact scatters representing various activities and structures. The forts may have had stockades, palisades, ammunition bunkers, supply depots, and barracks or tent rows. The variety of functions associated with the forts may result in various activity areas in the cantonment area and surrounding it. These activity sites could include latrines, horse paddocks, blacksmith areas, Cherokee encampments, and possibly cemeteries.

Other technologies, such as ground penetrating radar, should be considered in future investigations. Because artifact scatters at the fort sites may be so light, features such as builder’s trenches, fire pits, latrines, or even burials may be some of the best archaeological evidence of the removal forts.

Although most of the sites have been impacted by modern development, there is still opportunity for further research at Georgia’s removal fort sites and much potential for the recovery of important data. However, this potential is fading quickly due to development across North Georgia. With Atlanta’s ever-increasing sprawl, the necessity of conducting archaeological research at removal sites such as the forts has increased in recent decades, exponentially in recent years. In the years 1992 through 1997, Georgia ranked second in annual rate of land development (Smith and Harris 2001). Twenty-five of the 100 fastest growing counties in the U.S. from 2000 to 2002 are in Georgia, with 17 of those being in the Atlanta metropolitan area (Kowalewski 2005). The main growth corridors have been and will probably continue to be situated north of Atlanta stretching into the project area. However, Atlanta is not the only city in Georgia that is expanding. Moderately sized cities are also growing. Rural areas across Georgia, far from population centers, are also experiencing unprecedented growth. The fort sites, even ones more remote from urban areas, are not safe from destruction as Atlanta stimulates development in the surrounding communities.

Although it is difficult to rank archaeological sites in importance, the small number of these sites amplifies their significance. There are thousands of prehistoric sites, as well as thousands of historical African and European American sites yet to be investigated. There were barely more than a dozen removal fort sites in Georgia, potentially the only sources of unique information from one of the most controversial and important events in America’s cultural history. Because of this scarcity and increasing development across North Georgia, these sites deserve added attention from archaeologists.

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Reviewed by Benjamin A. Steere, University of Georgia

Architectural Variability in the Southeast provides a welcome addition to studies of prehistoric domestic architecture in the region. Archaeologists interested in Mississippian houses in Georgia, Alabama, Tennessee, and southern Illinois will find the book especially useful. The authors use ethnohistory, ethnography, multivariate analysis, architectural grammar, experimental archaeology, wood science, and structural engineering to examine how Mississippian houses vary across space and time in the region.

In the first chapter, Cameron Lacquement establishes a unifying framework for the papers. Each chapter takes the house as the unit of analysis, and the authors address either the above-ground appearance of prehistoric architecture or develop typologies of houses at varying spatial and temporal scales. Papers in the first camp tackle the Early Mississippian wall trench house debate: did these structures have curved, flexed roofs or rigid, gabled or hipped roofs?

In Chapter 2 Nelson Reed examines evidence for curved roof construction in Mississippian structures using archaeological and ethnohistoric data, ethnographic analogy, and results from the construction of an experimental wall trench structure at Cahokia in 1964. He argues that wall trench houses most commonly had curved roofs, especially when interior support posts were not used.

In the third chapter, Dennis Blanton and Thomas Gresham present the results of a two-part experimental project at Etowah. In the first phase, Blanton supervised the reconstruction of a Mississippian small pole structure. The house was burned a year after it was built. This phase of the project indicated that daubing is highly problematic and requires a great deal of maintenance on curved structures, but that curved roofs had structural and construction benefits over rigid roofs. Ten years later, Gresham and a different team of volunteers excavated the house and discovered that wall trenches and roof coverings may not always be archaeologically visible.

In Chapter 4 Lacquement compares 73 Early to Late Mississippian houses from six sites in west-central Alabama. He uses multivariate statistical techniques to compare architectural features of the houses and develops a five-part typology for domestic structures in the region. Lacquement finds significant differences in post size and spacing between “small pole” and “large pole” buildings, a general shift from flexed pole to rigid pole struc-
tures over time, and an increase in the size of houses in the region over time. Lacquement’s study is laudable for its scope and quantitative rigor, but his sampling decisions may obscure some of the variation he is trying to explain.

In the fifth chapter Tamira Brennan examines in-ground evidence of above-ground architecture from 27 houses at the Kincaid Mound in southern Illinois, and suggests that wall trench houses there had gabled or hipped roofs. She argues from an architectural and engineering standpoint that interior support posts are not necessary to support a heavy hipped or gabled roof, and presents archaeological evidence for this roof type at Kincaid. Her point is well-argued, but some inconsistencies in the original data collection, especially with regard to post size, weaken her claims.

In Chapter 6 Mark McConaughy revisits a paper delivered in 1985. He compares 39 burned houses from Illinois, and based on the frequency of straight burned poles and cross beams, argues that Mississippian wall trench houses commonly had hipped roofs. He also presents evidence of alternate house types, such as a cross-shaped house and two possible “wigwams” (structures with curved sides and straight ends) in the study area. In a 2006 addendum to his original work, he stands by his original conclusions, but concedes there is mounting evidence for flexed-pole construction during the Mississippian period in Illinois.

In Chapter 7, Lynne Sullivan revisits evidence of flexed pole construction from WPA-era excavations in eastern Tennessee. She provides a detailed description of a 1939 house reconstruction project at the Thompson Village site coordinated by George A. Lidberg. This paper is mainly historical, and sheds light on how and why the flexed-pole form gained traction in early archaeological interpretations of Mississippian architecture.

In the eighth chapter of the book, Ramie Gougeon uses the architectural concept of “pattern language” to develop an architectural grammar for Late Mississippian houses in Northwest Georgia. Using archaeological data, Gougeon develops a typology of common architectural features and patterns that should be found at multiple spatial scales. This particular typology is useful for Northwest Georgia, and Gougeon’s suggestion that it be compared to other architectural grammars from different regions and time periods in the Southeast seems promising.

In Chapter 9, Robert Lafferty describes a Mississippian sweat lodge excavated at the East site in Poinsett County, Arkansas, providing a useful comparative example for archaeologists interested in this kind of dwelling. Lafferty also offers explanations for the relative paucity of sweat lodges in the archaeological record.

Robert Scott discusses changes in Creek architecture at the turn of the nineteenth century in Chapter 10. Based on historic records, he hypothesizes that Creek Indians in core communities may have been able to resist adopting European architecture longer than people in isolated farmsteads. Scott concludes that while archaeological data from Lower Creek communities do not fit this model, they offer insight into how Creek selectively adopted certain aspects of European architecture.

In an insightful concluding chapter, J. Vernon Knight offers avenues for further research. His call for a return to broad-scale comparisons of architecture in the Southeast to improve our understanding of the geography and timing of housing traditions in the region is especially compelling.

This book is an excellent resource for anyone interested in the study of prehistoric houses in the Southeast. The papers are predominantly local in their focus, but some of the methods and models developed by the authors can and should be applied elsewhere. If these papers share one shortcoming, it is that they miss opportunities to explore the cultural processes behind architectural variability. Many of the chapters open with a reference to social and cultural variables that influence the shape and size of houses, but then fail to link differences in house form to the activities, social organization, and ideologies of the people that resided in those houses. This critique aside, the book will give readers a new appreciation for the diversity of domestic architecture in the Mississippian
Southeast and offers useful suggestions for future research.


Reviewed by Maureen Meyers, University of Kentucky

At first glance, Bernard K. Means's Circular Villages of the Monongahela Tradition may seem far removed from Georgia archaeology, but this volume has appeal and relevance to a wide audience. Means investigates the ring-shaped villages which predominated the Allegheny Mountains region of southwestern Pennsylvania during the late prehistoric (here, circa A.D. 900 to contact) period. Means suggests that by studying individual households, archaeologists focus too much on trees without seeing the forest. He suggests instead a focus on the shape of the village. Means hopes to demonstrate that by doing so we can begin to identify patterns in socio-spatial relationships of the entire group who occupied the village.

The book begins with a review of the Late Prehistoric Monongahela Tradition, which is important not only because it is one of the more concise overviews of the region presented in recent history, but also because it presents a new chronology for the Allegheny Mountains villages. As the author states “the reader does not necessarily need a detailed knowledge of the Monongahela tradition to follow the analysis and interpretation of village community patterns and village social organizations presented in this work” (p. 13), and this is true; however, understanding the general cultural framework of the Monongahela allows readers to understand how these data fit into the larger regional context. A revised chronology for the region, using AMS dating of organic remains and ceramics with organic residue from village sites investigated in the 1930s, challenges earlier assumptions about the change in Monongahela culture over time. In particular, the assumption that lime-tempered pottery was replaced by shell-tempered pottery around A.D. 1250 is brought into question. Second, village settlement was adopted in the region later than originally thought, at around A.D. 1100 rather than A.D. 900. Third, abandonment of the region was also later, as late as A.D. 1530 rather than A.D. 1250.

In the theoretically-oriented Chapters 3 and 4, Means differentiates between villages and communities. Following work by Richard Beardsley and colleagues, he recognizes studies of community as those that focus on the human group. The village is the physical manifestation of that community. Further, as Means states, “one can equate a village with a community only if the former is viewed in a very dynamic sense” (p. 33), one that includes a number of social organizations present: houses and households, interaction in nucleated village communities, supra-household decision-making, kinship, and perhaps most interestingly, structural poses. Such poses are the multiple sets of roles and organizational groups that form and dissolve depending on particular contextual needs. These poses leave different signatures within the archaeological record, signatures that do not always correspond with the importance of the activity they represent. Chapter 4 uses wide-ranging ethnographic and theoretical data to build models of village spatial and social organizations. Using ethnographic examples, Means defines different geometric models and settlement layouts; specifically, he discusses diametric, concentric, and circumferential models. These can be interrelated, and need to be applied with reference to one another. Means suggests that a “hub-and-spoke” model be used to incorporate the interrelatedness of these models. This allows researchers to recognize how these three model types operate simultaneously and sequentially.

The following three chapters illustrate the application of these theories. First, Means defines archaeological correlates of each model. Although quite useful, this information would have been easier to understand in a table comparing the different types with their archaeological correlates, so that the reader could better see the differences among the various models. Next, Means discusses the vari-
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