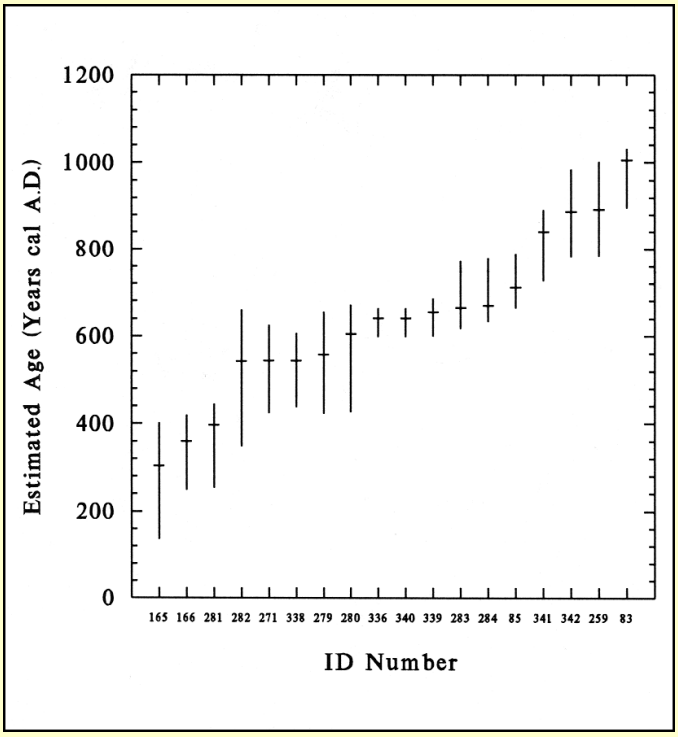
Southern Indian Studies



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Southern Indian Studies

Volume 42 October 1994

The North Carolina Radiocarbon Date Study (Part 1)

by
Jane M. Eastman

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PREFACE

The North Carolina Radiocarbon Date Study was undertaken by Jane Eastman to compile and present in a consistent format information about radiocarbon dates that have been obtained from archaeological contexts within North Carolina, as well as dates from adjacent states that are relevant to understanding North Carolina prehistory. Because of the length of this important archaeological study, it has been published in two parts. Part 1, contained within this volume of *Southern Indian Studies*, discusses the project's methods, results, and implications for chronological interpretation. It also presents summary information about 246 North Carolina radiocarbon dates and 97 other relevant dates from sites in South Carolina, Tennessee, and Virginia that were identified by the study. Part 2, published in volume 43 of *Southern Indian Studies* (1994), contains detailed information on each of these 343 radiocarbon dates. As with any study such as this, it will need to be updated periodically to incorporate newly run dates. Hopefully, these addenda to the present study will be published in this journal.

R. P. Stephen Davis, Jr.

THE NORTH CAROLINA RADIOCARBON DATE STUDY (Part 1)

by
Jane M. Eastman

Abstract

Radiocarbon dates pertinent to North Carolina prehistory have been compiled through correspondence with members of the North Carolina Archaeological Council and archaeological consultants, visits to several research facilities, and a literature review. These dates have been entered in a consistent computer-based format and a form has been designed to facilitate future additions to the database. A total of 343 radiocarbon dates from North Carolina, Virginia, Tennessee, and South Carolina have been compiled. Of these, 246 dates are from North Carolina, 66 are from sites in Virginia, 26 dates are from Tennessee, and five are from South Carolina. Two of the North Carolina dates have no reported contexts and 13 of the assays are modern. Of the successfully-run dates from North Carolina, 193 are associated with diagnostic archaeological materials. Ninety percent, or 174, of these dates are associated with Woodland period or later components. Distributions of dates for several recognized ceramic series are presented and analyzed; in addition, the geographic distribution of radiocarbon dates in North Carolina is examined.

Introduction

The North Carolina Radiocarbon Date Study was funded by a Survey and Planning grant from the U.S. Department of the Interior, through the State Historic Preservation Office, Division of Archives and History, North Carolina Department of Cultural Resources. The Research Laboratories of Anthropology of the University of North Carolina at Chapel Hill contributed to the project by providing access to computers and printers, office space, research assistance, and editorial guidance.

The primary goals of the North Carolina Radiocarbon Date Study were to compile a complete and accurate database of radiocarbon dates pertinent to North Carolina archaeology, and to present the database in a consistent, computer-based format.

This report provides a summary of the project results and an evaluation of the temporal and geographic distributions of North Carolina's radiocarbon dates. As the vast majority of radiocarbon dates have been run on ceramic-bearing components, the age distributions of

several ceramic series will be closely examined. Finally, recommendations are made for future radiocarbon assays.

The Database Structure

The database, summarized below and presented as "The North Carolina Radiocarbon Date Study, Part 2" in *Southern Indian Studies*, volume 43, contains the following information: permanent site number, site name, county, geographic coordinates, sample provenience, sample material, associated cultural material, radiocarbon assay, assay standardized to the Libby half-life (5,568 years), calibrated mean date(s), calibrated one-sigma and two-sigma date ranges, laboratory number, laboratory comment, submitter, affiliated institution, date of submission, published reference, and submitter's comments. Artifact associations, cultural phase, and cultural period designations are reported here as they were provided by the submitter or as they appear in the published literature. Because archaeologists use different conventions for classifying their materials, inconsistencies are present in the database. For example, the convention in Virginia and some North Carolina research laboratories is to assign the Dan River phase to the Late Woodland period, while others assign it to the Late Prehistoric period. For convenience, dates are referenced by their database identification number rather than their laboratory number. Readers should refer to the database to obtain the appropriate laboratory number.

The radiocarbon dates have been calibrated using the *University of Washington Quaternary Isotope Lab, Radiocarbon Calibration Program 1993, Revision 3.0.3c*. All non-marine radiocarbon samples were calibrated using Dataset 1, which is based on bidecadal tree-ring data. All marine samples were calibrated using Dataset 3, which is limited to the radiocarbon age range 460–18,760 ^{14}C yr BP. The radiocarbon assay for one marine sample in the database fell outside this age range and could not be calibrated. The value of the reservoir correction for marine samples was -95 ± 45 as determined by Stuiver and Braziunas (1993) for the central Atlantic coastal region. Most dates in the database were obtained before laboratories routinely corrected for isotope fractionation. Prior to calibration, these radiocarbon dates were corrected for isotope fractionation using an estimated ÿ^{13}C (see Stuiver and Polach 1977). Calibrated ages and ranges have been rounded to the nearest year which may be too precise in many instances. Stuiver and Reimer (1993) advise program users to round calibrated ages and ranges to the nearest ten

years for samples with a standard deviation in the radiocarbon age greater than 50 years. Detailed information about the calibration procedures can be found in Stuiver and Reimer (1993). All dates in this database have been calibrated in a consistent manner and may differ from their previously published value.

Acknowledgments

Mr. Mark A. Mathis, Office of State Archaeology, served as "contract administrator" for the State Historic Preservation Office and assisted in the compilation process. Dr. R. P. Stephen Davis, Jr., of the Research Laboratories of Anthropology, provided assistance and guidance during the project and edited the final report. Dr. Vincas P. Steponaitis, also of the Research Laboratories of Anthropology, provided advice on the contents of the database and assistance with the figures. Kind assistance was provided by several other people during this project. At the Office of State Archaeology, Ms. Almeta Rowland-White and Ms. Dolores Hall helped in identifying permanent site numbers and geographic coordinates for many sites and in locating unpublished reports. Dr. H. Trawick Ward, of the Research Laboratories of Anthropology, also assisted by reviewing documents. Mr. Keith Egloff, of the Virginia Department of Historic Resources in Richmond, helped with the compilation of pertinent radiocarbon dates from sites in Virginia. Ms. Jean Marie McManus, project manager of the G.I.S. Research Program, College of Forestry, North Carolina State University, assisted with the computer mapping. In addition, I would like to recognize the voluntary participation of many professional archaeologists in the state who generously compiled and submitted information to me.

Compilation and Evaluation Methods

The Data Compilation Process

The first step in the compilation process was to notify archaeologists around the state about the North Carolina Radiocarbon Date Study and to ask about any radiocarbon dates they might have run or that might be on file at their place of business or research institution. A letter of introduction and an accompanying questionnaire were sent to members of the North Carolina Archaeological Council (NCAC) and all

consultants and consulting firms that had performed archaeological investigations in North Carolina. A total of 56 questionnaires was mailed. Following the return of this group of questionnaires, five more were sent to other archaeologists outside the state as recommended by the respondents. Among this group were staff members of research institutions in Virginia and South Carolina who have information about radiocarbon dates pertinent to North Carolina.

In addition to this word-of-mouth method, I attempted to locate previously published lists that contained radiocarbon dates from North Carolina. Correspondence with Renee Kra, managing editor of the journal *Radiocarbon* and manager and coordinator of the International Radiocarbon Data Base (IRDB), revealed that neither the journal nor the IRDB had lists indexed by state. Further inquiries were sent to Beta Analytic Inc., Geochron Laboratories, and The University of Georgia Laboratory. None of these laboratories kept indexed listings of the dates they had run.

The only way to double-check the compilation methods was to review each volume of *Radiocarbon*. Unfortunately, the datelists published in this journal are not comprehensive. Taylor (1987:11) estimates that, depending on the region, 25–50 percent of radiocarbon dates are not reported in *Radiocarbon*. Given these conditions the database will undoubtedly be incomplete. However, given its computer-based format, the database can easily be updated as additional information becomes available.

Inquiry Response Success

The response rate to the questionnaire was 78 percent for NCAC members. Thirty questionnaires were returned, six represented duplicate coverage, and eight were not returned. The response rate of archaeological consultants was about the same with 75 percent (9 of 12) returning the questionnaire. Only two of the archaeologists located outside North Carolina responded to the letter of inquiry. The overall response rate for all parties contacted was 66 percent. Of the 40 responses, 14 were negative (i.e., the respondent had no radiocarbon dates to include in the database).

Of the 343 radiocarbon dates currently in the database, 189 were collected as a result of the questionnaire. Dr. R. P. Stephen Davis, Jr., of the Research Laboratories of Anthropology at the University of North Carolina (RLA), had previously compiled a computer database that

contained information on 31 dates acquired by the RLA. This database was used as a model for the present database. The remaining 123 dates in the database were collected by searching published and unpublished site reports and records on file at the Office of State Archaeology and the Research Laboratories of Anthropology. No additional radiocarbon dates were found during the review of datelists published in *Radiocarbon*.

Evaluation Process

Each archaeologist was asked to include his/her comments concerning the reliability of the dates submitted. These comments have been included in the database and should be considered by anyone using it. Due to space constraints not all the information that might be pertinent to interpreting a date could be included in the database. The user is encouraged to refer to the published literature or the submitter for more detailed discussions of the radiocarbon dates and their associations.

In the final section of this report I examine groups of dates associated with defined ceramic series. By charting the distribution of these groups of dates, possible chronological ranges for the ceramic series are posited. As radiocarbon dating is just one factor in the process of determining chronological position, the radiocarbon date ranges are compared with generally accepted cultural chronologies. In this way the distribution of dated ceramic series in the Coastal, Piedmont, and Mountain regions is examined.

The database of North Carolina radiocarbon dates itself was evaluated in terms of temporal and geographic distributions. The evenness of temporal coverage was examined and found to be heavily weighted toward Woodland-period or later dates.

The geographic distribution of dates was also examined by linking the database to a computer-generated map of North Carolina. The density of dates per county was determined, revealing that dates are not evenly distributed across the state. Of all regions in North Carolina, the northern Piedmont, with two major research facilities, has the highest density of radiocarbon dates. The southern inner Coastal Plain is the least well-documented region of the state in terms of radiocarbon dates. An examination of the density of radiocarbon dates per county indicates that sites with radiocarbon dates cluster near the archaeological research facilities that submitted the dates.

Project Results

The North Carolina Radiocarbon Date Study resulted in the compilation of 343 dates: 244 from sites in North Carolina, 66 from sites in Virginia, 26 from sites in Tennessee, five from a site in South Carolina, and two with no context. The following discussion excludes the 12 radiocarbon dates from North Carolina that were modern. The information compiled during this project is summarized in the Appendix. The entire database is presented in *Southern Indian Studies*, volume 43 (1994). In this section radiocarbon dates will be discussed in terms of physiographic regions.

Canoes from Eastern North Carolina

Before discussing samples from archaeological sites, I would like to note a unique set of radiocarbon dates from wood samples taken from cypress canoes. These samples were submitted to Beta Analytic by Mr. Leslie S. Bright of the Underwater Archaeology Unit at Kure Beach. Samples from 26 canoes have been dated; 19 of these were recovered from Lake Phelps in Pettigrew State Park in Washington County. The first of the Lake Phelps canoes was discovered in November of 1985. Since that time a total of 30 canoes have been reported from the lake, making it the largest *in situ* collection of canoes in the southeastern United States (Phelps 1989:1).

The Lake Phelps canoes are located along the northern and western shore of the lake. Some archaeological sites located along the lake shore are probably associated with the canoes, but several of the archaeological components in the area predate the earliest of the dated canoes by several thousand years. The earliest of the canoes (#235) has a calibrated age of 3095 cal BC and a one-sigma date range that spans the traditional division between the Middle Archaic and Late Archaic periods. Two of the canoes appear to date to the middle of the Late Archaic period (3000–1000 BC). One canoe dates to the first half of the Early Woodland period (1000–300 BC). One date (#227) was from a canoe found in association with fragments of a Deep Creek Net Impressed clay pot. The age of this sample is 1120 BC with a one-sigma range of 1256 BC to 1005 BC. This is the only date associated with Deep Creek pottery and it appears to predate the proposed age range for the Deep Creek series. Eleven of the canoes date to the Middle Woodland period and span the period between 193 BC and AD 432. The Late Woodland utilization of Lake Phelps

appears to have been less intense than that of the preceding Middle Woodland period, with only three of the Lake Phelps canoes dating to the latter half of the Late Woodland period.

Radiocarbon Dates from Coastal Sites

Sixty of the dates in the database are from the Coastal Plain of North Carolina and nine are from the Virginia Coastal Plain. The nine dates from Virginia are associated with Townsend phase sites characterized by shell-tempered Townsend wares. This kind of pottery is found throughout the Coastal Plain and Eastern Shore of Virginia and is comparable to the Colington series of the northern Coastal Plain of North Carolina (Egloff 1985:235).

A total of 22 radiocarbon dates from North Carolina's northern Coastal Plain (i.e., Bertie, Nash, Currituck, Dare, Hertford, and Hyde counties) were submitted by the Archaeology Laboratories at East Carolina University (ECU). Since 1970, one focus of the archaeological research program at ECU has been the development of a regional chronology for the northern Coastal Plain (Phelps 1983:12). This research effort has determined the chronological placement for three Coastal Plain phases—Cashie, Colington, and Mount Pleasant—through radiocarbon dating.

One radiocarbon date (#227) is associated with the Early Woodland Deep Creek ceramic series. This sample is from a cypress canoe which had a Deep Creek Net Impressed vessel inside. The calibrated intercept of 1120 BC predates the proposed date range for the series by about a century.

Mr. Thomas J. Padgett, of the North Carolina Department of Transportation, submitted three radiocarbon dates from the northern Coastal Plain. The carbon samples were recovered from the Point Harbor site (31Ck32) in Currituck County. This multicomponent site consists of a shell midden and intact sub-midden pits. All of the charcoal samples were recovered from pit contexts below the midden deposit. Two samples (#326 and #327) were found in association with Colington ceramics and one (#325) was associated with Mount Pleasant pottery. The fourth sample was taken from an apparently modern posthole that intruded into one of the sub-midden pits.

Two additional dates are associated with ceramic series defined for the northern Coastal Plain. One date (#40) from Lenoir County was submitted by Ms. Loretta Lautzenheiser, Coastal Carolina Research, Inc.

The sample was collected by Mr. Robert Crawford (1966), during excavations performed as part of his Master's thesis project. Though Crawford defined a Lenoir series for the pottery associated with this sample, a re-analysis of the assemblage revealed that it was consistent with the Cashie series (Lautzenheiser, personal communication). This date is the earliest of four dates associated with Cashie ceramics, but is consistent with the proposed age range of AD 800 to AD 1715 (Phelps 1983:43). The other date was submitted by Mr. Thomas H. Hargrove, Archaeological Research Consultants, Inc. This Wilson County sample (#162) was associated with Mount Pleasant sherds, but postdates the proposed age range for the series and is later than any other radiocarbon date associated with the series.

Seventeen dates from Onslow County in the central Coastal Plain have been submitted by Dr. Thomas C. Loftfield of the University of North Carolina at Wilmington and Mr. Mark A. Mathis of the Office of State Archaeology. These samples were recovered from three Late Woodland village sites with associated shell middens and an ossuary. The samples were associated with Onslow series and White Oak (Oak Island) shell-tempered ceramics. Loftfield's work has focused on the area between the White Oak River and Cape Lookout in Onslow County. This region has been considered the boundary between the northern Algonkian and southern coastal Siouan populations (Phelps 1983:48).

Mr. Mark A. Mathis, Office of State Archaeology, also obtained radiocarbon dates for nine charcoal and bone samples from the Broad Reach site (31Cr218). This multicomponent site has Middle Woodland and Late Woodland village components with associated shell midden, ossuaries, and single inhumations. Six samples (#254, #272, and #331–#334) were associated with shell-tempered White Oak series pottery. In addition to the Late Woodland component, one sample (#329) was associated with clay-tempered Hanover/Carteret series pottery and dates to the Middle Woodland period.

The remaining six coastal plain radiocarbon dates in the database were submitted by several researchers and consultants. Two samples from Beaufort County (#160 and #161) were submitted by Dr. Cheryl Claassen of Appalachian State University. The samples were collected during test excavations at two sites thought to be potential candidates for the village of Secotan (Claassen 1980). Two samples (#122 and #255) were submitted by Mr. Mark Wilde-Ramsing (1982) of the Underwater Archaeology Unit. Sample #122 was associated with fabric-impressed pottery, while #255 represents the only date in the database associated

with Hanover series pottery. The Cumberland County date (#14) was collected by Col. Howard A. MacCord in 1961 at the McLean Mound (31Cd7), from the mound fill immediately above a burial. Cape Fear Fabric Impressed pottery was the most common type in the mound. The final radiocarbon date from North Carolina's Coastal Plain was submitted by Dr. H. Trawick Ward of the Research Laboratories of Anthropology at the University of North Carolina at Chapel Hill. The sample (#29) was from an ossuary associated with shell-tempered Oak Island pottery.

Radiocarbon Dates from Piedmont Sites

Most radiocarbon dates from the North Carolina Piedmont have resulted from research conducted at four academic institutions. In the northern Piedmont, archaeologists at the Research Laboratories of Anthropology at the University of North Carolina at Chapel Hill (RLA) and Archaeology Laboratory of Wake Forest University (WFU) (then Wake Forest College) began submitting samples for dating in the late 1950s. Research projects over the intervening decades have continued to produce radiocarbon dates for this region.

The first dates to be submitted from the northern Piedmont are those from the Gaston site (31Hx7). Dr. Joffre L. Coe, director of the RLA, submitted these samples in the late 1950s (South 1959, Coe 1964). The solid carbon counting method employed at that time required 10–12 grams of carbon (Taylor 1987:82). Often, several different charcoal samples had to be combined to produce the necessary quantity of carbon. Two of the dates from the Gaston site represent such combined samples. Sample M-526 (#23) included carbon from four features—Features 20 and 55 contained Clements pottery while Features 102 and 105 contained Vincent ceramics. This mixed association reduces the usefulness of the date. The second date from the site affected by mixed or unclear association is M-522 (#22). Coe (1964:118) notes that some of the charcoal used to produce this sample came from a questionable context and may not be associated with the Halifax component at the site. The other dates from the Gaston site have more secure artifact associations. M-523 (#26) represents the only dated Halifax component in North Carolina and M-524 (#27) is one of four dates associated with Savannah River Stemmed projectile points.

A second set of early radiocarbon dates came from a rock shelter in Forsyth County (31Fy14). Five charcoal samples were submitted by Dr. E. Pendleton Banks, of Wake Forest College, following the 1965 field

season. The rockshelter deposits contained three distinct soil zones (Rice et al. 1972). The uppermost zone was sterile. Below this was an unstratified ceramic-bearing zone that was thought to have been mixed prehistorically. Three carbon samples from this zone were dated. Sample Y-1407 (#18) came from the top of the zone and Y-1406 (#21) from the bottom of the zone. The third assay (#17) from the ceramic-bearing zone was modern. Two samples from the basal zone of fill in the rockshelter were submitted. Y-1405 (#19) was associated with a Late Archaic deposit and Y-1788 (#20) was not associated with any diagnostic material and apparently predates human activity at the site.

Two additional dates from Forsyth County were obtained during test excavations at the E. Davis site (31Fy549) and were submitted by Dr. Jeanette Tysor of the North Carolina Department of Transportation and Dr. J. Ned Woodall, Archaeology Laboratory (WFU). The site produced Yadkin and Gypsy projectile points, Yadkin Fabric Impressed and Yadkin Cord Marked sherds, and the remains of grape, hickory, walnut, and acorn (Davis 1987). The later of the two dates (#139) is considered to be too recent for the cultural deposit (Woodall, personal communication 1991). The earlier of the dates (#140) corresponds well with the date (#16) obtained by John S. Cable and Stephen R. Claggett, then of Commonwealth Associates, which is associated with Yadkin or possibly Badin ceramics at site 31Ch8 in Chatham County.

During the 1980s both the RLA and WFU continued to study the late prehistory of the northern Piedmont. Drs. Roy S. Dickens, Jr., H. Trawick Ward, and R. P. Stephen Davis, Jr. headed the multi-year Siouan Project focusing on the late prehistoric and contact-era populations within the Haw, Eno, and Dan river valleys. This has resulted in the submission of 22 radiocarbon dates associated with Uwharrie, Haw River, Dan River, Hillsboro, Jenrette, and Oldtown series ceramics.

Also during the 1980s, Dr. J. Ned Woodall was principal investigator of the Great Bend Project, studying the prehistory of the Yadkin River valley. Intensive excavations were conducted at Woodland period village sites in Yadkin, Surry, and Davie counties. This project involved the submission of 14 carbon samples from Yadkin, Uwharrie and Dan River components.

In the southern Piedmont, researchers at the University of North Carolina at Charlotte (UNC-C) and the Schiele Museum in Gastonia have obtained a series of dates for South Appalachian Mississippian/Late Woodland components. Excavations were conducted during the 1980s

at the Hardin site (31Gs30) and the Crowders Creek site (31Gs55). Eight radiocarbon samples were submitted by Dr. Janet E. Levy, UNC-C. Three of these came from the Crowders Creek site and five were from the Hardin site. The Crowders Creek assemblage includes plain, burnished plain, and cob-impressed ceramics. A unique zoomorphic clay pipe was also found in association with sample #142. The Hardin site appears to be a single-component site which may have affiliations with South Appalachian Mississippian sites in the Wateree River valley in South Carolina (Levy, personal communication 1991). Three of the dates correspond well with the proposed date range of AD 1350 to AD 1550 for the McDowell and Mulberry phases of the Wateree valley, while two samples appear to predate this range by a century.

Dr. Joseph B. Mountjoy, University of North Carolina at Greensboro, obtained three dates from the Payne site (31Mr15). Two of these samples (#200 and #344) were associated with Pee Dee ceramics and resulted in comparable dates. These dates average about a hundred years earlier than the four acceptable Pee Dee phase dates from the Town Creek Mound (31Mg2) obtained by Dr. Joffre Coe (RLA) in 1966 (#28, #151, #152, and #153). Mountjoy (1989:18–19) offered an interpretation of these two series of dates, suggesting that the expansion of Pee Dee populations into the Piedmont may have predated the mound building at Town Creek by perhaps a hundred years.

Dr. Billy L. Oliver, of the Office of State Archaeology, submitted 15 carbon samples and one bone and ash sample from the Teal site in Anson County and two charcoal samples and one shell sample from the Leak site in Richmond County for radiocarbon dating. These dates, and the previously-mentioned radiocarbon dates from the Payne site and Town Creek, form the basis of Oliver's refinement of the chronology of the Pee Dee culture. Three phases were defined: the developmental Teal phase (AD 950–1200), the florescent Town Creek phase (AD 1200–1400), and the terminal Leak phase (AD 1400–1600). One radiocarbon date from the Leak site (#304) is the earliest date associated with beans in North Carolina (Oliver 1992:115). A radiocarbon date (#312) from the Teal site is the earliest date associated with corn in North Carolina. Oliver (1992:208) noted that this date corresponds well with Mountjoy's dates from the Payne site.

Five charcoal samples (#155–#159) from subsurface features at the Newkirk site (31Ch366) in Chatham County were submitted for radiocarbon dating by Mr. John S. Cable, then of Commonwealth Associates, Inc. Four of these charcoal samples were recovered from

postholes and the fifth sample was from a hearth/oven feature. None of the features contained diagnostic artifacts, nor was there clear associations between the features and identifiable components at the site.

Prior to the inundation of Jordan Lake in Chatham County, archaeological mitigation was performed by Commonwealth Associates, Inc. Mr. Steve Claggett, then of Commonwealth Associates, Inc., submitted seven samples from sites 31Ch8 and 31Ch29 for radiocarbon dating. One of the wood charcoal samples (#267) from site 31Ch29 was recovered from a hearth in Level 21 of the site. Though the sample was not found in direct association with any diagnostic artifacts, St. Albans Side-Notched and Small Kirk Corner-Notched projectile points were present in Level 21. This date is about a thousand years earlier than the date range proposed by Chapman (1985:146) for the late Kirk Stemmed complex which is thought to be contemporaneous to the Small Kirk Corner-Notched variety from 31Ch29. This is the earliest radiocarbon date from a North Carolina archaeological site. A carbon sample (#265) from another hearth that contained only non-diagnostic stone artifacts was submitted for radiocarbon dating. Claggett et al. (1982) feel confident that the hearth feature was associated with the Kirk phase component at the site. They note, however, that this date is too recent for Kirk phase occupations in the Southeast. This radiocarbon date postdates Kirk phase radiocarbon dates from Tennessee by several millennia (see #290–#294 and #285–#286). This date is the only radiocarbon date associated with an Early Archaic occupation in North Carolina. Mr. Claggett also submitted charcoal samples (#16 and #260) from site 31Ch8 in Chatham County. One charcoal sample was associated with Yadkin Cord Marked and Yadkin Fabric Impressed sherds, and the date corresponds well with the dates from 38Su83, a Yadkin phase site in Sumter County, South Carolina (see #273–#275).

In addition to these larger projects that produced groups of dates, several other individual radiocarbon dates have been collected throughout the Piedmont. Dr. H. Trawick Ward, of the RLA, submitted a charcoal sample (#30) from a presumed Middle Archaic Morrow Mountain phase context at the Hardaway site. A date (#39) from the Forbush Creek site (31Yd1) in Yadkin County was also obtained by researchers at the RLA. This wood charcoal sample was found in association with Uwharrie Fabric Impressed pottery, but appears to be too recent to be associated with the Uwharrie phase. Ms. Loretta Lautzenheiser, then of the North Carolina Department of Transportation, submitted one charcoal sample (#268) from a midden at the Caledonia

Sand Pit site in Halifax County. Clements Cord Marked and Clements Fabric Impressed sherds were present in the midden. This date supports the proposed date range for the Clements series.

The Piedmont, especially the northern Piedmont, has produced the majority of radiocarbon dates in the state, and the overwhelming majority of these are associated with Late Woodland or Late Prehistoric village sites. Therefore, although many dates come from the Piedmont region, Early Woodland, Archaic, and Paleoindian sites are poorly represented. Several radiocarbon dates from eastern Tennessee that are associated with Early and Middle Woodland and Archaic period occupations have been added to the database for the user's information.

Radiocarbon Dates from Mountain Region Sites

The western region of North Carolina has a much more evenly distributed series of radiocarbon dates. The work of Drs. Bennie C. Keel and Roy S. Dickens, Jr. at the University of North Carolina at Chapel Hill (UNC-CH) during the 1970s focused on establishing a cultural chronology for the Appalachian Summit region (Dickens 1976, Keel 1976). Their dissertation projects led to the submission of six radiocarbon samples: four from Qualla components (#15, #255–#257, and #261) and one each from Pisgah (#258) and Connestee components (#259).

Other radiocarbon dates associated with Connestee and Pisgah phase material have been obtained by Mr. Kenneth Robinson, then associated with the McDowell Archaeology Project at Warren Wilson College, and Ms. Ruth Wetmore. Mr. Robinson obtained seven radiocarbon dates from the Harshaw Bottom and Tyler-Loughridge sites in Cherokee and McDowell counties, respectively. Six samples (#165–#166 and #339–#342) are associated with Connestee phase occupations, while the seventh date (#167) is associated with a Pisgah phase component at the Tyler-Loughridge site. Ms. Ruth Wetmore submitted three samples (#336–#338) associated with Connestee phase occupations at the Ela and Puette-Hunt sites in Swain and Transylvania counties, respectively. Though two of the radiocarbon dates associated with Connestee series pottery fall within the date range proposed by Keel (1976), most of the radiocarbon dates postdate AD 600, the proposed end of the Connestee phase.

Mr. David G. Moore also studied the Appalachian Summit region in the 1980s as a graduate student at UNC-CH. Excavations at the Pisgah

phase Brunk site (31Bn151) led to the submission of one radiocarbon sample (#90). This date corresponds well with other Pisgah dates from the region. Excavations at the Berry site (31Bk22) in Burke County resulted in the recovery of two carbon samples for radiocarbon dating. One sample (#87) is associated with the Late Prehistoric Burke phase component at the site. Additional radiocarbon dates associated with the Burke phase include two radiocarbon dates (#269 and #270) from the Ward site (31Wt22) in Watauga County. Though not directly associated with Burke series pottery, the samples are thought to be associated with a Burke phase component at the site. These dates were obtained by Dr. Harvard Ayers, Appalachian State University (ASU). Dr. C. Clifford Boyd (1986), then with the Frank H. McClung Museum at the University of Tennessee, Knoxville, also acquired a Burke phase date (#50) from the McDowell site (31Mc41) in McDowell County. All these dates indicate a fifteenth-century chronological placement for the Burke phase.

Dr. Michael Baker and Ms. Linda Hall, of Baker and Hall, obtained four radiocarbon dates from test excavations at the multi-component Bent Creek site (31Bn335) in Buncombe County. Two of these samples (#83 and #85) were associated with Connestee series ceramics, while a third (#84) was associated with a Pisgah phase component at the site. All three dates are later than the date ranges proposed by Keel (1976) for their respective phases. The fourth radiocarbon date (#86) from the Bent Creek site was obtained from a wood charcoal sample recovered from a profile cut into the creek bank and was not associated with an identified cultural deposit at the site.

The only pre-Woodland dates for western North Carolina are associated with Late Archaic phase components. Six of these dates were obtained from the Stratton Meadows site (31Gh98). Excavations at this site were conducted by Ms. Beverly A. Mitchum, GAI Consultants, Inc. Several large hearth/pit features and rock concentrations were encountered, six of which were dated to the Late Archaic period. This site is thought to represent a seasonally-occupied Late Archaic campsite. Two additional Late Archaic dates were obtained by Dr. Bennie Keel (1976) from the Warren Wilson site (31Bn29) in Buncombe County. One of these samples (#110) was associated with a Savannah River Stemmed projectile point and the other (#111) was from a feature that originated in Zone C, attributed to the Savannah River phase. These two samples correspond well with those obtained from the Stratton-Meadows site and other Late Archaic dates from Piedmont sites.

The remaining dates have resulted from various cultural resource

management projects. Two additional dates (#99 and #100) associated with a Qualla phase component at the Sutton site (31Jk186) were submitted by Mr. Thomas J. Padgett of the North Carolina Department of Transportation on behalf of Mr. Michael Hammond, of Soil Systems, Inc. These dates compare well with the other radiocarbon date (#255) associated with a Qualla component in Jackson County. Three samples from test excavations at the Macon County Industrial Park site (WCU-Acc49) were submitted by Dr. Susan Collins, formerly at Western Carolina University. All three samples (#59–#61) were associated with Pisgah phase ceramics. While one date (#60) falls within the proposed age range for the series (Dickens 1976:198), the two other dates predate this range by about a century. Dr. Larry R. Kimball (1991), Appalachian State University, submitted two samples from buried strata along the Swannanoa River in Buncombe County. While no cultural materials were observed in the dated strata, these dates demonstrate that similarly-aged cultural deposits could be deeply buried along the river.

Evaluations and Recommendations

In addition to compiling the database, another project goal was to evaluate the temporal and geographic distribution of North Carolina's radiocarbon dates. What follows is a brief discussion of the content of the database. For guidance on evaluating radiocarbon dates see Taylor (1987:105–145) and Waterbolk (1981).

Temporal Distribution of Radiocarbon Dates

Of the 244 radiocarbon dates from North Carolina, 25 are associated with wooden canoes (but not with other cultural materials), 12 are modern, 11 are not associated with any diagnostic material, and three are from mixed or ill-defined contexts. Forty-three dates from North Carolina are not directly associated with any diagnostic material, but their proveniences indicate a potential cultural affiliation. The remaining 150 radiocarbon dates from North Carolina have clearly-defined cultural associations. My discussion of the temporal distribution of dates will be restricted to these last 193 dates. For example, an unassociated or apparently anomalous date of 2000 BC would not be included as a Late Archaic date in this analysis.

Table 1 presents the distribution of these 193 radiocarbon dates by

Table 1. North Carolina's Radiocarbon Dates by Period.

Cultural Period	No.	Percent	Cumulative Percent
Historic	10	5.18	5.18
Protohistoric	8	4.15	9.33
Late Prehistoric	16	8.29	17.62
Mississippian	38	19.69	37.31
Late Woodland	68	35.23	72.54
Middle Woodland	29	15.03	87.57
Early Woodland	5	2.59	90.16
Late Archaic	14	7.25	97.41
Middle Archaic	4	2.07	99.48
Early Archaic	1	0.52	100.00
Total	193	100.00	

cultural period. As mentioned previously, the database is obviously skewed, with 90 percent of dates coming from Woodland period or later contexts. The Late Woodland period is particularly well represented in the database, accounting for 68 (35%) of the entries.

Several factors contribute to this skewed condition. It is no accident that over 70 percent of all dates are from sites that were occupied within the last thousand years. Following its creation, an archaeological site is subject to damage or destruction by subsequent cultural activity and natural forces like erosion. All things being equal, odds would favor the survival of intact deposits in a recent site over an older one. As a result there probably are more Woodland period sites with intact charcoal samples than there are Archaic period sites with charcoal samples.

Site structure also contributes to the increased potential for Woodland period and later sites to retain intact deposits. Larger, more sedentary populations inhabited North Carolina during the Woodland, Mississippian, and Historic periods than during earlier periods. These village occupants often dug deep storage pits which, except in cases of extreme erosion or disturbance, remain intact. These sites, with their subsurface deposits or above-surface constructions, such as mounds, have a much greater potential for containing intact deposits than would a campsite lacking such constructions.

Research interests within the state are probably the single most

important factor contributing to the skewed condition of the database. Though regional differences may be present, the basic elements of Paleoindian and Archaic material culture are shared throughout the state. With the regional differentiation of cultures that developed during the Woodland period, it has been necessary for archaeologists to define new and more geographically circumscribed cultural chronologies for each region. These and other factors have led to a relatively large number of radiocarbon dates associated with ceramic-bearing deposits.

Geographic Distribution of Radiocarbon Dates

As is the case with the temporal distribution of dates, their geographic distribution is also uneven. Figure 1 shows the locations of all sites with dated deposits. As is apparent in the figure, the distribution of dated archaeological deposits in North Carolina is not uniform. Several clusters are visible in the figure. Two clusters are present in the central and northern Piedmont (Orange, Alamance, Chatham, Yadkin, Forsyth, Surry, and Davie counties). The sites cluster around the two major research institutions in the region: the Archeology Labs of Wake Forest University and the Research Laboratories of Anthropology at the University of North Carolina at Chapel Hill. During the past decade the research programs of these institutions have focused on local river valleys and the accumulation of dates reflects these interests. Other regionally-focused research projects include that of Dr. Thomas Loftfield of the University of North Carolina at Wilmington who collected most of the dates from the Southern Coastal region. Most of the dated archaeological deposits from Northern Coast and Coastal Plain were collected by Dr. David Phelps of the Archaeology Labs at East Carolina University. There is another cluster of dated archaeological deposits in the southern Appalachian Summit region. This cluster represents the work of several researchers rather than a single, focused effort.

Of all regions in the state, the southern inner Coastal Plain has received the least attention in terms of radiocarbon dating. Loftfield's research at the University of North Carolina at Wilmington has focused on outer coastal sites; thus, the inner coastal region has remained largely uninvestigated. The distribution of radiocarbon dates certainly reflects the paucity of excavated sites in the region bordered by Richmond, Lee, Johnston, Duplin, and Columbus counties.

Other regions that lack dated material include: the northern Appalachian region incorporating the headwaters of the Catawba, Noli-

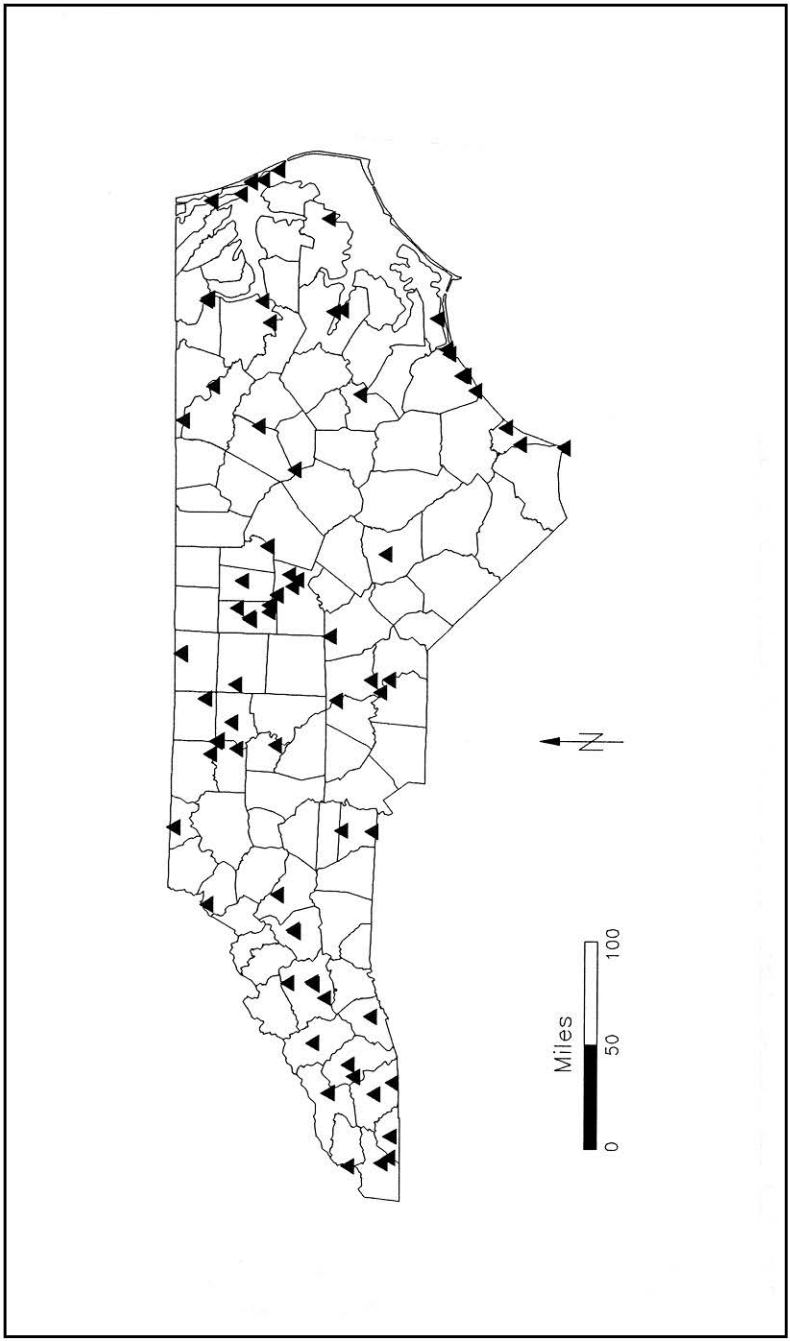

Figure 1. Location of Archaeological Sites with Radiocarbon Dates.

chucky, and Yadkin Rivers; the southern Appalachian and Piedmont region in the Broad River drainage; and the northeastern Piedmont incorporating the areas between Caswell and Warren counties.

Another approach to the question of regional coverage is to examine the distribution of individual dates. Figure 2 shows the density of dates per county in North Carolina. Not surprisingly, the county densities present a distribution pattern similar to that of dated sites and show an obvious correlation between the location of research facilities and high densities of radiocarbon dates. The high density of dates in the northern Piedmont correlates to the location of multi-year research projects of the RLA and WFU. The cooperative work of the Schiele Museum and UNC-C is reflected by the density of dates in Gaston County where the museum is located. Most of the dates in Buncombe and neighboring counties are the result of cooperative research conducted by the RLA and Warren Wilson College located there.

In the Coastal region the emphasis on the coast proper results from both coastal development and the research interests of archaeologists in the region. The greatest concentrations of dates are in Dare, Carteret, and Onslow counties. The greatest concentration of radiocarbon dates in the Coastal Plain is associated with the Lake Phelps canoes found in Washington County.

Having considered the temporal and geographic distribution of the radiocarbon dates from North Carolina, I would now like to look more closely at the cultural material associated with these dates and what the dates tell us about North Carolina's prehistory and early history. This discussion will focus on radiocarbon dates associated with temporally diagnostic artifacts.

Dated Ceramics from the Coastal Plain

Deep Creek Series. Fragments of a Deep Creek Net Impressed vessel were found inside and beneath a cypress canoe in Lake Phelps. The wood sample (#227) was dated to 2850 ± 60 BP, and has a calibrated age of 1120 BC and a one-sigma range of 1256 BC to 1005 BC. This age range is earlier than the 1000 BC to 300 BC range proposed by Phelps (1981b:vii) for the Deep Creek ceramic series.

Hanover/Carteret Series. Two radiocarbon dates (#123 and #329) in the database are associated with Hanover grog- or clay-tempered sherds. The first charcoal sample (#123) was recovered from a midden

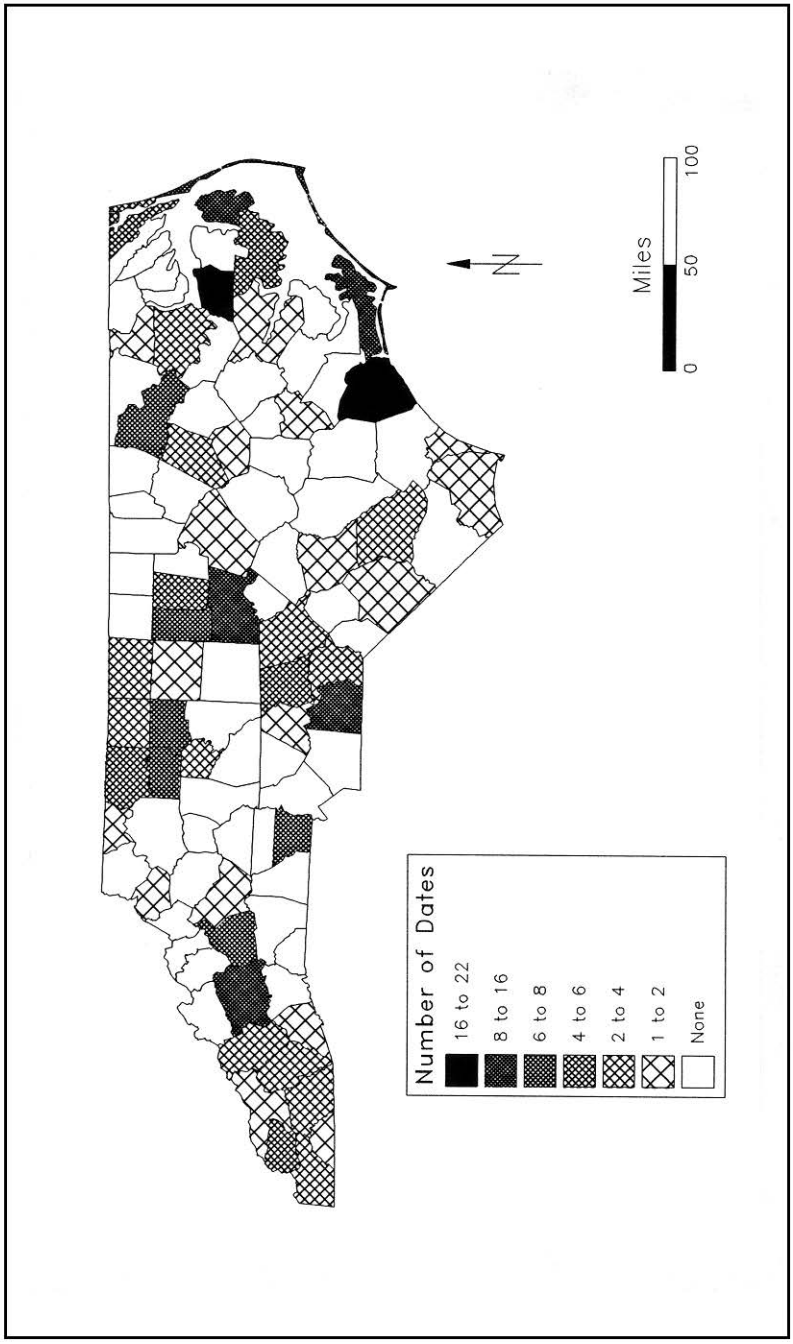

Figure 2. Density of Archaeological Sites with Radiocarbon Dates by County.

context at the Sidney Brook site (31Nh556) in New Hanover County. The sample resulted in an assay of 1560 ± 60 BP and a calibrated age of AD 538. Wilde-Ramsing (1982) submitted this sample for radiocarbon dating and considers the age estimate reliable. The second radiocarbon date (#239) was obtained by Mathis on human bone from Burial 8 at the Broad Reach site (31Cr218). The radiocarbon assay for this sample is 1420 ± 90 BP and the calibrated age for the sample is AD 445. These age estimates are later than the five radiocarbon dates associated with Hanover series pottery in South Carolina (Anderson and Logan 1981:17).

Cape Fear Series. A wood charcoal sample (#14) from the McLean Mound (31Cd7) was submitted for radiocarbon dating. The sample was taken from the mound fill which also contained plain and fabric-impressed pottery referable to the Cape Fear series. Sample #14 resulted in a calibrated date of AD 1028 and a one-sigma range of AD 976 to AD 1212. South (1976) proposed that the Cape Fear series extended from about 300 BC to AD 1000. This sample is slightly later than South's estimated range.

Mount Pleasant Series. Pottery of the Mount Pleasant series is tempered with sand and has grit and pebble inclusions (Phelps 1981a:41–42). This series occurs from the coast to the fall line in the northern Coastal Plain. The Mount Pleasant phase is assumed to begin about 300 BC (Phelps 1983).

Figure 3 presents the distribution of the one-sigma ranges for dates associated with the Mount Pleasant series. The obvious outlier of this distribution is #162 which, as discussed previously, is probably an erroneous result. Two dates in the sample bracket the Mount Pleasant occupation at the Rush Point site (31Dr15). The earlier date (#54), with a calibrated age of AD 162, is from shell at the base of the midden. The later date (#55), calibrated to AD 829, is from a shell sample taken from the upper portion of the midden. With the exception of #162, all other dates associated with Mount Pleasant ceramics fall within the range established by the two dates from the Rush Point site. The one-sigma ranges of the calibrated radiocarbon dates associated with Mount Pleasant ceramics fall between AD 81 and AD 950.

Colington Series. Late Woodland shell-tempered pottery in the northern Coastal Plain has been defined as the Colington series. As

discussed previously, the Townsend series, defined for Virginia's Eastern Shore and Coastal Plain, is equivalent to Colington. The Colington series occurs in the northern Tidewater region of North Carolina as far south as the Neuse River. The Colington series may also be equivalent to the shell-tempered White Oak/Oak Island ceramic series defined for the southern Coastal Plain of North Carolina. Phelps (1983:36) has proposed a date range of AD 800–1650 for the Colington phase in North Carolina.

Sixteen radiocarbon dates in the database are associated with Colington series pottery. Figure 4 presents the distribution of the one-sigma ranges of these dates. Gardner (1990:40–42) suggests that sample #98 (with calibrated intercepts of AD 1310, AD 1353, and AD 1385)

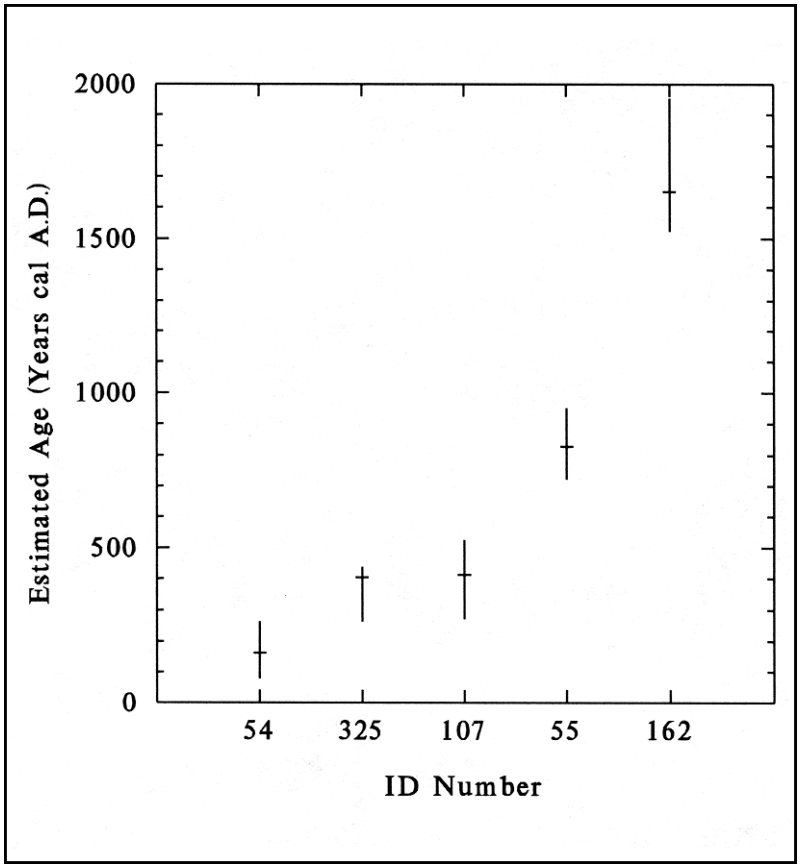

Figure 3. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with the Mount Pleasant Series.

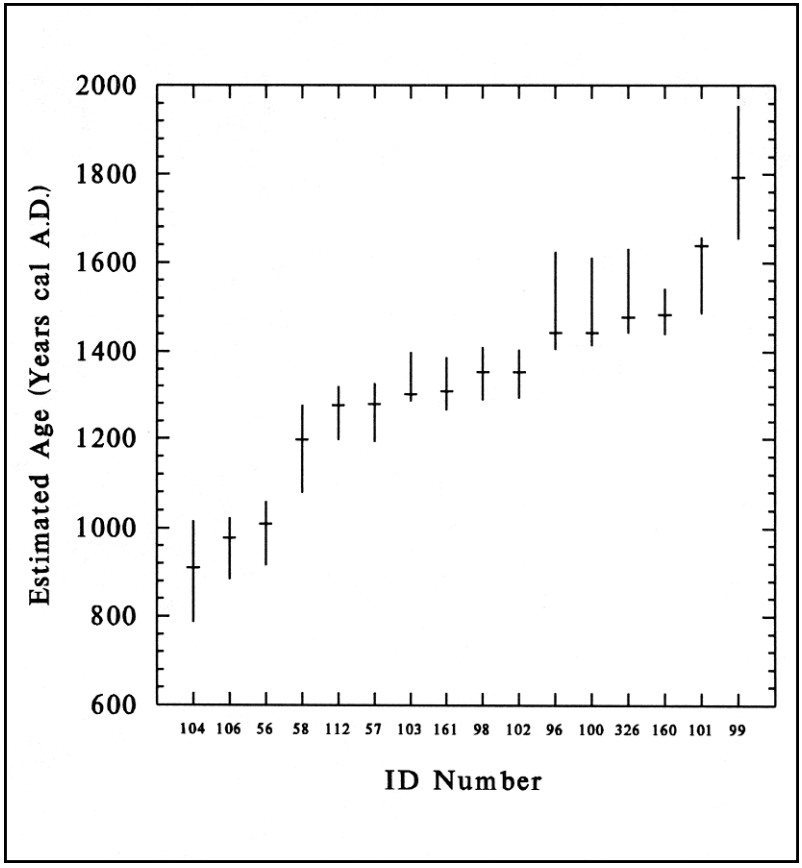

Figure 4. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with the Colington Series.

may not be a credible date, but this date is consistent with several other radiocarbon dates associated with Colington phase assemblages. Gardner also feels that sample #99 (with calibration intercepts of AD 1669, AD 1786, AD 1793, AD 1949, and AD 1952) may be too recent a date for the Amity site and it is an obvious outlier in the distribution of dates associated with the series. The one-sigma ranges from the other 14 samples are from AD 777 to AD 1648, which corresponds well with the series' proposed range.

Townsend Series. The distribution of Townsend phase dates is presented in Figure 5. The distribution of radiocarbon dates associated

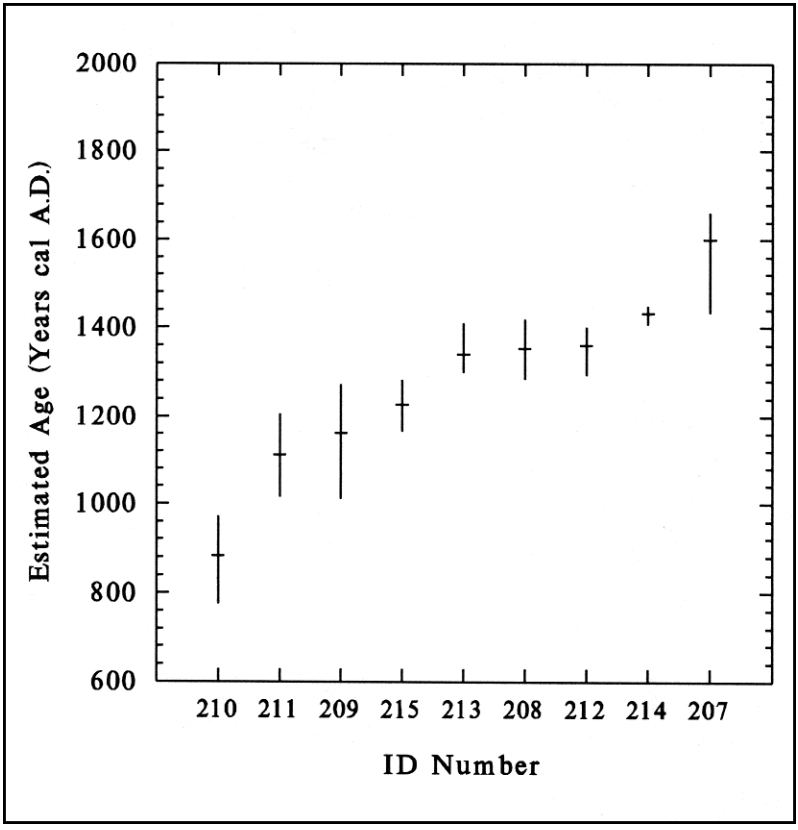

Figure 5. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with the Townsend Series.

with the Townsend series is very similar to that of the Colington series and supports the interpretation that Townsend and Colington wares are equivalent.

Cashie Series. As only four dates (#40, #108, #119, and #120) have been run on samples associated with Cashie ceramics, the distribution was not charted, but is presented in Table 2. Phelps (1983:43) proposes a date range of AD 800 to AD 1715 for the series. These four radiocarbon dates range from AD 673 to AD 1444 and their one-sigma ranges do not overlap.

Table 2. Radiocarbon Dates Associated with Cashie Series.

I.D.	Site No.	Calibrated Intercept	One-Sigma Range
108	31Br7	AD 1418	AD 1326–1444
120	31Ns3b	AD 1253	AD 1187–1287
119	31Ns3b	AD 1022	AD 985–1158
40	31Lr1	AD 786	AD 673–958

White Oak\Oak Island Series. The final ceramic series from the coastal region to be discussed is the shell-tempered White Oak/Oak Island series from the southern Coastal Plain. One radiocarbon date (#67) run on clam shell from the Uniflite site (31On33) has been omitted from Figure 6. The clam shell was recovered from the same feature as sample #64 (shown in Figure 6) but was dated to about 1000 years earlier. Thus, sample #67 is an outlier in the distribution and probably represents an erroneous age estimate. The other radiocarbon dates fall into two non-intersecting groups. At the one-sigma level the earlier group ranges from AD 426 to AD 876 and the later group ranges from AD 886 to AD 1483. While no date range has been proposed for the White Oak series, the earlier group of four dates predates the generally-accepted range for other shell-tempered ceramics in the coastal region of North Carolina.

Dated Ceramics from the Piedmont

Vincent Series. Few dates have been run on samples from Early and Middle Woodland components in the North Carolina Piedmont. One radiocarbon date (#217) from site 44Fv19 in Fluvanna County, Virginia is associated with the Middle Woodland Vincent series. An assay of 920 ± 75 BP was obtained from the sample. The calibrated intercepts range from AD 1064 to AD 1159 with a one-sigma range of AD 1022 to AD 1222. This date compares favorably with the age range of AD 500 to AD 1200 originally proposed by South (1959).

Sample #23 represents charcoal from four features at the Gaston site (31Hx7). While Features 102 and 105 contained a majority of Vincent ceramics, Features 20 and 55 were dominated by Clements ceramics. Although the resulting age estimation of AD 1011 is within South's

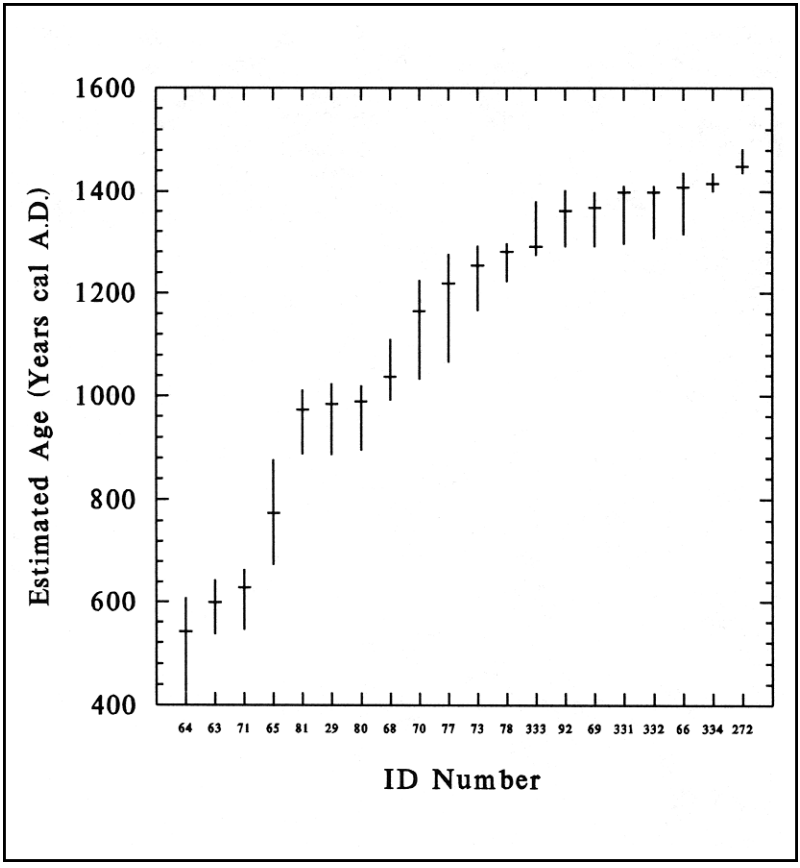

Figure 6. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with the White Oak/Oak Island Series.

proposed date range for the Vincent series, the mixed nature of the sample makes this radiocarbon date of little or no value for interpreting the age of either the Vincent or Clements series.

Yadkin Series. Coe (1964) originally proposed that the Yadkin series was manufactured between AD 500 and AD 1300. The four radiocarbon dates associated with Yadkin ceramics are presented in Table 3. These dates appear to be consistent and are probably reliable. Two dates (#273 and #274) are from 38Su83 in Sumter County, South Carolina; one date (#16) is from 31Ch8 in Chatham County, North Carolina; and the final

Table 3. Radiocarbon Dates Associated with the Yadkin Series.

I.D.	Site No.	Calibrated Intercept	One-Sigma Range
273	38Su83	165 BC	345–42 BC
140	31Fy549	193 BC	367–61 BC
16	31Ch8	199 BC	381–67 BC
274	38Su83	393 BC	411–259 BC

date (#140) is from the E. Davis site (31Fy549) in Forsyth County, North Carolina. These radiocarbon dates indicate that the temporal placement of the Yadkin series may be much earlier than originally thought.

Clements Series. Aside from sample #23, mentioned above, two other radiocarbon dates are associated with the Clements series. South (1959) suggested that this Late Woodland ceramic series was manufactured from around AD 1200 to AD 1600. A radiocarbon age estimate of AD 1431 (#268) from the Caledonia Sand Pit site (31Hx105) in Halifax County supports South's estimated date range. The other sample (#121) was recovered from the Thorpe site (31Ns3b) in Nash County in association with a Clements Cord Marked vessel. This sample has a calibrated age of AD 774 and a one-sigma range of AD 669 to AD 883, which is several centuries earlier than the proposed age range for the series and the other radiocarbon date. Phelps (1980a) assigns this latter sample to the Middle Woodland Mount Pleasant Phase. More research needs to be done to determine the chronological placement for the Clements series.

Uwharrie Series. Several radiocarbon dates have been obtained for samples associated with the Uwharrie series. The distribution of these radiocarbon dates is shown in Figure 7. One date range presented in the graph (#132) is modern and should be disregarded. The Uwharrie series has traditionally been assigned to the period between AD 1200 to AD 1500. Though three radiocarbon dates from the database fall within that range, a group of five dates predate the proposed age range for the series. This group of earlier dates ranges from AD 671 to AD 1159. Four of the eight acceptable dates fall within the AD 1000 to AD 1200

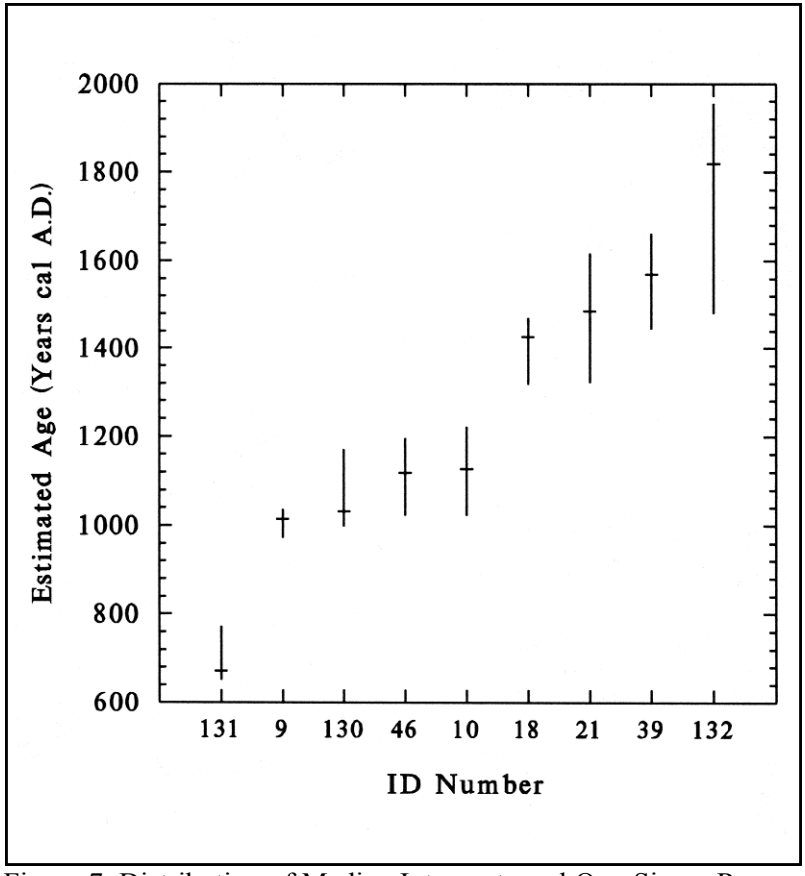

Figure 7. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with the Uwharrie Series.

date range, providing good evidence that the Uwharrie series may be earlier than originally thought.

Grayson Series. Grayson is a southwestern Virginia ceramic series that is comparable to the Uwharrie series. One date (#46) in the database is associated with Grayson Net Impressed pottery. The intercepts for this sample range from AD 1049 to AD 1154 and the one-sigma range is AD 1023 to AD 1195. This date compares well with the earlier of the two groups of radiocarbon dates associated with the Uwharrie series in North Carolina.

Dan River Series. Of the Late Woodland pottery, the Dan River series is the best documented by radiocarbon dates. Dan River pottery was manufactured throughout the piedmont region of northern North Carolina and southern Virginia. At the time of its original published description, the Dan River series was thought to be associated with the historic Sara Indians of the Dan River area, and was thought to have been produced between AD 1625 and 1675 (Coe and Lewis 1952). Additional research in the Dan River drainage, however, has indicated that the series typifies the Late Prehistoric period (Ward and Davis 1993).

The one-sigma ranges of 50 radiocarbon dates associated with Dan River ceramics in North Carolina and Virginia are presented in Figure 8. The first five dates in Figure 8 appear to be outliers and, for various reasons, these dates are considered to be too early by the submitters. It is recommended that these five dates be disregarded.

The 45 accepted radiocarbon dates for the Dan River phase range between AD 1014 and AD 1663. Of these, the calibrated intercepts of 34 dates range between AD 1200 and AD 1450. At the one-sigma range, 30 (or 60 percent) of the samples have been dated to the period between AD 1160 and AD 1450.

Haw River, Wythe, and Page Series. The Haw River series in the Haw and Eno river drainages and the Wythe series in western Virginia are similar to the Dan River series and also occur with Late Prehistoric components. The limestone-tempered Page series of central Virginia occurs in association with Dan River pottery at the Bessemer site (44Bo26) in Botetourt County, Virginia. The date ranges for these series correspond well with those of the Dan River series. The only date associated with the Wythe series (#205) has a one-sigma range of AD 1283 to AD 1432. Five dates are associated with the Haw River series. One of these (#38) is thought to be problematic (Ward and Davis 1993) and should be disregarded. The remaining four radiocarbon dates associated with the Haw River series (#1, #3, #4, and #12) range between AD 1021 and AD 1454 at the one-sigma level. Excepting one radiocarbon date (#187) with a one-sigma range of AD 1642 to AD 1954, the Page series dates range between AD 1277 and AD 1438 at the one-sigma level.

Pee Dee Series. Seventeen radiocarbon dates are associated with the Pee Dee ceramic series. The Pee Dee samples are from the Town Creek

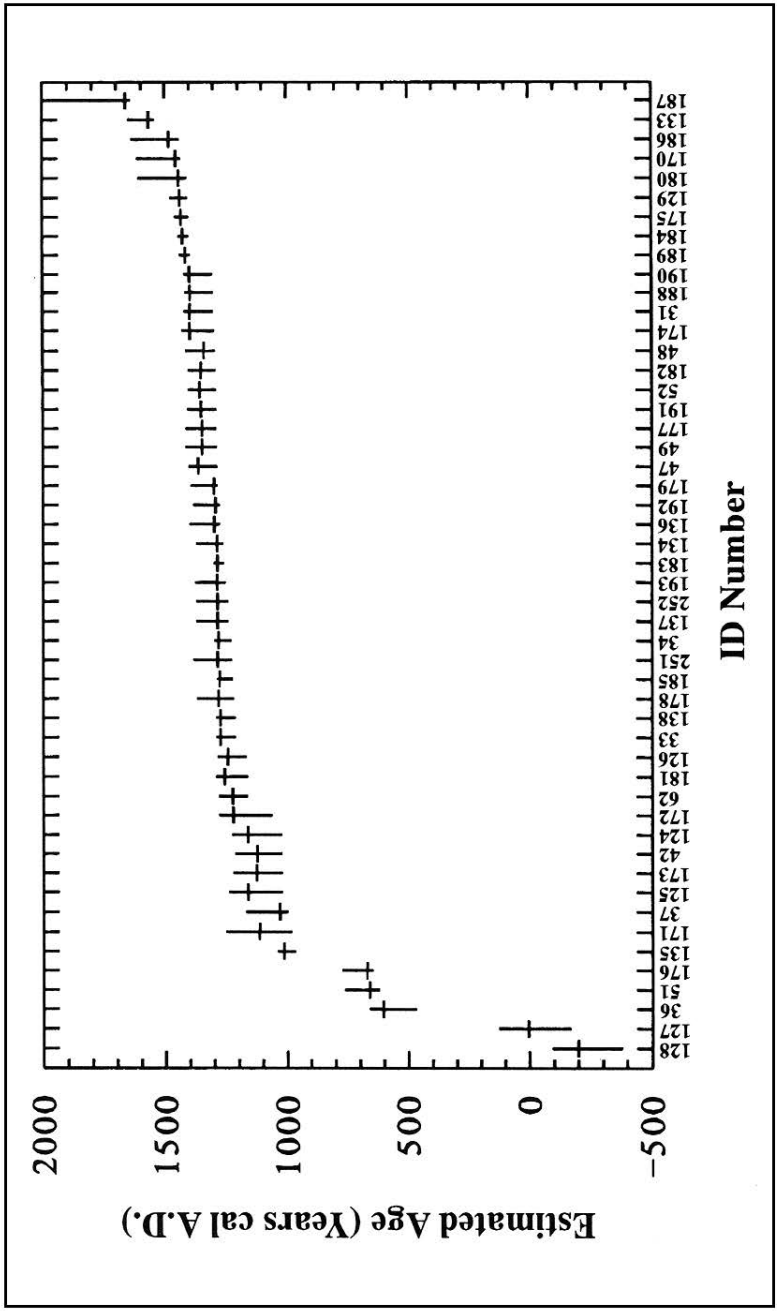

Figure 8. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with the Dan River Series.

Mound (31Mg2) in Montgomery County, the Gordon Payne site (31Mr15) in Moore County, the Leak site (31Rh1) in Richmond County, and the Teal site (31An1) in Anson County. The calibrated ages range from AD 890 to AD 1449 and are shown in Figure 9. These and other radiocarbon dates from these four sites were presented in uncorrected form in Mountjoy (1989) and Oliver (1992). Correction for fractionation effect and calibration significantly altered the estimated age of three samples (#303, #314, and #343). These samples consisted of mussel shell, bone and ash, and maize, respectively. In each case, the resulting adjusted and calibrated ages are about 150 years earlier than the uncorrected dates.

Smoothed and Burnished Wares. The pottery associated with the Late Woodland and Southern Appalachian Mississippian period assemblages from the Crowders Creek site (31Gs55) and the Hardin site (31Gs30) includes smoothed, burnished, and cob-impressed wares. May (1989:45) notes that the Crowders Creek pottery does not resemble the heavily sand-tempered Pee Dee type and feels that the sherds are more similar to historic Catawba pottery. Excluding two early dates (#148 and #145), the remaining six dates from this group range from AD 1298 to AD 1644 at the one-sigma level.

Hillsboro Series. The Hillsboro phase defined for the northern Piedmont is characterized by simple-stamped pottery. Four radiocarbon dates (#2, #5, #7, and #13) from the George Rogers site (31Am225), the Edgar Rogers site (31Am167), and the Wall site (31Or11) are associated with Hillsboro Simple Stamped pottery. The intercepts for these samples range between AD 1516 and AD 1666, with one-sigma values ranging from AD 1461 to AD 1955.

Because so few dates are associated with any one artifact type, other Protohistoric and Contact period dates will not be discussed here. These dates are listed in the Appendix.

Dated Ceramics from the Western Mountain Region

Four ceramic series from western North Carolina have been dated. Following is a discussion of the radiocarbon dates associated with these ceramic series.

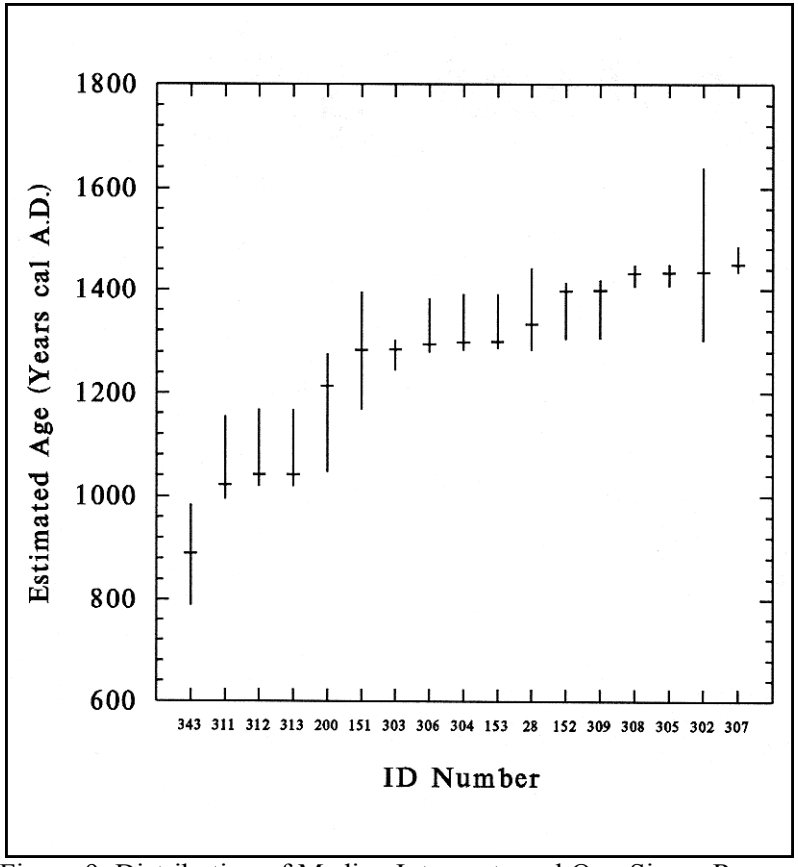

Figure 9. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with the Pee Dee Series.

Swannanoa and Pigeon Series. No dates from North Carolina are associated with the Swannanoa or Pigeon ceramic series; however, Swannanoa series pottery has been radiocarbon dated in Tennessee (see the Appendix).

Connestee Series. Eighteen radiocarbon dates are associated with the Middle Woodland Connestee series from western North Carolina, eastern Tennessee, and southwestern Virginia. Keel (1976:239) suggested that the Connestee phase began by AD 200 and probably lasted until AD 600. The earliest eight dates shown in Figure 10 fall within Keel's proposed age range for the series. These dates are from the Tyler-Loughridge site

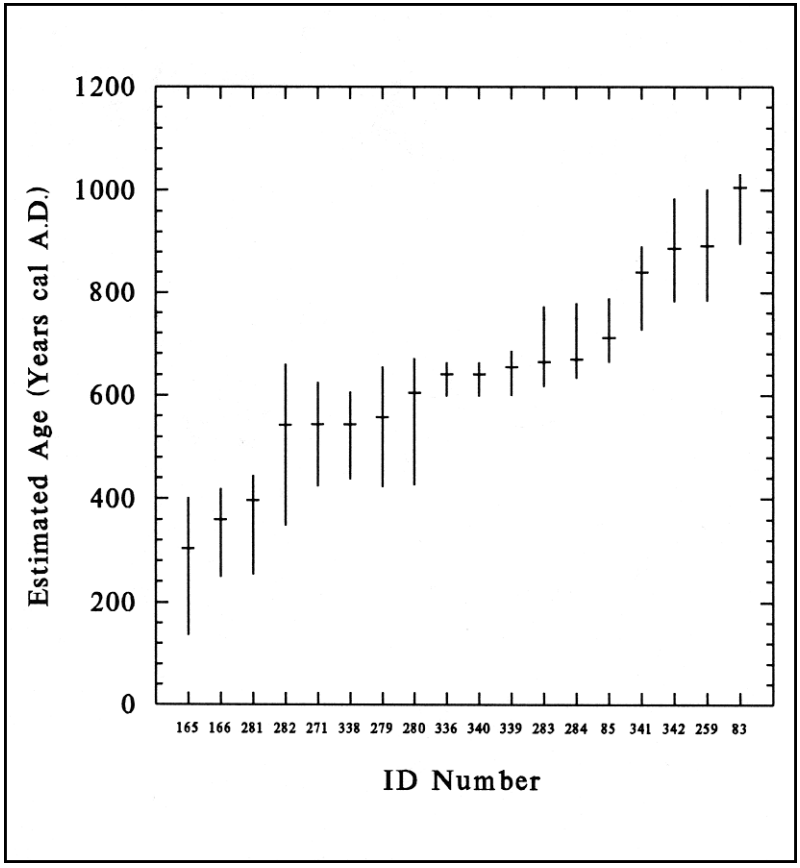

Figure 10. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with Connestee Series.

(31Mc139) in McDowell County (#165 and #166), the Ela site (31Sw5) in Swain County (#338), the Icehouse Bottom site (40Mr23) in Monroe County, Tennessee (#279–#282), and the Fox Meadows Apartment site (44Ru44) in Russell County, Virginia (#271). The remaining 10 dates postdate the proposed end of the phase at AD 600. These dates are from Connestee components at the Garden Creek site (31Hw2) in Haywood County, the Puette-Hunt site (31Tv1) in Transylvania County, the Harshaw Bottom site (31Ce41) in Cherokee County, the Bent Creek site (31Bn335) in Buncombe County, the Tyler-Loughridge site (31Mc139) in McDowell County, and the Icehouse Bottom site (31Mr23) in Monroe County, Tennessee. The one-sigma ranges of these dates are from AD

599 to AD 1031. Keel (1976) questioned the validity of sample #259, but the recent dates from the Bent Creek site and the Tyler-Loughridge site lend credence to it. These later dates indicate that the Connestee phase was probably several hundred years longer than was originally thought, perhaps lasting until AD 1000.

Pisgah Series. The Mississippian period Pisgah series has traditionally been dated to the period from AD 1000 to AD 1450. Eight radiocarbon dates from western North Carolina and Virginia are associated with Pisgah components. The one-sigma range for these and other dates from the region are presented in Figure 11. Two Pisgah dates (#61 and #59) from the Macon County Industrial site (WCU-Acc49) predate this suggested range by at least a century. These dates do not intersect with any other dates at the one-sigma range; however, sample #59, with its large standard deviation, does intersect sample #60 at the two-sigma range. Five of the radiocarbon dates fall within the AD 1000 to AD 1450 range; and one, though intersecting the range, extends to AD 1637. The latter date (#84) is also associated with a long-bone fragment that has been identified as horse by an ungulate specialist at the Smithsonian Institution (Baker, personal communication 1991). It is possible that Pisgah series ceramics continued to be produced beyond the sixteenth century, but too little evidence exists at this time to support this possibility.

Burke Series. Two radiocarbon dates are associated with Late Prehistoric/Protohistoric Burke series ceramics from the Berry site (31Bk22) in Burke County (#87) and the McDowell site (31Mc41) in McDowell County (#50). The calibrated dates are AD 1431 to AD 1441, respectively, with one-sigma ranges from AD 1403 to AD 1480.

Qualla Series. Seven radiocarbon dates in the database are associated with the Qualla series. These are presented in Figure 12. Given that sample #261 was found in association with European trade goods, the thirteenth-century radiocarbon age estimate must be erroneous. The second-earliest date (#257) also appears to be too early to be associated with European trade material, but its two-sigma range is AD 1290 to AD 1644. Aside from these dates, two of the remaining five dates ranges overlap from AD 1477 to AD 1650 at the one-sigma range. This range is consistent with Dickens' (1979) early Qualla phase.

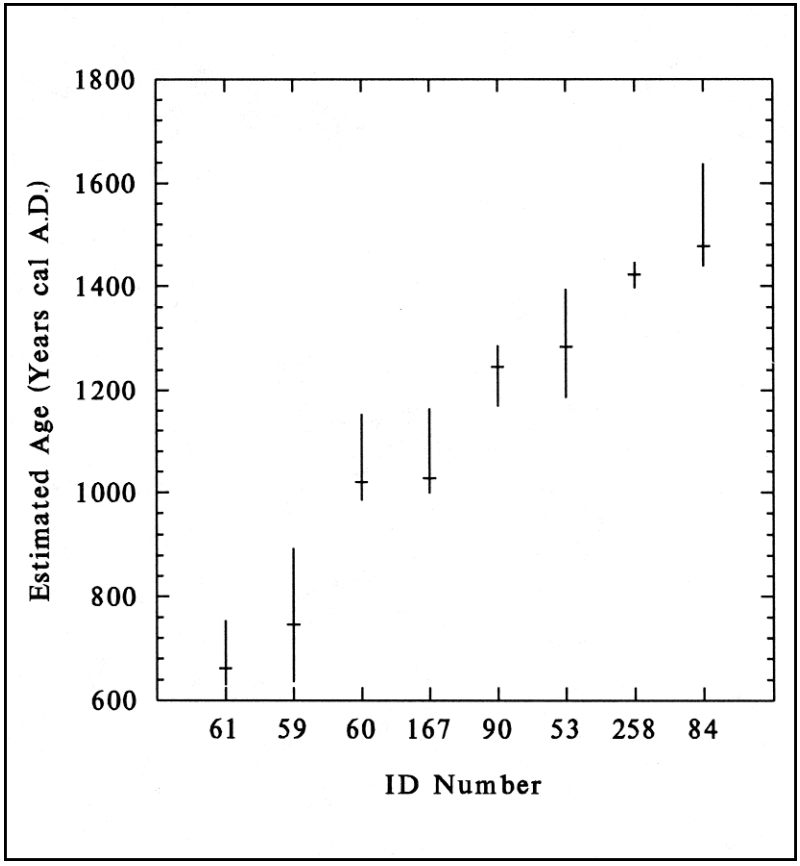

Figure 11. Distribution of Median Intercepts and One-Sigma Ranges for Radiocarbon Dates Associated with the Pisgah Series.

Three dates intersect from AD 1660 to present which corresponds with Dickens' late Qualla phase.

Suggestions for Future Work

As has been noted previously, several regions are poorly known in terms of radiocarbon dates. Specifically, the southern inner Coastal Plain, northeastern Piedmont, southwestern Piedmont, southeastern mountains, and northern Mountains lack adequate coverage.

In addition, nearly 90 percent of all of the radiocarbon dates in the

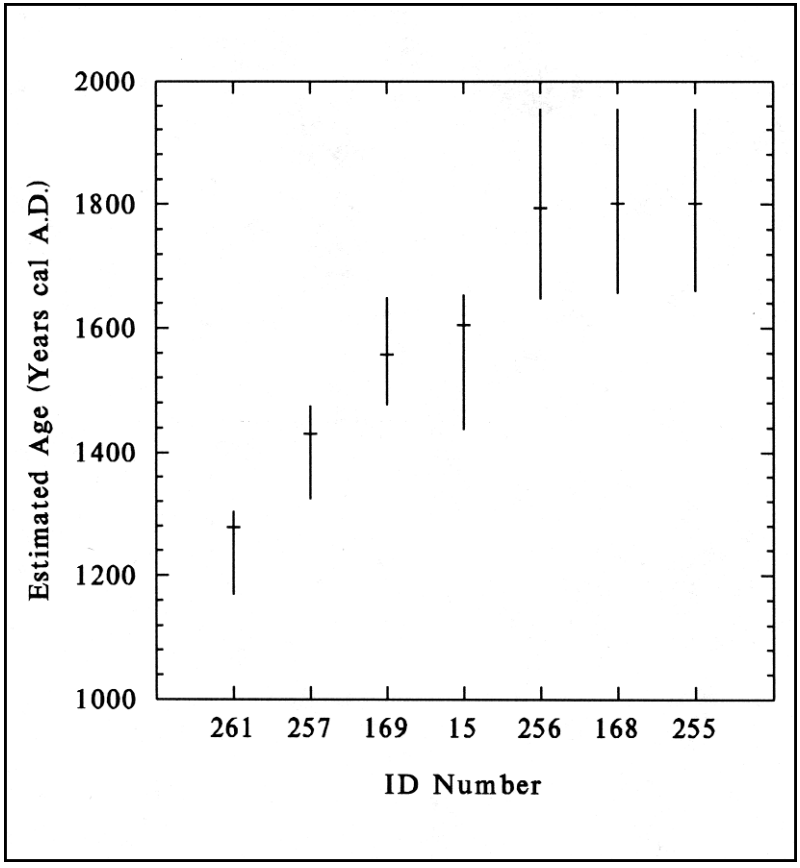

Figure 12. Distribution of Median Intercept and One-Sigma Ranges for Radiocarbon Dates Associated with the Qualla Series.

database are associated with Middle Woodland or later components. Early Woodland sites are rare and consequently the period is not well understood. A representative collection of radiocarbon dates would greatly improve our understanding of this period. The Early Archaic and Middle Archaic periods are also poorly represented in the database. Although a pertinent set of Archaic period dates from stratified sites in Tennessee exists (Chapman 1975, 1977, 1981), a representative sample from sites in North Carolina is needed. North Carolina also lacks radiocarbon dates associated with the Paleoindian period.

Filling gaps in the record is an important goal for future work, but simply collecting more dates will not contribute significantly unless the

samples are chosen to answer specific, well-described questions. One challenge of this project has been to try and understand what a particular date means. In several instances, archaeologists reporting their dates have not been explicit in describing why a sample was submitted and what the resulting date meant. In this sense, it is very important to publish dates and to provide an adequate discussion of the context from which a sample was taken and an interpretation of the date. For a third party to try and reconstruct this information after-the-fact is both inefficient and ineffective.

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Appendix. Summary of archaeological radiocarbon dates from North Carolina and selected dates from adjacent states.

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
Alamance County						
31Am148 (Guthrie)	Late Prehistoric (Haw River)	AD 1330 ± 70	AD 1315, 1347, 1390	AD 1293–1409	Beta-23507	1
31Am167 (Edgar Rogers)	Protohistoric (Hillsboro)	AD 1600 ± 50	AD 1516, 1591, 1621	AD 1461–1644	Beta-23509	2
31Am168 (Holt)	Late Prehistoric (Haw River)	AD 1470 ± 50	AD 1436	AD 1410–1454	Beta-23508	3
"	Late Prehistoric (Haw River)	AD 1050 ± 100	AD 1165	AD 1021–1258	Beta-20379	4
31Am225 (George Rogers)	Protohistoric (Hillsboro)	AD 1720 ± 60	AD 1663	AD 1642–1954	Beta-20381	5
"	Protohistoric (Hillsboro)	AD 1600 ± 50	AD 1516, 1591, 1621	AD 1461–1644	Beta-23510	13
31Am278	Late Woodland (Dan River)	AD 1120 ± 60	AD 1225	AD 1165–1280	Beta-35126	62
Alleghany County						
31Al89 (New River C. Club)	Late Woodland?	AD 1810 ± 50	AD 1689, 1732, 1813, 1925, 1954	AD 1672–1955	Beta-9379	82
Anson County						
31An1 (Teal)	Mississippian (Leak)	AD 1460 ± 50	AD 1433	AD 1407–1449	UGa-6041	305
"	Mississippian (Town Creek)	AD 1255 ± 50	AD 1294	AD 1280–1382	UGa-6042	306
"	Mississippian (Leak)	AD 1520 ± 45	AD 1449	AD 1434–1486	UGa-6110	307
"	Mississippian (Leak)	AD 1455 ± 50	AD 1432	AD 1406–1448	UGa-6043	308
"	Mississippian (Town Creek)	AD 1365 ± 50	AD 1399	AD 1306–1418	UGa-6044	309
"	Mississippian (Town Creek)	AD 1330 ± 50	AD 1315, 1347, 1390	AD 1297–1405	UGa-6045	310
"	Mississippian (Teal?)	AD 950 ± 55	AD 1022	AD 994–1154	UGa-6046	311
"	Mississippian (Teal)	AD 1000 ± 50	AD 1041, 1150	AD 1019–1168	UGa-6047	312
"	Mississippian (Teal)	AD 1000 ± 50	AD 1041, 1150	AD 1019–1168	UGa-6048	313
"	Mississippian (Leak?)	AD 1595 ± 115	AD 1447	AD 1406–1636	UGa-6049	314
"	Mississippian (Leak)	AD 1460 ± 75	AD 1433	AD 1402–1466	UGa-6390	315
"	Mississippian	AD 950 ± 90	AD 1022	AD 975–1164	UGa-6507	316
"	Mississippian (Town Creek)	AD 1215 ± 95	AD 1285	AD 1223–1382	UGa-6508	317
"	Mississippian (Teal)	AD 1130 ± 85	AD 1229	AD 1162–1286	UGa-6509A	318
"	Mississippian (Town Creek)	AD 1320 ± 80	AD 1310, 1353, 1385	AD 1289–1409	UGa-6510A	319

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31An1 (Teal)	Mississippian	AD 1035 ± 90	AD 1070, 1129, 1131, 1131, 1160	AD 1019–1230	UGa-6512	320
Beaufort County						
31Bf25 (Archbell Point)	Late Woodland (Colington)	AD 1380 ± 60	AD 1592	AD 1442–1556	SI-?	161
31Bf58 (Midgette Point)	Late Woodland (Colington)	AD 1630 ± 60	AD 1875, 1947	AD 1666–1850	SI-?	160
Bertie County						
31Br1 (Shipyard Landing)	Late Woodland (Colington)	AD 1320 ± 60	AD 1310, 1353, 1385	AD 1293–1405	Beta-4394	102
"	Late Woodland (Colington)	AD 1290 ± 60	AD 1302	AD 1286–1398	Beta-4395	103
31Br7 (Jordan's Landing)	Historic (Cashie)	AD 1425 ± 70	AD 1418	AD 1326–1444	UGa-1086	108
Bladen County						
canoe (White Lake)	–	30 ± 60 BC	45 BC	164 BC–AD 18	Beta-32845	243
"	–	AD 990 ± 50	AD 1011	AD 972–1028	Beta-27357	248
"	–	AD 1110 ± 70	AD 1064, 1075, 1126, 1134, 1159	AD 1023–1221	Beta-27358	249
"	–	AD 990 ± 50	AD 1011	AD 972–1028	Beta-27359	250
Brunswick County						
31Bw73 (Bluff Island)	Middle-Late Woodland	AD 1120 ± 50	AD 1225	AD 1168–1278	Beta-7353	122
Buncombe County						
31Bn8 (Hemphill)	–	AD 260 ± 50	AD 253, 304, 314	AD 221–374	Beta-45956	163
31Bn29 (Warren Wilson)	Late Archaic (Savannah River)	2915 ± 280 BC	3648 BC	3964–3351 BC	GX-2274	110
"	Late Archaic (Savannah River)	1565 ± 140 BC	1874, 1838, 1815 BC	2025–1674 BC	GX-2275	111
31Bn151 (Brunk)	Mississippian (Pisgah)	AD 1140 ± 70	AD 1245	AD 1169–1286	Beta-3603	90
31Bn335 (Bent Creek)	Middle Woodland (Connestee)	AD 900 ± 70	AD 1005	AD 896–1031	Beta-38063	83
"	Mississippian (Pisgah)	AD 1560 ± 70	AD 1478	AD 1439–1637	Beta-38064	84
"	Middle Woodland (Connestee)	AD 660 ± 60	AD 746, 711, 755	AD 665–789	Beta-38065	85
"	–	AD 1830 ± 50	AD 1702, 1718, 1819, 1860, 1917, 1954	AD 1678–1955	Beta-38066	86

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31Bn493 (Moyer)	Late Archaic?	750 ± 80 BC	827 BC	914–800 BC	Beta-45957	164
Burke County						
31Bk22 (Berry)	Late Prehistoric (Berry)	AD 1450 ± 60	AD 1431	AD 1403–1448	Beta-21816	87
"	Late Prehistoric (Berry)	AD 1430 ± 50	AD 1421	AD 1400–1441	Beta-21817	88
Carteret County						
31Cr218 (Broad Reach)	Late Woodland (White Oak/Oak Island)	AD 1280 ± 80	AD 1168	AD 1032–1247	Beta-53075	254
"	Late Woodland (White Oak/Oak Island)	AD 1470 ± 50	AD 1449	AD 1435–1483	Beta-52529	272
"	Middle Woodland (Hanover/Carteret)	AD 530 ± 90	AD 445	AD 389–601	Beta-58941	329
"	Middle-Late Woodland	AD 930 ± 90	AD 888	AD 775–997	Beta-58942	330
"	Late Woodland (White Oak/Oak Island)	AD 1540 ± 70	AD 1398	AD 1295–1433	Beta-58943	331
"	Late Woodland (White Oak/Oak Island)	AD 1340 ± 50	AD 1398	AD 1307–1411	Beta-58944	332
"	Late Woodland (White Oak/Oak Island)	AD 1220 ± 70	AD 1290	AD 1273–1379	Beta-58945	333
"	Late Woodland (White Oak/Oak Island)	AD 1380 ± 50	AD 1415	AD 1400–1436	Beta-58946	334
"	Late Woodland (White Oak/Oak Island)	AD 1450 ± 50	AD 1444	AD 1430–1473	Beta-58947	335
Chatham County						
31Ch8	Middle Woodland (Yadkin)	240 ± 95 BC	199 BC	381–67 BC	Beta-1357	16
"	Early Woodland	AD 645 ± 145	AD 687	AD 624–889	Beta-1360	260
"	–	AD 65 ± 120	AD 127	AD 5–319	Beta-1361	263
31Ch29 (Haw River)	–	> AD 1805	–	–	Beta-1362	264
"	Early Archaic (Kirk)	3745 ± 280 BC	4524 BC	4897–4255 BC	Beta-1363	265
"	–	3475 ± 340 BC	4576 BC	4960–4251 BC	Beta-1365	266
"	Early-Middle Archaic (Late Kirk)	6010 ± 90 BP	6993, 6963, 6861, 6846, 6771 BC	7032–6617 BC	Beta-1367	267
31Ch366 (Newkirk)	Late Woodland	AD 830 ± 50	AD 898, 906, 961	AD 883–997	Beta-3038	155
"	Late Archaic	1500 ± 60 BC	1742 BC	1875–1677 BC	Beta-3039	156
"	Late Archaic	1580 ± 60 BC	1878, 1833, 1825, 1791, 1790 BC	1935–1746 BC	Beta-3040	157

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31Ch366 (Newkirk)	Late Woodland?	AD 880 ± 70	AD 989	AD 891–1025	Beta-3041	158
"	Late Archaic	AD 235 ± 280	AD 344, 370	AD 14–639	UGa-3039	159
31Ch452 (Mitchum)	Contact (Mitchum)	modern	–	–	Beta-23505	11
31Ch463 (Webster)	Late Prehistoric (Haw River)	AD 1440 ± 70	AD 1426	AD 1398–1448	Beta-23506	12
Cherokee County						
31Ce15 (Townson)	Historic (Qualla)	AD 1585 ± 100	AD 1490, 1605, 1613	AD 1438–1654	FSU-153 (144)	15
"	Historic (Qualla)	AD 1180 ± 110	AD 1278	AD 1169–1304	GX-594	261
31Ce41 (Harshaw Bottom)	Middle Woodland (Connestee)	AD 490 ± 90	AD 654	AD 600–686	Beta-69797	339
"	Middle Woodland (Connestee)	AD 460 ± 70	AD 641	AD 599–663	Beta-69798	340
Clay County						
31Cy1 (Spikebuck Town)	–	AD 1840 ± 50	AD 1710, 1822, 1833, 1882, 1912, 1954	AD 1681–1955	Beta-6886	113
Cumberland County						
31Cd7 (McLean Mound)	Middle Woodland? (Cape Fear)	AD 970 ± 110	AD 1028	AD 976–1212	M-1354	14
canoe (Grays Swamp)		AD 480 ± 60	AD 541	AD 427–605	Beta-31199	242
Currituck County						
31Ck9 (Baum)	Middle Woodland (Mount Pleasant)	AD 360 ± 65	AD 539	AD 423–603	UGa-1085	109
"	Late Woodland (Colington)	AD 1315 ± 70	AD 1510	AD 1403–1506	UGa-1089	112
31Ck32 (Point Harbor)	Middle Woodland (Mount Pleasant)	AD 280 ± 60	AD 405	AD 264–438	Beta-48970	325
"	Late Woodland (Colington)	AD 1560 ± 50	AD 1478	AD 1443–1631	Beta-48971	326
"	Late Woodland (Colington)	AD 990 ± 80	AD 1037	AD 1007–1189	Beta-48972	327
"	–	modern	AD 1955	AD 1690–1955	Beta-48973	328
Dare County						
31Dr14 (Kitty Hawk Bay)	Late Woodland (Colington)	AD 1045 ± 65	AD 1317	AD 1183–1313	UGa-1090	56
"	Late Woodland (Colington)	AD 1320 ± 65	AD 1514	AD 1401–1516	UGa-3847	57
31Dr15 (Rush Point)	Middle Woodland (Mount Pleasant)	AD 265 ± 65	AD 588	AD 386–575	UGa-1088	54
"	Middle Woodland (Mount Pleasant)	AD 890 ± 80	AD 1212	AD 1012–1215	UGa-3849	55

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31Dr21 (Fort Raleigh)	–	modern	–	–	Beta-6927	114
"	–	modern	–	–	Beta-6928	115
"	–	modern	–	–	Beta-6929	116
"	–	modern	–	–	Beta-8135	117
"	–	modern	–	–	Beta-8136	118
31Dr33 (White Court)	Late Woodland (Colington)	AD 1230 ± 65	AD 1456	AD 1319–1451	UGa-1087	58
"	Late Woodland (Colington)	modern	–	–	UGa-3848	105
31Dr35 (Tillett)	Late Woodland (Colington)	AD 860 ± 85	AD 978	AD 883–1023	UGa-3433	106
"	Middle Woodland (Mount Pleasant)	AD 460 ± 85	AD 744	AD 584–755	UGa-3435	107
Davie County						
31Dv25 (Parker)	Middle Woodland (Uwharrie)	AD 980 ± 80	AD 1032	AD 999–1170	Tx-2818	130
"	Middle Woodland (Uwharrie)	AD 610 ± 60	AD 671	AD 651–772	Tx-2819	131
"	Middle Woodland (Uwharrie)	modern	AD 1702, 1718, 1819, 1860, 1917, 1954	AD 1481–1955	Tx-2820	132
Forsyth County						
31Fy14 (Bottoms Rock Shelter)	–	modern	–	–	Y-1787	17
"	M-L Woodland (Yadkin and Uwharrie)	AD 1440 ± 100	AD 1426	AD 1318–1470	Y-1407	18
"	Late Archaic (Savannah River)	2270 ± 160 BC	2877, 2791, 2789 BC	3018–2575 BC	Y-1405	19
"	–	6900 ± 300 BC	7935 BC	8094–7540 BC	Y-1788	20
"	M-L Woodland (Yadkin and Uwharrie)	1260 ± 120 BC	AD 1496, 1486, 1450	AD 1323–1616	Y-1406	21
31Fy549 (E. Davis)	Early Woodland (Yadkin)	AD 1065 ± 100	AD 1169	AD 1025–1276	Beta-32665	139
"	Early Woodland (Yadkin)	220 ± 80 BC	193 BC	367–61 BC	Beta-17859	140
Gaston County						
31Gs30 (Hardin)	Mississippian	AD 1410 ± 60	AD 1410	AD 1322–1438	Beta-20946	144
31Gs30	Mississippian	AD 1180 ± 100	AD 1278	AD 1183–1301	Beta-20947	145
31Gs30	Mississippian	AD 1520 ± 80	AD 1449	AD 1422–1625	Beta-23088	146

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31Gs30 (Hardin)	Mississippian	AD 1430 ± 80	AD 1421	AD 1323–1448	Beta-23089	147
"	Mississippian	AD 1090 ± 80	AD 1214	AD 1043–1277	Beta-23587	148
31Gs55 (Crowders Creek)	Late Woodland/Mississippian	AD 1350 ± 70	AD 1328, 1333, 1395	AD 1298–1419	Beta-13287	141
"	Late Woodland/Mississippian	AD 1430 ± 70	AD 1421	AD 1329–1446	Beta-20945	142
"	Late Woodland/Mississippian	AD 1600 ± 50	AD 1516, 1591, 1621	AD 1461–1644	Beta-13917	143
Graham County						
31Gh98 (Stratton Meadows)	Late Archaic	1725 ± 70 BC	2033 BC	2170–1933 BC	?	194
"	Late Archaic	1705 ± 70 BC	2022, 2000, 1983 BC	2135–1905 BC	?	195
"	Late Archaic	1220 ± 90 BC	1424 BC	1519–1318 BC	?	196
"	Late Archaic	1820 ± 110 BC	2190, 2160, 2145 BC	2395–1983 BC	?	197
"	Late Archaic	1830 ± 90 BC	2193, 2155, 2148 BC	2391–2036 BC	?	198
"	Late Archaic	1910 ± 70 BC	2315 BC	2459–2148 BC	?	199
Guilford County						
31Gf210	–	AD 320 ± 70	AD 423	AD 348–541	Beta-30208	93
Halifax County						
31Hx7 (Gaston)	–	2447 ± 350 BC	2890 BC	3368–2457 BC	M-522	22
"	Woodland (Clements and Vincent)	AD 910 ± 200	AD 1011	AD 781–1223	M-526	23
"	Historic (Clarksville)	AD 1729 ± 200	AD 1668, 1788, 1791, 1950, 1952	AD 1455–1955	M-527	24
"	Late Woodland (Clements-Uwharrie)	AD 1570 ± 200	AD 1488, 1609, 1611	AD 1402–1954	M-525	25
"	Middle Archaic (late) (Halifax)	3638 ± 350 BC	4327, 4275, 4267 BC	4682–3823 BC	M-523	26
"	Late Archaic (Savannah River)	2056 ± 250 BC	2450, 2446, 2401,	2860–1980 BC	M-524	27
31Hx105 (Caledonia Sand Pit)	Late Woodland (Clements)	AD 1450 ± 80	AD 1431	AD 1399–1459	Beta-18904	268
Haywood County						
31Hw1 (Garden Creek)	Historic (Qualla)	AD 1745 ± 65	AD 1671, 1783, 1794, 1947, 1953	AD 1648–1954	GX-729	256
"	Historic (Qualla)	AD 1450 ± 100	AD 1431	AD 1324–1475	GX-596	257

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31Hw1 (Garden Creek)	Mississippian (Pisgah)	AD 1435 ± 70	AD 1423	AD 1397–1447	GX-595	258
31Hw2 (Garden Creek)	Middle Woodland (Connestee)	AD 805 ± 85	AD 892	AD 784–1002	GX-730	259
Hertford County						
31Hf20 (Mount Pleasant)	Late Woodland (Colington)	AD 825 ± 95	AD 897, 910, 958	AD 787–1015	UGa-4011	104
31Hf30b (Liberty Hill ?)	Late Woodland (Colington)	AD 1640 ± 50	AD 1638	AD 1487–1657	Beta-8134	101
Hyde County						
31Hy43 (Amity)	Late Woodland (Colington)	AD 1500 ± 100	AD 1444	AD 1406–1624	Beta-17507	96
"	Late Woodland (Colington)	AD 1790 ± 50	–	–	Beta-17508	97
"	Late Woodland (Colington)	AD 1290 ± 90	AD 1310, 1353, 1385	AD 1288–1410	Beta-30866	98
"	Late Woodland (Colington)	AD 1740 ± 50	AD 1669, 1786, 1793, 1949, 1952	AD 1654–1954	Beta-31110	99
"	Late Woodland (Colington)	AD 1470 ± 80	AD 1444	AD 1415–1611	Beta-34062	100
Jackson County						
31Jk12 (Tuckasegee)	Historic (Qualla)	AD 1775 ± 55	AD 1679, 1767, 1802, 1939, 1954	AD 1660–1954	GX-593	255
31Jk186 (Sutton)	Historic (Qualla)	AD 1770 ± 60	AD 1678, 1772, 1801, 1941, 1954	AD 1657–1954	Beta-3401	168
"	Historic (Qualla)	AD 1620 ± 50	AD 1525, 1558, 1631	AD 1477–1650	Beta-3516	169
Lenoir County						
31Lr1 (Tower Hill)	Late Woodland (Cashie)	AD 720 ± 100	AD 786	AD 673–958	Beta-43628	40
Macon County						
31Ma182 (Otto)	Late Prehistoric	modern	–	–	UGa-?	262
WCU-Acc49 (Macon Co. Industrial)	Mississippian (Pisgah)	AD 660 ± 145	AD 711, 746, 755	AD 635–893	UGa-2172	59
"	Mississippian (Pisgah)	AD 940 ± 60	AD 1020	AD 985–1153	UGa-2173	60
"	Mississippian (Pisgah)	AD 580 ± 70	AD 662	AD 630–753	UGa-2174	61

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
McDowell County						
31Mc41 (McDowell)	L. Prehistoric/Protohistoric (Burke)	AD 1490 ± 75	AD 1441	AD 1412–1480	GX-11057	50
"		AD 1060 ± 50	AD 1168	AD 1041–1226	Beta-21818	89
31Mc139 (Tyler-Loughridge)	Middle Woodland (Connestee)	AD 180 ± 90	AD 253, 304, 314	AD 137–402	Beta-32925	165
"	Middle Woodland (Connestee)	AD 240 ± 60	AD 347, 360, 374	AD 249–419	Beta-32926	166
"	Late Prehistoric/Miss. (Pisgah)	AD 970 ± 70	AD 1028	AD 999–1164	Beta-32927	167
"	Middle-Late Woodland (Connestee)	AD 670 ± 60	AD 821, 840, 860	AD 727–891	Beta-69799	341
"	Middle-Late Woodland (Connestee)	AD 750 ± 80	AD 888	AD 782–984	Beta-69800	342
Montgomery County						
31Mg2 (Town Creek Mound)	Mississippian (Pee Dee)	AD 1350 ± 140	AD 1328, 1333, 1395	AD 1283–1442	FSU-145/154	28
"	Mississippian (Pee Dee)	< AD 1710	–	–	FSU-146	150
"	Mississippian (Pee Dee)	AD 1205 ± 140	AD 1283	AD 1168–1395	FSU-184/174	151
"	Mississippian (Pee Dee)	AD 1355 ± 50	AD 1397	AD 1304–1413	FSU-185/175	152
"	Mississippian (Pee Dee)	AD 1280 ± 40	AD 1300	AD 1287–1391	FSU-186/176	153
Moore County						
31Mr15 (Payne)	Late Prehistoric? (Caraway?)	AD 1130 ± 70	AD 1229	AD 1166–1284	Beta-18411	154
"	L. Woodland/Miss. (Uwharrie/Pee Dee)	AD 1090 ± 70	AD 1214	AD 1047–1276	Beta-18412	200
"	Mississippian (Pee Dee)	AD 1040 ± 60	AD 1162	AD 1027–1223	Beta-18410	343
Nash County						
31Ns3b (Thorpe)	Late Woodland (Cashie)	AD 950 ± 70	AD 1022	AD 985–1158	UGa-3142	119
"	Late Woodland (Cashie)	AD 1150 ± 65	AD 1253	AD 1187–1287	UGa-3143	120
"	Middle Woodland (Mount Pleasant)	AD 685 ± 75	AD 774	AD 669–883	UGa-3144	121
New Hanover County						
31Nh28 (Cold Morning)	Late Woodland (Oak Island)	AD 950 ± 80	AD 984	AD 886–1024	Beta-1285	29
31Nh556 (Sidney Brook)	Middle Woodland (Mount Pleasant)	AD 390 ± 60	AD 538	AD 424–600	Beta-7011	123
Onslow County						
31On33 (Uniflite)	Late Woodland (Oak Island)	AD 455 ± 60	AD 598	AD 537–643	UGa-2547	63

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31On33 (Uniflite)	Late Woodland (Oak Island)	AD 400 ± 65	AD 541	AD 426–607	UGa-2548	64
"	Late Woodland (Oak Island)	AD 685 ± 60	AD 774	AD 674–876	UGa-2549	65
"	Late Woodland (Oak Island)	AD 1400 ± 65	AD 1408	AD 1314–1437	UGa-2550	66
"	Late Woodland (Oak Island)	455 ± 60 BC	311 BC	471–329 BC	UGa-2551	67
"	Late Woodland (Oak Island)	AD 1095 ± 50	AD 1372	AD 1242–1336	UGa-2552	68
31On82 (Hammocks Beach)	Late Woodland (Oak Island)	AD 1150 ± 90	AD 1253	AD 1166–1292	Beta-11937	73
"	–	AD 550 ± 60	AD 654	AD 610–676	Beta-11938	74
31On196 (Permuda Island)	Late Woodland (Oak Island)	AD 1300 ± 50	AD 1305, 1367, 1373	AD 1290–1398	Beta-11939	69
"	Late Woodland (Oak Island)	AD 1050 ± 60	AD 1165	AD 1032–1225	Beta-11940	70
"	Late Woodland (Oak Island)	AD 500 ± 80	AD 628	AD 545–664	Beta-11941	71
"		AD 110 ± 60	AD 215	AD 88–314	Beta-11942	72
31On305 (Flynt)	Late Woodland (Oak Island)	AD 1100 ± 60	AD 1218	AD 1066–1276	Beta-12815	77
"	Late Woodland	AD 1190 ± 70	AD 1280	AD 1222–1297	Beta-12816	78
"	Late Woodland	AD 810 ± 60	AD 893	AD 823–989	Beta-12817	79
"	Late Woodland	AD 880 ± 50	AD 989	AD 895–1020	Beta-9381	80
"	Late Woodland	AD 850 ± 50	AD 973	AD 888–1011	Beta-9382	81
"	Late Woodland	AD 1070 ± 50	AD 1176	AD 1046–1229	Beta-12353	91
"	Late Woodland (Colington/Oak Island)	AD 1390 ± 60	AD 1307, 1361, 1379	AD 1290–1402	Beta-30209	92
31On309 (Jarretts Point Ossuary)	–	modern	–	–	Beta-13658	94
"	–	AD 1335 ± 65	AD 1318, 1343, 1392	AD 1297–1408	UGa-5467	95
canoe (New River)	–	AD 1200 ± 50	AD 1225	AD 1168–1278	Beta-27356	247
Orange County						
31Or11 (Wall)	Protohistoric (Hillsboro)	AD 1555 ± 140	AD 1475	AD 1410–1656	GX-9719	6
"	Protohistoric (Hillsboro)	AD 1730 ± 145	AD 1666	AD 1488–1955	GX-9718	7
"	Protohistoric (Hillsboro)	AD 1455 ± 120	AD 1432	AD 1316–1610	GX-9834	8
31Or231 Fredricks	Late Prehistoric (early Haw River)	AD 920 ± 60	AD 1014	AD 973–1036	Beta-20378	9

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31Or231b(Hogue - East)	Late Prehistoric (Haw River)	AD 160 ± 200	AD 244	AD 17–447	Beta-36096	38
31Or233(Hogue - West)	Late Prehistoric (early Haw River)	AD 1030 ± 70	AD 1064, 1075, 1127, 1133, 1159	AD 1023–1221	Beta-20380	10
Richmond County						
31Rh1 (Leak) Mississippian (Leak)		AD 1465 ± 175	AD 1434	AD 1302–1639	UGa-5644	302
"	Mississippian (Leak)	AD 1425 ± 65	AD 1651	AD 1463–1644	UGa-5645	303
"	Mississippian (Town Creek)	AD 1270 ± 50	AD 1298	AD 1283–1391	UGa-6050	304
Robeson County						
canoe (Lumber River)		AD 930 ± 60	AD 973	AD 886–1013	Beta-12872	225
Rockingham County						
31Rk1 (Lower Saratown)	Late Prehistoric (Dan River)	AD 1200 ± 60	AD 1282	AD 1230–1297	Beta-36092	34
"	Contact (Middle Saratown)	AD 1530 ± 60	AD 1454	AD 1433–1620	Beta-36093	35
31Rk5 (Powerplant)	Late Prehistoric (Dan River)	AD 470 ± 90	AD 605	AD 468–659	Beta-36094	36
"	Protohistoric (Early Saratown)	AD 980 ± 80	AD 1032	AD 999–1170	Beta-36095	37
Stanly County						
31St4 (Hardaway)	Middle Archaic (Morrow Mountain)	4765 ± 90 BC	5589 BC	5662–5522 BC	Beta-1286	30
Stokes County						
31Sk1 (Early Upper Saratown)	Protohistoric (Early Saratown)	AD 1350 ± 80	AD 1328, 1333, 1395	AD 1296–1424	Beta-36090	32
31Sk1a (Upper Saratown)	Late Prehistoric (Dan River)	AD 1360 ± 60	AD 1398	AD 1303–1420	Beta-36089	31
31Sk6 (William Kluttz)	Late Prehistoric (Dan River)	AD 1170 ± 70	AD 1275	AD 1215–1292	Beta-36091	33
Surry County						
31Sr50 (Hardy)	Late Woodland (Dan River)	AD 1610 ± 70	AD 1520, 1569, 1627	AD 1544–1653	Beta-22502	133
"	Late Woodland (Dan River)	AD 1230 ± 60	AD 1288	AD 1263–1372	Beta-22870	134
"	Late Woodland (Dan River)	AD 920 ± 70	AD 1014	AD 968–1040	Beta-22871	135
"	Late Woodland (Dan River)	AD 1270 ± 90	AD 1298	AD 1276–1399	Beta-28997	136
"	Late Woodland (Dan River)	AD 1220 ± 70	AD 1286	AD 1244–1371	Beta-28998	137

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
31Sr50 (Hardy)	Late Woodland (Dan River)	AD 1170 ± 70	AD 1275	AD 1215–1292	Beta-28999	138
Swain County						
31Sw5 (Ela)	Middle Woodland (Connestee)	AD 530 ± 50	AD 665	AD 651–686	Beta-69803	337
"	Middle Woodland (Connestee)	AD 370 ± 60	AD 544	AD 438–606	Beta-69802	338
Transylvania County						
31Tv1 (Puette-Hunt)	Middle Woodland (Connestee)	AD 490 ± 60	AD 641	AD 599–663	Beta-66768	336
Wake County						
31Wa592	Early Woodland	AD 360	–	–	?	149
Washington County						
canoe (Lake Phelps)	–	770 ± 70 BC	922 BC	1019–839 BC	Beta-16674	226
"	Early Woodland (Deep Creek)	900 ± 60 BC	1120 BC	1256–1005 BC	Beta-16675	227
"	–	AD 340 ± 60	AD 389	AD 257–427	Beta-20930	228
"	–	AD 1400 ± 60	AD 1310, 1354, 1385	AD 1293–1405	Beta-21413	229
"	–	AD 420 ± 60	AD 432	AD 398–544	Beta-21414	230
"	–	AD 160 ± 70	AD 135	AD 72–273	Beta-21415	231
"	–	AD 320 ± 60	AD 347, 361, 374	AD 249–419	Beta-21416	232
"	–	AD 190 ± 60	AD 214	AD 88–313	Beta-21417	233
"	–	AD 230 ± 60	AD 239	AD 135–334	Beta-21418	234
"	–	2430 ± 70 BC	3095 BC	3335–2926 BC	Beta-21419	235
"	–	AD 1390 ± 60	AD 1370, 1361, 1379	AD 1290–1402	Beta-21420	236
"	–	AD 370 ± 50	AD 411	AD 340–439	Beta-21421	237
"	–	AD 1200 ± 80	AD 1225	AD 1068–1283	Beta-21422	238
"	–	AD 210 ± 60	AD 230	AD 125–323	Beta-21423	239
"	–	140 ± 60 BC	193 BC	360–104 BC	Beta-21424	240
"	–	AD 110 ± 60	AD 83	AD 20–146	Beta-21425	241
"	–	1280 ± 110 BC	1597, 1567, 1529 BC	1735–1439 BC	Beta-24541	244
"	–	30 ± 70 BC	45 BC	172 BC–AD 51	Beta-24542	245

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
canoe (Lake Phelps)	–	1110 ± 70 BC	1410 BC	1503–1313 BC	Beta-24543	246
Watauga County						
31Wt22 (Ward)	Late Prehistoric (Burke/Berry)	AD 1395 ± 90	AD 1406	AD 1305–1441	UGa-683	269
"	Late Prehistoric (Burke/Berry)	AD 1640 ± 165	AD 1638	AD 1436–1954	UGa-684	270
Wilson County						
31Wl170	Middle Woodland (Mount Pleasant)	AD 1680 ± 50	AD 1651	AD 1525–1953	Beta-48782	162
Yadkin County						
31Yd1 (Forbush Creek)	Late Prehistoric (Uwharrie)	AD 1610 ± 100	AD 1520, 1569, 1627	AD 1445–1661	GX-2692	39
31Yd9 (Donnaha)	Late Woodland (Dan River)	AD 1250 ± 70	AD 1467	AD 1328–1464	Beta-3264	124
"	Late Woodland (Dan River)	AD 1040 ± 90	AD 1162	AD 1021–1241	Beta-3265	125
"	Late Woodland (Dan River)	AD 1140 ± 70	AD 1245	AD 1169–1286	Beta-3266	126
"	Late Woodland (Dan River)	60 ± 120 BC	AD 5	169 BC-AD 127	Beta-3267	127
"	Late Woodland (Dan River)	240 ± 90 BC	199 BC	379–95 BC	Beta-3268	128
"	Late Woodland (Dan River)	AD 1480 ± 70	AD 1438	AD 1408–1477	Beta-3269	129
	SOUTH CAROLINA SITES (Selected)					
Sumter County						
38Su83	Early Woodland (Yadkin)	180 ± 70 BC	165 BC	345–42 BC	Beta-14593	273
"	Early Woodland (Yadkin)	380 ± 80 BC	393 BC	411–259 BC	Beta-14594	274
"	Early Woodland (Yadkin)	520 ± 70 BC	753, 699, 533 BC	777–405 BC	Beta-14595	275
York County						
38Yk3 (Spratt's Bottom)	–	AD 1190 ± 90	AD 1280	AD 1215–1301	Beta-61515	323
"	–	AD 830 ± 90	AD 898, 906, 961	AD 813–1016	Beta-61516	324
	TENNESSEE SITES (Selected)					
Hawkins County						
40Hw45 (Phipps Bend)	Early Woodland (middle Swannanoa)	740 ± 200 BC	822 BC	1037–545 BC	DIC-807	276

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
40Hw45 (Phipps Bend)	Early Woodland (Swannanoa)	970 ± 80 BC	1116 BC	1258–946 BC	UGa-2094	277
"	Early Woodland (Swannanoa)	990 ± 105 BC	1125 BC	1306–943 BC	UGa-2095	278
Monroe County						
40Mr23 (Icehouse Bottom)	Middle Woodland (Connestee)	AD 435 ± 110	AD 558	AD 423–654	UGa-1881	279
"	Middle Woodland (Connestee)	AD 470 ± 135	AD 605	AD 427–671	GX-5046	280
"	Middle Woodland (Connestee)	AD 270 ± 80	AD 397	AD 254–444	UGa-1882	281
"	Middle Woodland (Connestee)	AD 405 ± 160	AD 543	AD 348–659	GX-5047	282
"	Middle Woodland (Connestee)	AD 585 ± 90	AD 664	AD 617–772	GX-2154	283
"	Middle Woodland (Connestee)	AD 605 ± 90	AD 669	AD 634–779	GX-2487	284
"	Early Archaic (Kirk)	7485 ± 270 BC	8460, 8440 BC	9005–8095 BC	GX-4126	290
"	Early Archaic (Kirk)	7400 ± 215 BC	8401, 8363, 8359 BC	8850–8089 BC	GX-4125	291
"	Early Archaic (Kirk)	6765 ± 140 BC	7839, 7826, 7701 BC	7942–7544 BC	I-9138	293
"	Early Archaic (Kirk)	6575 ± 335 BC	7536 BC	7963–7095 BC	I-9137	294
"	Middle Archaic (Stanly)	5840 ± 215 BC	6591, 6585, 6561 BC	7003–6409 BC	GX-4123	295
"	Middle Archaic (Morrow Mountain)	5045 ± 245 BC	5827 BC	6043–5597 BC	GX-4124	297
40Mr25 (Bacon Bend)	Late Archaic (Savannah River)	2440 ± 155 BC	3022, 2985, 2928 BC	3339–2880 BC	GX-5043	299
"	Late Archaic (Savannah River)	1630 ± 225 BC	1911 BC	2272–1627 BC	GX-5044	300
"	Late Archaic (Savannah River)	2120 ± 70 BC	2582 BC	2859–2476 BC	UGa-1879	301
40Mr40 (Patrick)	Early Archaic (Kirk)	7460 ± 290 BC	8428 BC	9003–8087 BC	GX-4122	292
"	Middle Archaic (Stanly)	5860 ± 175 BC	6598 BC	6999–6428 BC	GX-4121	296
40Mr44 (Rose Island)	Early Archaic (Kirk)	7160 ± 145 BC	8086 BC	8336–8015 BC	GX-3565	285
"	Early Archaic (Kirk)	7380 ± 250 BC	8386, 8375, 8353 BC	8908–8080 BC	GX-3564	286
"	Early Archaic (St. Albans)	6850 ± 270 BC	7908, 7750 BC	8076–7536 BC	GX-3167	287
"	Early Archaic (St. Albans)	6710 ± 180 BC	7589 BC	7933–7500 BC	GX-3598	288
"	Early Archaic (St. Albans)	6750 ± 300 BC	7696 BC	8031–7441 BC	GX-3168	289
40Mr66 (Howard)	Middle Archaic (Morrow Mountain)	5305 ± 165 BC	6150, 6098, 6047 BC	6216–5897 BC	GX-4704	298

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
		VIRGINIA SITES (Selected)				
Bath County						
44Ba3 (Perkins Point)	Protohistoric (Perkins Point)	AD 1635 ± 60	AD 1636	AD 1480–1658	UGa-3080	218
"	Protohistoric (Perkins Point)	AD 1515 ± 50	AD 1447	AD 1432–1485	UGa-3083	219
"	Protohistoric (Perkins Point)	AD 1510 ± 130	AD 1446	AD 1402–1639	UGa-3082	220
44Ba5 (Huffman)	Late Woodland (Huffman)	AD 1220 ± 65	AD 1286	AD 1249–1303	UGa-4048	221
"	Late Woodland (Huffman)	AD 1185 ± 65	AD 1279	AD 1222–1295	UGa-4055	222
"	Late Woodland (Huffman)	AD 1015 ± 75	AD 1049, 1090, 1118, 1142, 1154	AD 1017–1217	UGa-4054	223
"	Late Woodland (Huffman)	AD 885 ± 70	AD 993	AD 892–1026	UGa-4056	224
Botetourt County						
44Bo26 (Bessemer)	Late Woodland (Dan River)	AD 1220 ± 50	AD 1286	AD 1262–1300	Beta-26211	183
"	Late Woodland (Dan River)	AD 1440 ± 50	AD 1426	AD 1403–1444	Beta-24344	184
"	Late Woodland (Dan River)	AD 1180 ± 50	AD 1278	AD 1225–1290	Beta-26209	185
"	Late Woodland (Dan River)	AD 1570 ± 70	AD 1483	AD 1441–1640	Beta-26208	186
"	Late Woodland (Page)	AD 1720 ± 60	AD 1663	AD 1642–1954	Beta-26202	187
"	Late Woodland (Dan River)	AD 1360 ± 50	AD 1398	AD 1305–1416	Beta-26204	188
"	Late Woodland (Page)	AD 1420 ± 50	AD 1415	AD 1398–1438	Beta-26205	189
"	Late Woodland (Page)	AD 1370 ± 50	AD 1400	AD 1307–1421	Beta-24342	190
"	Late Woodland (Page)	AD 1320 ± 50	AD 1310, 1353, 1385	AD 1291–1407	Beta-26206	191
"	Late Woodland (Page)	AD 1250 ± 60	AD 1293	AD 1277–1384	Beta-26207	192
"	Late Woodland (Page/Dan River)	AD 1230 ± 70	AD 1288	AD 1254–1377	Beta-26210	193
"	Late Woodland (Dan River)	AD 1220 ± 90	AD 1286	AD 1227–1383	Beta-26203	251
"	Late Woodland (Dan River)	AD 1220 ± 70	AD 1286	AD 1244–1371	Beta-24343	252
"	Late Woodland (Dan River)	AD 1410 ± 70	AD 1410	AD 1317–1440	Beta-26212	253
Franklin County						
44Fr31 (Otter Creek)	Late Woodland (Dan River)	AD 1320 ± 50	AD 1310, 1353, 1385	AD 1295–1403	Beta-11095	182

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
Fluvanna County						
44Fv19	Middle Woodland (Vincent)	AD 1030 ± 75	AD 1064, 1075, 1127, 1133, 1159	AD 1022–1222	UGa-3793	217
Halifax County						
44Ha22 (Reedy Creek)	Late Woodland (Clarksville)	AD 1150 ± 65	AD 1253	AD 1187–1287	UGa-1258	203
44Ha23 (Leggett)	Late Prehistoric (Dan River)	AD 1495 ± 80	AD 1442	AD 1410–1611	UGa-1367	180
"	Late Prehistoric (Dan River)	AD 1155 ± 100	AD 1258	AD 1165–1295	UGa-1591	181
44Ha99 (Garrett)	Middle Woodland	–	AD 619	AD 552–654	Beta-55613	322
44Ha109 (Turkey Run)	–	–	790 BC	812–536 BC	Beta-55612	321
Hampton County						
44Ht3 (Briarfield)	Late Woodland (Townsend)	AD 1320 ± 100	AD 1310, 1353, 1385	AD 1285–1418	SI-216	208
Henrico County						
44He313 (Pony Pasture)	Late Archaic (Savannah River)	1310 ± 90 BC	1518 BC	1630–1421 BC	Beta-12458	216
44He470 (Alvis)	Late Woodland (Townsend)	AD 770 ± 70	AD 883	AD 776–971	UGa-4818	210
Henry County						
44Hr1 (Leatherwood Creek)	Late Prehistoric (Dan River)	AD 580 ± 80	AD 662	AD 621–762	UGa-565	51
44Hr2 (Box Plant)	Late Prehistoric (Dan River)	AD 1330 ± 60	AD 1315, 1347, 1390	AD 1295–1407	UGa-619	41
44Hr4 (Philpott)	Late Prehistoric (Dan River)	AD 1745 ± 55	AD 1671, 1783, 1794, 1947, 1953	AD 1651–1954	UGa-2830	43
44Hr6 (Koehler)	Late Prehistoric (Dan River)	AD 1305 ± 70	AD 1306, 1364, 1376	AD 1287–1403	UGa-1364	47
"	Late Prehistoric (Dan River)	AD 1340 ± 70	AD 1322, 1340, 1393	AD 1296–1414	UGa-1365	48
"	Late Prehistoric (Dan River)	AD 1405 ± 55	AD 1315, 1347, 1390	AD 1291–1414	UGa-1366	49
44Hr9 (Wells #1)	Late Prehistoric (Dan River)	AD 1380 ± 55	AD 1403	AD 1309–1428	UGa-2831	44
44Hr20 (Dallas Hylton)	Late Woodland (Dan River)	AD 1315 ± 60	AD 1309, 1357, 1382	AD 1292–1404	UGa-566	52
44Hr29 (Gravely)	Late Prehistoric (Dan River)	AD 1720 ± 70	AD 1663	AD 1639–1954	UGa-2832	45
44Hr35 (Stockton)	Late Prehistoric (Dan River)	AD 1025 ± 60	AD 1058, 1080, 1124, 1136, 1157	AD 1024–1216	UGa-617	42

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
King George County						
44Kg3 (Deshazo)	Contact (Townsend)	AD 1590 ± 120	AD 1511, 1600, 1616	AD 1434–1661	SI-137	207
Lee County						
44Le17	Mississippian (Pisgah)	AD 1210 ± 130	AD 1284	AD 1186–1394	SI-131	53
Mecklenburg County						
44Mc78 (Elm Hill)	Late Woodland (Clarksville)	AD 1670 ± 70	AD 1647	AD 1512–1953	SI-154	201
"	Late Woodland (Clarksville)	520 ± 70 BC	893, 882, 848 BC	973–810 BC	SI-155	202
Northumberland County						
44Nb147 (Blue Fish Beach)	Late Woodland (Townsend)	AD 1125 ± 65	AD 1227	AD 1166–1282	SI-4230	215
Patrick County						
44Pk15 (Clark)	Late Prehistoric (Uwharrie)	AD 1015 ± 55	AD 1049, 1090, 1118, 1142, 1154	AD 1023–1195	UGa-1363	46
Pittsylvania County						
44Py49	Late Woodland (Dan River)	AD 1530 ± 50	AD 1454	AD 1436–1616	?	170
Prince George County						
44Pg4 (Irwin)	Late Woodland (Townsend)	AD 1040 ± 120	AD 1162	AD 1012–1272	SI-138	209
Pulaski County						
44Pu3 (Belspring)	Middle Woodland	AD 1600 ± 200	AD 1516, 1591, 1621	AD 1407–1954	SI-129	204
44Pu9 (Fairlawn)	Late Woodland (Wythe)	AD 1330 ± 120	AD 1315, 1347, 1390	AD 1283–1432	SI-130	205
Roanoke County						
44Rn2 (Buzzard Rock)	Late Woodland (Dan River)	AD 1010 ± 135	AD 1046, 1097, 1115, 1144, 1153	AD 984–1253	UGa-1926	171
"	Late Woodland (Dan River)	AD 1110 ± 75	AD 1222	AD 1062–1281	UGa-1927	172
"	Late Woodland (Dan River)	AD 1030 ± 75	AD 1064, 1075, 1127, 1133, 1159	AD 1022–1222	UGa-1928	173
"	Late Woodland (Dan River)	AD 1360 ± 80	AD 1398	AD 1298–1430	Beta-12218	174
"	Late Woodland (Dan River)	AD 1460 ± 70	AD 1433	AD 1403–1459	Beta-12219	175

Appendix (continued).

Site No. (Site Name)	Period (Phase)	Uncorrected Date	Calibrated Intercept(s)	1-Sigma Range	Lab No.	ID#
44Rn2 (Buzzard Rock)	Late Woodland (Dan River)	AD 610 ± 70	AD 671	AD 648–775	Beta-27839A	176
"	Late Woodland (Dan River)	AD 1330 ± 80	AD 1315, 1347, 1390	AD 1291–1414	Beta-27839B	177
"	Late Woodland (Dan River)	AD 1200 ± 90	AD 1282	AD 1219–1370	Beta-27839C	178
"	Late Woodland (Dan River)	AD 1280 ± 50	AD 1300	AD 1286–1393	Beta-27839D	179
Russell County						
44Ru44 (Fox Meadows Apts.)	Middle Woodland (Connestee)	AD 410 ± 80	AD 544	AD 424–625	UGa-4789	271
Tazewell County						
44Tz5 (Hogginbotham)		AD 1415 ± 65	AD 1318, 1343, 1392	AD 1295–1410	UGa-407	206
Westmoreland County						
44Wm119 (White Oak Point)	Late Woodland (Townsend)	AD 1005 ± 70	AD 1044, 1104, 1112, 1147, 1151	AD 1016–1206	SI-4374	211
"	Late Woodland (Townsend)	AD 1310 ± 50	AD 1307, 1360, 1379	AD 1293–1400	DIC-1764	212
"	Late Woodland (Townsend)	AD 1340 ± 55	AD 1322, 1340, 1393	AD 1299–1409	DIC-1768	213
"	Late Woodland (Townsend)	AD 1460 ± 45	AD 1433	AD 1408–1448	DIC-1766	214
MISCELLANEOUS NORTH CAROLINA DATES						
?	–	AD 920 ± 60	AD 1041	AD 973–1036	Beta-12813	75
?	–	modern	–	–	Beta-12814	76